AMK
Diagnostic Messages

Version: 2020/04
Part no.: 25786
Translation of the "Original Dokumentation"

Imprint

Name: PDK_025786_Diagnose_en

Version:

Version	Change	Letter symbol
2020/04	Following releases added: • AE-R24 V2.13 2019/24 (207412) • AE-R24-R V2.13 2019/24 (207413) • AE-R26 V2.13 2019/24 (207415) • ihX V2.13 2019/24 (207416) • A7 V1.01 2019/31 (207545) Corrections and additions: • 1101 Info 1 = 11 und 12 • 1445 Info 1 = 100 • 1451 Info 1 = 2 • 2311 Info 1 = 401 - 405 • 2320 • 2333 • 2560	LeS / STL

Previous version: 2019/38

Product versions:

Product	Firmware version (AMK part no.)	Hardware version
iX iC iDT5	V1.08 2016/04 (206178) EtherCAT V1.04 2016/08 (206355) CAN V1.00 2013/29 (204664) SERCOS III	
iX-R3 iC-R3 iDT5-R3	V2.13 2019/24 (207408) NDU V2.12 2017/10 (206771)	
ihX	V2.13 2019/45 (207626) NDU V2.12 2017/10 (206773)	
iSA	iSA V4.23 2018/37 (207252)	
KW-R26 KW-R27	AE-R26 V2.13 2019/24 (207415)	
KW-R25	AE-R25 V2.13 2019/24 (207414)	
KW-R24-R	AE-R24-R V2.13 2019/24 (207413)	
KW-R24	AE-R24 V2.13 2019/24 (207412)	
KW-R07 KW-R17	AE-R05/R06 V1.16 2018/25 (207207) AE-SF1 V1.05 2014/04 (204927)	
KW-R05 KW-R06 KW-R16	AE-R05/R06 V1.16 2018/25 (207207)	
KW-R03 KU-R03 KW-R04	AE-R03 V3.21 2012/49 (204379)	
KW-R03P KU-R03P	AE-R03P V5.21 2012/49 (204380)	
MCE-R06 (KW-R06)	MCE V1.09 2013/31 (204672)	
FSE	FSER25 SW V1.01 17/09 (206803)	
KWZ (-EC)	KWZ V1.06 2010/30 (203167)	
KE, KEN, KES	KE-E03 V3.04 2013/03 (204405)	
KEx-0EU	KE-E10 V4.03 2017/22 (206816)	
IDT4	IDT V2.08 2015/20 (205580)	IDT-R1 / -R2
A7	A7 V1.01 2019/31 (207545)	
A6S A6D	A6 V4.21 2018/43 (207289)	
A5S A5D	A5 V4.21 2016/39 (206637)	
A4S A4D	A4 V4.22 2018/43 (207290)	
AS-C AS-PL15 AS-P	AS V3.16 2013/05 (204420)	
AZ	AZ V3.13 06/20 /201362)	AZ-R02
AW	AW V2.13 07/07 (201657)	AE-VE01 / -VE02

Reservation: We reserve the right to modify the content of the documentation as well as the delivery options for the product.

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For fast and reliable troubleshooting, you can help us by informing our Customer Service about the following:

- Type plate data for each unit
- Software version
- Device configuration and application
- Type of fault/problem and suspected cause
- Diagnostic messages (error messages)

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Content

1 About this documentation

1.1 Keeping this document

This document must permanently be available and readable at the place where the product is in use. If the product is used at another place or changed the owner, the document must be passed on.

1.2 Target group

Any person that is qualified and intends to work with this product must read, understand and follow this document:

- Transportation and storage
- Unpacking and installation
- Connection
- Parameterization
- Startup
- Testing and maintenance
- Service and repair
- Decommissioning and disposal
- Replacement

1.3 Purpose

This document is addressed to any person who handles the product. It gives information about the following topics:

- Safety messages which are absolutely necessary to take care of during handling the product
- Product identification
- Environmental conditions for storage, transportation and operation
- Assembly
- Electrical connections
- Startup and operation
- Repair
- Replacement
- Diagnosis
- Decommissioning and disposal

1.4 Display conventions

Display	Meaning
	This symbol points to parts of the text to which particular attention should be paid!
0x	0x followed by a hexadecimal number, e. g. 0x500A
'Names'	Names are represented with apostrophes e. g. parameters, variables, etc.

1.5 Appendant documents

Functional documentations

AMK part-no.	Title
204979	Software description AIPEX PRO V3 (PC software for startup and parameterization)

2 Introduction

2.1 Overview

Operating faults are reported in the following ways:

- Group ready message signal (SBM, SBT) is withdrawn, no operational readiness
- Diagnostic message on the control panel
- Diagnostic message by PC program through serial interface (SBUS protocol)
- Internal diagnostic message with access possibility through e.g. AZ-PSx or AZ-MCx, AFP
- Output of bit information through binary outputs (e.g. SBM or warning bit)

Further diagnostic information can be read in different ways:

- Plain language message on the control panel after calling up the DIAGNOSTICS menu item
- Contents of the internal diagnostic stack are displayed on the control panel
- Request of the diagnostic stack by PC through serial interface (SBUS protocol)
- “Clocking out” the diagnostic code through binary outputs DA1 … DA4 by a higher-level control system (only for AZ)

System initialization, error deletion, display of messages

The following events lead to basic initialization of the converter system:

- First energization of the converter
- Error deletion on lack of group ready message
- Permanent data change with following activation of the controller enable

After each system initialization the intact converter system goes into the “Operational readiness” state. Starting from this state, all system functions can be used without restriction.
Messages with error character are displayed immediately on the control panel with the information for diagnosis. The characteristic of the drive can differ very much in this regard and one must refer to the following table for the concrete case. If the same messages with different diagnostic numbers arise, then the cause must be found in different sources. Messages with information character or warnings are not displayed automatically on the control panel. But these can be selected through the DIAGNOSTICS menu item on the control panel and can be deleted only by “Error deletion”.

“See description” or “System diagnostics” message

The drive system reports internal states which cannot be influenced parametrically by the user with a number and the above text.
If this message appears in operation, please inform the AMK service (telephone: +49 (0) 70 21/50 05 - 191) and notify the associated number and the additional information which appears on pressing the F2 key on the control panel. For further information see “Clocking out the diagnostic message”.
If parameters are referred to in this description (e.g. see ID 110), then for information refer to the AMKASYN Parameter Documentation.

“NO COMMUNICATION” message

If the physical connection between the unit and control panel is disturbed, this message is generated autonomously by the control panel (check cable or control panel).

2.2 Meaning of the diagnostic messages

Message classes:

- Warning message
  Warning messages do not influence the drive behaviour.
- Warning message with following reaction
  After the warning time is over (4 seconds after the warning message was generated) the drive generates e.g. an error message and withdrawal SBM. Within the warning time, a controller has the option to initiate the desired measures by setting setpoints.

Drive behaviour in case of an error:

- Coasting
  Coast to stop, because device internal the power output stage was disabled automatically.
- Braking
  Controlled braking according ID32782 'Deceleration ramp RF inactive' until standstill followed by current-less condition of the drive.

Device behaviour:

- System booting aborted
  The system booting could not be finished successfully. The “system ready message” is not set.
- Disconnection from the mains
  The KE stops the excitation of the main contactor. Then the main contactor opens and disconnects the KE from the mains. Depending on the device the main contactor is integrated into the KE or connected as a external component.
- Single treatment (only for AN/AZ/AW system)
  Single treatment of the faulty drive is possible according to "ID32796 Source RF".
- Automatic error reset and switch back on
  Behaviour of central inverter; see document 'PDK_203346_ZWR'

3 Diagnostic messages

3.1 No. 257 ... 260 Control Panel

257 'System diagnostics'

• SBM withdrawal			
Device			
Description			
Class	Warning		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
			Default in MNU
Error removal	System OFF/ON (HW reset)		

258 'Leave RF active'

• The controller enable was withdrawn, (e.g. RF withdrawal during inching mode of an axis)			
Device			
Description			
Class	Warning		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
Error removal	RF must remain absolutely set at the commanded function		

259 'System diagnostics'

• SBM withdrawal			
Device			
Description			
Class	Warning		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
			Deallocation of MNU out of function
Error removal	System OFF/ON (HW reset)		

3.2 No. 512 ... 525 Monitor

514 'System diagnostics'

• Check parallel EEPROM on the control board			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
			Timeout MON PEEP
Error removal			

515 'System diagnostics'

• Check parallel EEPROM on the control board			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
			PEEP handshake
Error removal			

516 'System diagnostics'

• Check AZ(X27)-AW(X57)-BUS			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
			Timeout AW MON
Error removal	Is the AW module connected correctly?		

517 'System diagnostics'

• Check AZ(X27)-AW(X57)-BUS			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
			AW-MON handshake
Error removal	Is the AW module connected correctly?		

518 'System diagnostics'

Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
			Inadmissible monitor order
Error removal			

519 'System diagnostics'

• SEEP in the inverter cannot be addressed			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
			Timeout MON SEEPDRV
Error removal			

520 'System diagnostics'

• SEEP in the inverter cannot be addressed			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
			SEEP DRV handshake
Error removal			

521 'System diagnostics'

Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
			RESERVE
Error removal			

3.3 No. 768 ... 799 Database

770 'System diagnostics'

Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
			Inadmissible state DTH
Error removal			

771 'System diagnostics'

• Check parallel EEPROM on the control board			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
			Timeout PEEP
Error removal			

772 'System diagnostics'

• Check parallel EEPROM on the control board			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
			Handshake PEEP
Error removal			

773 'System diagnostics'

• Inadmissible database order			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
Error Localization			
	Info 2		Number of the addressed ID
	Info 4		Number of the parameter set
Error removal			

774 'System diagnostics'

Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
			DEALLOC faulty
Error removal	System OFF/ON, (HW reset)		

775 'System diagnostics'

• ID not supported			
Device	**KE**		
• Warning: ID access faulty on read or write			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
Error removal			

776 'System diagnostics'

• It was attempted to use a parameter set which was not reserved for the inverter.			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
Error Localization			
	Info 2		Number of the addressed ID
	Info 4		Number of the parameter set
Error removal	Recheck parameters: • ID32813 ... ID32820 Parameter set assignment 1 ... 8		

777 'System diagnostics'

• Check parallel EEPROM on the control board			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
			Overflow PEEP
Error removal			

778 'System diagnostics'

• The attribute of the selected data block is wrong			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
Error removal			

779 'System diagnostics'

• The maximum value of the last changed parameter was exceeded			
Device	**KE**		
• Maximum value was exceeded Value of ID34170, 'Setpoint DC bus voltage', is higher than 720 VDC			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
Error removal			

780 'System diagnostics'

• The minimum value of the last changed parameter was not reached			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
Error removal			

781 'System diagnostics'

• It was attempted to write a list which can only be read			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
Error removal			

783 'System diagnostics'

• Error at distributing parameters during internal system update				
Device	**KW-R24, KW-R24-R, KW-R25, KW-R26, KW-R27**			
Description				
Class	Error			
Drive Behaviour				
Device Behaviour	System run-up aborted			
Additional Error Information (AMK Service)				
	Info 1	Software module number	Info 2	ID number
Error Removal	Check and correct the content of the ID according to Info 2			

3.4 No. 1024 ... 1120 Central computer, Hardware

1024 'System diagnostics'

• System fault in the control board area			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
			Inadmissible state in AZ graph
Error removal			

1025 'System diagnostics'

Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
			Default in MNUData error in the serial EEPROM of the control board (only AZ SEEP). The checksum is checked during system initialization (configurable through ID 32901)
Error removal	Recheck parameter: • ID32901 Global service bits		

1026 'System diagnostics'

• Error on writing the serial EEPROM			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
Error removal			

1027 'System diagnostics'

• Data error in the EPROM • The checksum is checked during system initialization			
Device	**KE**		
• Checksum flash memory			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
Error removal			

1028 'System diagnostics'

• RAM memory error, is checked during system initialization			
Device	**Controller AS**		
• RAM memory error option module (Info: option place 1 or instance)			
Device	**KE**		
• RAM memory error			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
Error removal			

1029 'System diagnostics'

• Data error in the parallel EEPROM • The checksum is checked during system initialization			
Device	**AZ**		
• Check can be switched on/off through ID 32901			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
Error removal			

• Error reading or writing of the SEEP			
Device	**iX, ihX, R2x**		
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
	Info 1	0	Error checksum Info 2: Address Info 3: calculated checksum berechnete Checksumme Info 4: to compare checksum
		2	Error reading Info 2: Address Info 3: Number of bytes Info 4: Module identifier
		3	Error writing Info 2: Address Info 3: Number of bytes Info 4: Module identifier
Error removal	Device OFF/ON, (HW reset) If the error recurs, please send the device to AMK for repairs.		

1030 'System diagnostics'

• Error on writing the parallel EEPROM			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
Error removal			

1031 'System diagnostics'

• Control panel does not report on initialization			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	• System run-up aborted • The serial interface to the control panel is switched over automatically to SBUS protocol		
Additional Error Information (AMK Service)			
Error removal			

1032 'System diagnostics'

• Reception error from the serial interface 1			
Device	**AZ**		
• Overrun, parity, see AZ-R01 serial interface X77			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
Error removal			

1033 'System diagnostics'

• Reception error from the serial interface 2			
Device	**AZ**		
• Overrun, parity, see AZ-R01 serial interface X77			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
Error removal			

1034 'System diagnostics'

• Time level overflow			
Device	KE		
Description			
Class			
Drive Behaviour	Coast to stop		
Device Behaviour			
Additional Error Information (AMK Service)			
	Info1	1	Watchdog reset
		2	Time level overflow 62,5 µs
		3	Time level overflow 250 µs
		4	Time level overflow 500 µs
		5	Time level overflow 1 ms
		6	Time level overflow 10 ms
Error removal	• External fault, system OFF/ON, (HW reset)		

1035 'System diagnostics'

• Faulty system initialization, possible external fault			
Device			
Description			
Class			
Drive Behaviour	Coast to stop		
Device Behaviour			
Additional Error Information (AMK Service)			
			Timeout BAV, no acknowledgement after 60 s
Error removal	• System OFF/ON, (HW reset)		

Device	KW-R07		
Description			
Class			
Drive Behaviour	Coast to stop		
Device Behaviour			
Additional Error Information (AMK Service)			
			Timeout BAV, no acknowledgement after 60 s
			Info2 / 3 / Processor P3
			Info2 / 4 / Processor P4
Error removal	• System OFF/ON, (HW reset)		

1036 'System diagnostics'

• Fault			
Device	KE		
Description	Program stack overflow		
Class			
Drive Behaviour	Coast to stop		
Device Behaviour			
Additional Error Information (AMK Service)			
			Program stack overflow
Error removal	• System OFF/ON, (HW reset)		

1037 'System diagnostics'

• Fault			
Device			
Description			
Class			
Drive Behaviour	Coast to stop		
Device Behaviour			
Additional Error Information (AMK Service)			
			System stack overflow
Error removal	System OFF/ON, (HW reset)		

1038 'System diagnostics'

• Fault			
Device			
Description			
Class			
Drive Behaviour	Coast to stop		
Device Behaviour			
Additional Error Information (AMK Service)			
			System stack underflow
Error removal	System OFF/ON, (HW reset)		

1039 'System diagnostics'

• Faulty memory access of the processor. Software reset is triggered. The error is displayed in the following initialization			
Device			
Description			
Class			
Drive Behaviour	Coast to stop		
Device Behaviour			
Additional Error Information (AMK Service)			
Error removal	System OFF/ON, (HW reset)		

1040 'Tripzone'

• Hardware monitoring (Logic voltage, output terminal overcurrent or DC bus overvoltage) has disabled power output stage, but the corresponding source could not be assigned. • Hardware configuration error	
Device	**KW-R24 / KW-R24-R / KW-R25 / KW-R26 / KW-R27** **iX / iC / iDT5 / ihX**
Description	
Class	Error
Drive Behaviour	Coast to stop
Device Behaviour	
Additional Error Information (AMK Service)	

	Info 1	0	Assignment error source
		101	Logic voltage (Configuration error)
		102	DC bus overvoltage (Configuration error)
		103	Output terminal overcurrent (Configuration error)
Error removal	If the error recurs, replace controller card / device **Non-critical special case ihX:** Depending on the system, error 1040, Info 1 = 102 always occurs in combination with error 1059 'DC bus overvoltage' when the control is inactive or when control is switching on / off.		

1041 'Overtemperature external component mains'

• Occurs after end of a warning time as consequence of the warning 1074 • The fan still runs on for 60 s after withdrawing the controller enable			
Device	**AZ**		
• Temperature error AZ • Occurs after end of the warning time as consequence of the 4 warnings 1073, 1074, 1075, 1076			
Description			
Class	Error		
Drive Behaviour	Controlled braking		
Device Behaviour			
Additional Error Information (AMK Service)			
Error removal			

Device	**KE**		
Description			
Class	Error		
Drive Behaviour	Controlled braking		
Device Behaviour			
Additional Error Information (AMK Service)			
	Info1	0	Over-temperature braking resistor ITE intern > 1.7 V, ITE (analogue, HW)
Error removal			

• Over temperature mains filter / transformer inverter (n)			
Device	**ZWR**		
Description	Over temperature mains filter -Y1 or / and transformer -T1		
Class	Error		
Device Behaviour	Automatic error reset and switch back on		
Additional Error Information (AMK Service)			
Error Removal	• Check mains filter -Y1 • Check transformer -T1 • Check cooling system • Check fan of mains filter • Check wiring		

1042 'Mains phase fault'

• Mains failure of one or several phases (external fuse) • External fuse defective (failure >= 100 ms)			
Device	**AZ**		
Description			
Class	Error		
Drive Behaviour	Controlled braking		
Device Behaviour			
Additional Error Information (AMK Service)			
Error removal	• E loop ES1-ES2 separated (possibly EMERGENCY OFF) • Fuse F7 or F8 defective (new mains modules) • Check terminals X1, X6, X25, X26		

Device	**KE**		
Description			
Class	Error		
Drive Behaviour	Controlled braking		
Device Behaviour			
Additional Error Information (AMK Service)			
	Info1	1	Voltage before main contactor < 75 % of the line voltage (BNX1) or within 23 ms no other switching status (i.e. three-phase mains failure) (Filtered 100 ms past UE = 1)
		2	Voltage before main contactor < 75 % of the line voltage (BNX2) (Filtered 100 ms past UE = 1)
		3	Error in detection of phase-sequency
		4	Error mains frequency
		5	default
Error removal	• Check terminals X01 and X20 and external wiring		

• Phase failure inverter (n)			
Device	**ZWR**		
Description	Phase failure single-phase or multi-phase in the charging circuit		
Class	Error		
Device Behaviour	Automatic error reset and switch back on		
Additional Error Information (AMK Service)			
Error Removal	• Check charging circuit fuses -F7 / -F8 • Check main fuse -F1		

1043 'Line Voltage Error'

• Line voltage dependent on unit[1)] outside the tolerance range			
Device	**AZ**		
• Occurs after the end of the warning time (currently 4 s) as consequence of the 2 warnings 1077, 1078			
Description			
Class	Warning message, reaction of drive after 4 seconds		
Drive Behaviour	Controlled braking		
Device Behaviour			
Additional Error Information (AMK Service)			
Error removal			

• USV voltage > 30 v			
Device	**IDT**		
Description			
Class			
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
Error removal			

1044 'No SBM'

• Occurs if a system initialization was started and no group ready message was present			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
Error removal	• Possible causes are configuration errors or hardware errors • Evaluate and remove current error through Diagnostics • Reset system with “Delete error"		

Device	**KE**		
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
	Info1	0	Hardware Error KES module without adequate KE-E0x
Error removal			

1045 'Mains overvoltage'

• Mean value of the line voltage is above 530 V (smoothing approx. 6.4 s)			
Device	**KE**		
Description			
Class	Error		
Drive Behaviour			
Device Behaviour	• Reset of SBM System Ready • Main contactor is de-energized		
Additional Error Information (AMK Service)			
Error removal			

• Mains overvoltage inverter (n)	
Device	**ZWR**
Description	(Mains voltage + 10 %) > ID34270 'Net voltage'
Class	Error
Device Behaviour	Automatic error reset and switch back on
Additional Error Information (AMK Service)	
Error Removal	• Check mains voltage • Check transformer -T1 • Check main contactor -K1

1046 'Mains undervoltage'

• Mean value of the line voltage is below 350 V (smoothing approx. 6.4 s)	
Device	**KE**
Description	
Class	Error
Drive Behaviour	• Reset SBM System Ready • Main contactor is de-energized
Device Behaviour	
Additional Error Information (AMK Service)	
Error removal	Message can be deactivated by ID32901, 'Global service bits'

• Mains undervoltage inverter (n)	
Device	**ZWR**
Description	(Mains voltage - 10%) < ID34270 'Net voltage'
Class	Error
Device Behaviour	Automatic error reset and switch back on
Additional Error Information (AMK Service)	
Error Removal	• Check mains voltage • Check transformer -T1 • Check main contactor -K1

1047 'Inhibit time for UE'

• The prescribed off time (see converter) for renewed switching on of the converter was not complied with. Successful “Delete error” is possible at once, inverter on (UE = 1) only after the end of the stated time	
Device	
Description	
Class	
Drive Behaviour	
Device Behaviour	System run-up aborted
Additional Error Information (AMK Service)	
Error removal	

• Switching frequency for converter on (UE) is too high			
Device	**KE**		
Description	Twice positive edge of UE within off time (Off time depends on DC bus capacity)		
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
Error removal			

• Twice ON during blocking-time inverter (n)			
Device	**ZWR**		
Description			
Class	Error		
Device Behaviour	Automatic error reset and switch back on		
Additional Error Information (AMK Service)			
Error Removal	• Observe at least 30 s of blocking-time before switching inverter back on		

1048 'UE switching frequency too high'

• The permissible number of maximum 10 UE switch-on processes within 10 min. was exceeded			
Device			
Description	Since firmware KE-E03 V2.01 2002/25 the off-time is monitored. Diagnostic message 1048 does not appear any longer.		
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
Error removal			

1049 'DC bus'

• DC bus error			
Device	**KE**		
Description	The charging process for the DC bus does not run correctly		
Class			
Drive Behaviour			
Device Behaviour	RF setting aborted		
Additional Error Information (AMK Service)			
	Info1	1	1.8 s past ELS1: UZ < 60 % (UE = 1)
		2	1.5 s past ELS2: UZ < 85 % (UE = 1)
		3	3 min past UE = 0: UZ > 50 V
		4, 5	Δu/Δt too small while charging
Error Removal	• Check device • Check wiring		

• DC bus error			
Device	**KU**		
Description	• At switching-on of the DC bus, voltage U_Z is not reached within time out		
Device	**KU, KW, AZ/AW**		
Description	• $U_Z < U_{Z,threshold}$ during RF active or RF setting		
Class			
Drive Behaviour	Motor brake control becomes active immediately. The brake will close independent if the motor is stopped.		
Device Behaviour	RF withdrawal		
Additional Error Information (AMK Service)			
Error Removal	• Check parameter: • ID32837 'DC bus voltage monitoring' • Check device • Check wiring		

• Fault charging DC bus inverter (n)			
Device	**ZWR**		
Description	DC bus is not charged correctly, ΔU/Δt is too small		
Class	Error		
Device Behaviour	Automatic error reset and switch back on		
Additional Error Information (AMK Service)			
Error Removal	• Check inverter -U1, replace if necessary		

1050 'Phase error L1'

• There is an error in the AZ power feed because of a faulty connection or fuse defect			
Device			
Description			
Class			
Drive Behaviour	Motor brake control becomes active immediately. The brake will close independent if the motor is stopped.		
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
Error removal	• Line connection L1, L2 or L3 at X01 not correct • Connection L1.2, L2.2 or L3.2 at X06 or X26 not correct • Check fuse F1, F2, F3 or F4, F5, F6		

1051 'Phase error L2'

• There is an error in the AZ power feed because of a faulty connection or fuse defect	
Device	
Description	
Class	
Drive Behaviour	Motor brake control becomes active immediately. The brake will close independent if the motor is stopped.
Device Behaviour	System run-up aborted
Additional Error Information (AMK Service)	
Error removal	• Line connection L1, L2 or L3 at X01 not correct • Connection L1.2, L2.2 or L3.2 at X06 or X26 not correct • Check fuse F1, F2, F3 or F4, F5, F6

1052 'Phase error L3'

• There is an error in the AZ power feed because of a faulty connection or fuse defect	
Device	
Description	
Class	
Drive Behaviour	Motor brake control becomes active immediately. The brake will close independent if the motor is stopped.
Device Behaviour	System run-up aborted
Additional Error Information (AMK Service)	
Error removal	• Line connection L1, L2 or L3 at X01 not correct • Connection L1.2, L2.2 or L3.2 at X06 or X26 not correct • Check fuse F1, F2, F3 or F4, F5, F6

1053 'Phase sequence L1/L2'

• Connections of the corresponding phases are confused at the terminals	
Device	**AZ**
Description	
Class	
Drive Behaviour	
Device Behaviour	System run-up aborted
Additional Error Information (AMK Service)	
Error removal	• E loop ES1-ES2 is open • Fuse F4, F5, F6 defective • Fuse F1, F2, F3 defective • No connection at X03, fan bus • Fuse F7, F8

1054 'Phase sequence L1/L3'

• Connections of the corresponding phases are confused at the terminals			
Device	**AZ**		
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
Error removal	• E loop ES1-ES2 is open • Fuse F4, F5, F6 defective • Fuse F1, F2, F3 defective • No connection at X03, fan bus • Fuse F7, F8		

1055 'Phase sequence L2/L3'

• Connections of the corresponding phases are confused at the terminals			
Device	**AZ**		
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
Error removal	• E loop ES1-ES2 is open • Fuse F4, F5, F6 defective • Fuse F1, F2, F3 defective • No connection at X03, fan bus • Fuse F7, F8		

1056 'Mains phase sequence L1, L2 , L3'

• Connections of the corresponding phases are confused at the terminals			
Device	**AZ**		
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
Error removal	• E loop ES1-ES2 is open • Fuse F4, F5, F6 defective • Fuse F1, F2, F3 defective • No connection at X03, fan bus • Fuse F7, F8		

• Voltages in front and behind the main contactor are different • Phase is missing behind main contactor	
Device	**KE**
Description	
Class	
Drive Behaviour	
Device Behaviour	System run-up aborted
Additional Error Information (AMK Service)	
Error removal	

• Fault main contactor inverter (n)	
Device	**ZWR**
Description	Phase sequence at the terminals -U1.X01:L1.1/L2.1/L3.1 is faulty after main contactor ON
Class	Error
Device Behaviour	Automatic error reset and switch back on
Additional Error Information (AMK Service)	
Error Removal	• Check main contactor -K2 • Check mains filter -Y1 • Check mains choke -L2 • Check upstream mains choke -L1 • Check wiring

1057 'Fault +12 V'

• Internal supply voltage +12 V is outside the permitted limit	
Device	
Description	
Class	
Drive Behaviour	Coast to stop
Device Behaviour	
Additional Error Information (AMK Service)	
Error removal	

1058 'Fault -12 V'

• Internal supply voltage -12 V is outside the permitted limit	
Device	
Description	
Class	
Drive Behaviour	Coast to stop
Device Behaviour	
Additional Error Information (AMK Service)	
Error removal	

1059 'DC bus overvoltage'

• DC bus exceeds permissible maximum value. Regenerative overload • Generatoric overload

Device	**KW-R05/06, iX, R2x, ihX**		
Description	The DC bus voltage has risen above the upper limit according to ID34303.		
Class	Warning		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
Error removal			

• DC bus exceeds permissible maximum value (device SEEP). Regenerative overload • Generatoric overload

Device	**KU, KW-R05/06, iX, R2x, ihX**		
Description			
Class	Error		
Drive Behaviour	Coast to stop		
Device Behaviour			
Additional Error Information (AMK Service)			
Error removal	• Check motor parametrization • Check connection at external braking resistor		

Device	**KE**		
Description			
Class	Error		
Drive Behaviour	Coast to stop		
Device Behaviour			
Additional Error Information (AMK Service)			
			BZO (HW) from version 206 2004/37 recognition by IUZ
Error removal			

• DC bus overvoltage inverter

Device	**ZWR**		
Description	UZ > 900 V		
Class	Error		
Device Behaviour	Automatic error reset and switch back on		
Additional Error Information (AMK Service)			
Error Removal	• Check voltage of PV field		

• DC bus overvoltage inverter			
Device	**iSA**		
Description			
Class	Error		
Device Behaviour	No autonomous reaction of the controller. The user must initiate appropriate action via the PLC program . e.g. moment of the engine switch off (STO)		
Additional Error Information (AMK Service)			
Error Removal	• Check motor parametrization • Check connection at external braking resistor		

1060 'Regeneration fault'

• Multiple inadmissibly high currents in the regeneration branch			
Device			
Description			
Class	Error		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
Error removal	• Loose power terminals • Power defect, check line voltage system • Read out additional info with F2 key • The diagnostic message can only be reset by power supply OFF/ON		

Device	**KE**		
Description			
Class	Error		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
	Info 1	1	Short-circuit of the mains inverter BPH (HW) Interrupt (< 10 µs) regeneration is stopped and after min. 10 ms new start attempted
		3	Wrong state of switching pattern of IGBT (SW)
		5	Switching pattern of IGBT longer than 8 ms (SW) Regeneration is stopped and after min. 10 ms new start attempted
		9	New start of regeneration impossible Error message after 3 s
Error removal	• Error can be cleared once		

• Fault line regeneration inverter (n)			
Device	**ZWR**		
Description	Inadmissible high current in the regeneration path		
Class	Error		
Device Behaviour	Automatic error reset and switch back on		
Additional Error Information (AMK Service)			
Error Removal	• Check inverter -U1 • Retighten terminal clamps -U1.X01:L1.1/L2.1/L3.1 if necessary		

1061 'Braking transistor fault'

• Inadmissibly high current in the braking transistor			
Device			
Description			
Class	Warning		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
Error removal	• Wrong braking resistor value		

Device	**KE**		
Description			
Class	Error		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
	Info 1	1	Reset by RBR pulse not successful (system run-up)
		2	Short circuit braking chopper, BBR (HW) (62.5 µs)
		3	Braking transistor does not switch off (62.5 µs)
Error removal	• Error can be cleared once		

• Inadmissibly high current in the braking transistor			
Device	**iSA**		
Description			
Class	Error		
Device Behaviour	No autonomous reaction of the controller. The user must initiate appropriate action via the PLC program . e.g. moment of the engine switch off (STO)		
Additional Error Information (AMK Service)			
Error removal	• Wrong braking resistor value • Check connection at external braking resistor		

1062 'System diagnostics'

Device			
Description			
Class			
Drive Behaviour	Controlled braking		
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
			Consequential error, DRV -> GRF at BAV faulty
Error removal			

1063 'System diagnostics'

Device	**IDT**		
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
	Info 1	0	RF active when system run-up
		2	error after initial boot loading (caused by HW-switch)
		5	Acceleration error or time level error
		6	Heap memory error
		7	Errors in data-basic initialization (read from database)
		8	Error while stop the absolute encoder functionality
		9	Error in data calculation
		10	Error update functions
		12	Error Motion initialised
		13	IDT-C-encoder cannot be initialised
		17	Error when changing to main operation mode
		18	Error when homing in the acceleration
		20	Timeout (60s) when switching to OPERATIONAL (no Master available)
Error removal	The electronics are integrated in the motor, i.e. Message incl. Info 1 and possibly 2 for error localization at AMK Service.		

Device	**KW-R02** **KW-R03**		
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
	Info 1	0	Error in state graph (default branch reached)
		1	RF active when system run-up
		2	Errors in data-basic initialization (IDs read from database)
		3	Error 12V supply
		4	Error when changing to main operation mode
		8	Error when homing in the acceleration
		12	Timeout (60s) when switching to OPERATIONAL (no Master available)
Error removal			

Device	**KW-R05 / -R06 / -R07** **iX / iDT5** **KE ETC / VARAN**		
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
	Info 1	3	Memory error Info 3: 1 Write event memory; 3 Check the database; 6 System update; 9 Change in main operation mode; 11 System start Motion Controller; 14 System start Safety Board; 16 System start ACC Master
		4	Command error Info 3: 2 Write event memory; 4 Check the database; 7 System update; 8 Check the Hardware abstraction; 10 Change in main operation mode; 12 System start Motion Controller; 15 System start Safety Board; 17 System start ACC Master
		5	Error in state graph (default branch reached)
		10	Parameter calculation
Error removal			

Device	**KWF**		
Description			
Class			
Drive Behaviour	Controlled Braking		
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
	Info 1	0	Wrong state S-graph
		1	Wrong state S-graph
		2	Wrong KW-number
		4	Wrong state S-graph
		12	Timeout SGRF → ACC-BUS can not be switched to “operational mode” (Master not available or BUS disturbed)
Error removal			

Device	**KE-E03**		
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
	Info 1	0	Wrong state S-graph
		1	Timeout 2 s checksum
		2	Wrong state checksum
		3	Timeout 2 s wait
		4	Wrong state wait
		5	Timeout 2 s Set_Bus
		6	Timeout 2 s SetIDParam
		8	Timeout 2 s SetSEEP1Param
		9	Timeout 2 s SetCountParam
		17	Error in diagnostics (subsequent error)
		18	No acknowledgment from diagnosis 1 ms task and 10 ms task after 2 s (timeout)
Error removal			

1064 'System diagnostics'

Device			
Description			
Class			
Drive Behaviour	Controlled Braking		
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
			Consequential error, Err Rgrf, controller enable graph
Error removal	• In KW modules with internal overvoltage protection and brake device test the wiring between X133 and X19		

1065 'System diagnostics'

• QUE missing on RF activation			
Device			
Description			
Class			
Drive Behaviour	Motor brake control becomes active immediately. The brake will close independent if the motor is stopped		
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
Error removal	• Check main contactor activation • Recheck parameter: • ID32837 DC-bus monitoring		

1066 'System diagnostics'

Device	**KU, KW, RM**		
• Motor energization not possible			
Device	**AZ, KE**		
• DC bus undervoltage			
Description			
Class			
Drive Behaviour	Controlled braking		
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
			Consequential error, DRV -> AW module faulty, BES missing
Error removal			

Device	**KE**		
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
	Info 1	0	DC bus voltage about 13 % of max. mains voltage (62.5 µs) (Function active up to SW KER3_205_0406_200417)
		1	Comparison between DC bus voltage and ID32837, 'DC bus voltage monitoring' Probe value of DC bus voltage is filtered by PT1 (100 ms)
Error removal	Info1 = 0: Error can be cleared once		

• DC bus undervoltage inverter (n)			
Device	**ZWR**		
Description	DC bus voltage about 13 % of max. mains voltage		
Class	Warning		
Device Behaviour	Automatic error reset and switch back on		
Additional Error Information (AMK Service)			
Error Removal	• Check DC bus • Check PV field		

1067 'System diagnostics'

• Fault DC bus			
Device	**KU**		
• BES missing in KU 14 • External DC bus choke missing			
Description			
Class			
Drive Behaviour	Controlled braking		
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
			Consequential error, DRV -> AW module faulty, BES missing
Error removal			

1068 'System diagnostics'

Device			
Description			
Class			
Drive Behaviour	Controlled braking		
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
			Consequential error, Timeout Err Bgrf
Error removal			

Device	**KE**		
Description			
Class			
Drive Behaviour	Controlled braking		
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
	Info 1	0	Wrong state U-graph
Error removal			

1069 'System diagnostics'

Device			
Description			
Class			
Drive Behaviour	Controlled braking		
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
			Consequential error, Timeout-Err Rgrf
Error removal			

1070 'System diagnostics'

• FL not possible (timeout 20 s)			
Device			
Description			
Class			
Drive Behaviour	Controlled braking		
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
Error removal			

1071 'System diagnostics'

• Brake acknowledgment does not correspond to the expected value • Plausibility monitoring ID 32773. 13=1 is active			
Device			
Description			
Class			
Drive Behaviour	Controlled braking		
Device Behaviour			
Additional Error Information (AMK Service)			
	Info1	0	Special lift function ID32955 'Delay time'
		2	Motor holding brake - overcurrent of the supply voltage

Error removal	• Wire break Inverter / Brake
	• Check connection cables for damage
	• Brake defect
	• Recheck parameters:
	  • ID206 'Drive on delay time'
	  • ID207 'Drive off delay time'		

1072 'System diagnostics'

Device			
Description			
Class			
Drive Behaviour	Controlled braking		
Device Behaviour			
Additional Error Information (AMK Service)			
			Contactor shutdown monitoring in special lift function
Error removal			

1073 'Cooling Air Temperature Warning'

• The air inlet temperature is more than 45 °C			
Device	**AZ**		
Description	The drive withdraws SBM and switches off after 4 s and shows message "1041 External Line Over Temperature"		
Class	Warning message, reaction of the drive after 4 seconds		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
Error removal			

1074 'External line component temperature warning'

• The temperature acquisition at the braking resistor has responded (PTC resistor > 600 ohms).	
Device	
Description	The system is transferred after 4 s into error "1041 External Line Over Temperature" after the end of the warning time
Class	Warning message, reaction of the drive after 4 seconds
Drive Behaviour	

Device Behaviour			
Additional Error Information (AMK Service)			
Error removal			

Device	**KE**		
Description			
Class			
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
	Info 1	0	ITE (HW), ITE intern > 1.7 V
Error removal			

1075 'Power supply unit temperature warning'

• AZ switching power supply unit thermally overloaded ($T_{cooling\ circuit}$ > 70 °C) • Fan on the AZ module does not run			
Device			
Description			
Class	Warning message, reaction of the drive after 4 seconds		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
Error removal			

1076 'Feed / Regeneration temperature warning'

• AZ module thermal overload ($T_{cooling\ circuit}$ > 70 °C) • Fan on the AZ module does not run			
Device			
Description			
Class	Warning message, reaction of the drive after 4 seconds		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
Error removal			

1077 'Line Voltage warning'

Device			
Description	The system is transferred after 4 s into error "1043 Line Voltage Error" after the end of the warning time		
Class	Warning message, reaction of the drive after 4 seconds		
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
Error removal			

1078 'Line undervoltage warning'

Device			
Description	The system is transferred after 4 s into error "1043 Line Voltage Error" after the end of the warning time		
Class	Warning message, reaction of the drive after 4 seconds		
Drive Behaviour			
Device Behaviour	SBM is withdrawn		
Additional Error Information (AMK Service)			
Error removal			

1079 'System diagnostics'

• All square wave encoder breakage messages are displayed only with active encoder breaking monitoring	
Device	**AZ**
• "ID32773 Service bits": bit 0 • "ID32901 Global Service bits": bit 4	
Device	**KU, KW**
• "ID32773 Service bits": bit 0 and bit 12 • The message is displayed only in an operation mode with activated external source of the actual position value ("ID32800 AMK main operating mode": bit 14 / 15 = 0!)	
Description	
Class	
Drive Behaviour	Controlled braking
Device Behaviour	
Additional Error Information (AMK Service)	
Error removal	

1080 'OPTION 1 cf. description'

• Encoder line break analysis on option card, input 1 slot 1			
Device			
Description			
Class			
Drive Behaviour	Controlled braking		
Device Behaviour			
Additional Error Information (AMK Service)			
Error removal			

1081 'OPTION 1 cf. description'

• Encoder line break analysis on option card, input 2 slot 1			
Device			
Description			
Class			
Drive Behaviour	Controlled braking		
Device Behaviour			
Additional Error Information (AMK Service)			
Error removal			

1082 'OPTION 1 cf. description'

• Encoder line break analysis on option card, input 3 slot 1			
Device			
Description			
Class			
Drive Behaviour	Controlled braking		
Device Behaviour			
Additional Error Information (AMK Service)			
Error removal			

1083 'OPTION 1 cf. description'

• Encoder line break analysis on option card, input 4 slot 1			
Device			
Description			
Class			
Drive Behaviour	Controlled braking		
Device Behaviour			
Additional Error Information (AMK Service)			
Error removal			

1084 'OPTION 2 cf. description'

• Encoder line break analysis on option card, input 1 slot 2			
Device			
Description			
Class			
Drive Behaviour	Controlled braking		
Device Behaviour			
Additional Error Information (AMK Service)			
Error removal			

1085 'OPTION 2 cf. description'

• Encoder line break analysis on option card, input 2 slot 2			
Device			
Description			
Class			
Drive Behaviour	Controlled braking		
Device Behaviour			
Additional Error Information (AMK Service)			
Error removal			

1086 'OPTION 2 cf. description'

• Encoder line break analysis on option card, input 3 slot 2			
Device			
Description			
Class			
Drive Behaviour	Controlled braking		
Device Behaviour			
Additional Error Information (AMK Service)			
Error removal			

1087 'OPTION 2 cf. description'

• Encoder line break analysis on option card, input 4 slot 2			
Device			
Description			
Class			
Drive Behaviour	Controlled braking		
Device Behaviour			
Additional Error Information (AMK Service)			
Error removal			

1088 'OPTION 3 cf. description'

• Encoder line break analysis on option card, input 1 slot 3			
Device			
Description			
Class			
Drive Behaviour	Controlled braking		
Device Behaviour			
Additional Error Information (AMK Service)			
Error removal			

1089 'OPTION 3 cf. description'

• Encoder line break analysis on option card, input 2 slot 3			
Device			
Description			
Class			
Drive Behaviour	Controlled braking		
Device Behaviour			
Additional Error Information (AMK Service)			
Error removal			

1090 'OPTION 3 cf. description'

• Encoder line break analysis on option card, input 3 slot 3			
Device			
Description			
Class			
Drive Behaviour	Controlled braking		
Device Behaviour			
Additional Error Information (AMK Service)			
Error removal			

1091 'OPTION 3 cf. description'

• Encoder line break analysis on option card, input 4 slot 3			
Device			
Description			
Class			
Drive Behaviour	Controlled braking		
Device Behaviour			
Additional Error Information (AMK Service)			
Error removal			

1092 'OPTION 4 cf. description'

• Encoder line break analysis on option card, input 1 slot 4			
Device			
Description			
Class			
Drive Behaviour	Controlled braking		
Device Behaviour			
Additional Error Information (AMK Service)			
Error removal			

1093 'OPTION 4 cf. description'

• Encoder line break analysis on option card, input 2 slot 4			
Device			
Description			
Class			
Drive Behaviour	Controlled braking		
Device Behaviour			
Additional Error Information (AMK Service)			
Error removal			

1094 'OPTION 4 cf. description'

• Encoder line break analysis on option card, input 3 slot 4			
Device			
Description			
Class			
Drive Behaviour	Controlled braking		
Device Behaviour			
Additional Error Information (AMK Service)			
Error removal			

1095 'OPTION 4 cf. description'

• Encoder line break analysis on option card, input 4 slot 4			
Device			
Description			
Class			
Drive Behaviour	Controlled braking		
Device Behaviour			
Additional Error Information (AMK Service)			
Error removal			

1096 'OPTION 1 cf. description'

• Short-circuit/overload of the outputs option card, slot 1 (e.g. AZ-EA8 or AZ-EA24) • Watchdog option error			
Device			
Description			
Class			
Drive Behaviour	Controlled braking		
Device Behaviour			
Additional Error Information (AMK Service)			
Error removal			

1097 'OPTION 2 cf. description'

• Short-circuit / overload of the outputs option card, slot 2 (e.g. AZ-EA8 or AZ-EA24) • Active option card error (HS), see ID 32901			
Device			
Description			
Class			
Drive Behaviour	Controlled braking		
Device Behaviour			
Additional Error Information (AMK Service)			
Error removal			

1098 'OPTION 3 cf. description'

• Short-circuit/overload of the outputs option card, slot 3 (e.g. AZ-EA8 or AZ-EA24) • Active option card error (HS), see ID 32901			
Device			
Description			
Class			
Drive Behaviour	Controlled braking		
Device Behaviour			
Additional Error Information (AMK Service)			
Error removal			

1099 'OPTION 4 cf. description'

• Short-circuit/overload of the outputs option card, slot 4 (e.g. AZ-EA8 or AZ-EA24) • Active option card error (HS), see ID 32901			
Device			
Description			
Class			
Drive Behaviour	Controlled braking		
Device Behaviour			
Additional Error Information (AMK Service)			
Error removal			

1100 'System diagnostics: Short-circuit / overload digital outputs'

• Short-circuit / overload digital outputs	
Device	see below
Description	see below
Class	Error
Drive Behaviour	Coast to stop
Device Behaviour	
Error removal	• Check monitored binary outputs • Fix short-circuit / overload

Meaning for KW-R05 / KW-R06 / KW-R16 / KW-R07 / KW-R17 /

• Monitoring BA3 (e.g. motor holding brake) • **Prerequisite:** ID32901 'Global service bits', bit 7 = 1			
Description	Message is generated if the error is present for more than 50 ms		
Additional error information (AMK Service)			
	Info1	1	No load connected, line break
		2	Output defect
		3	Output defect
		4	Output defect
		5	Short circuit output terminal
		6	No load connected, line break

Meaning for iX / iC / iDT5 /

• Monitoring binary outputs multi-functional I/O interface, use as binary output BA1 ... BA3			
Description	Message is generated as soon as the error occurs		
Additional error information(AMK Service)			
	Info1	0	Short circuit

Meaning for KW-R03 /

• Monitoring BA3			
Description	Message is generated if the error is present for more than 5 ms		
Additional error information(AMK Service)			
	Info1	3	Short circuit
		4	Line break

Meaning for AZ /

• Monitoring BA1 ... BA4			
Description	Message is generated as soon as the error occurs		
Additional error information(AMK Service)			
	Info1	0	Short circuit

1101 'Logic voltage error'

• Internal supply voltage +/-12 V is outside the permissible limit • Undervoltage of the 24 V power supply (<18 V)			
Device			
Description			
Class	Warning		
Drive Behaviour	Controlled braking		
Device Behaviour			
Additional Error Information (AMK Service)			
Error removal			

Device	**KE**		
Description			
Class	Warning		
Drive Behaviour	Controlled braking		
Device Behaviour			
Additional Error Information (AMK Service)			
	Info 1	0	Intern or extern (system run-up)
		1	Extern +24 V, BNS (HW) (62.5 µs)
		2	Intern +12 V, BVS (HW) (10 ms)
Error removal			

• Fault 24 VDC supply inverter (n)			
Device	**ZWR**		
Description	24 VDC supply of inverter (-U1.X08:1/2) <18 V		
Class	Error		
Device Behaviour	Automatic error reset and switch back on		
Additional Error Information (AMK Service)			
Error Removal	• Check 24 VDC supply -G1 • Check fuse -F12 • Check wiring		

• Internal supply voltage 5 VDC is outside the permissible limit			
Device	**ihX / MultiServo / KxW**		
Description			
Class	Error		
Drive Behaviour	Coast to stop		
Device Behaviour			
Additional Error Information (AMK Service)			
	Info1	11	Undervoltage
		12	Overvoltage
Error Removal	• Check 24 VDC supply		

1102 'Line voltage limit'

• Line overvoltage 460 V + 15% or line undervoltage 380 V - 20% present longer than 1 sec. • Undervoltage of the 24 V power supply (< 20 V)			
Device	KU		
Description			
Class			
Drive Behaviour	Controlled braking		
Device Behaviour			
Additional Error Information (AMK Service)			
Error removal			

1103 'Field bus warning'

• ERROR bit comes back from the drive in AFP status • User has sent invalid command • Running command was not ended by error event (e.g. encoder fault in positioning) • User has sent permissible command at wrong time (e.g. reading database within active positioning) • The ERROR bit can be deleted by means of delete error or with every new valid AFP command			
Device			
Description			
Class	Warning		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
Error removal			

1104 'No FL with RF active'

• The user attempts to delete error without withdrawing the controller enable control signal			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
Error removal	For safety reasons RF must always be 0 in the case of error		

1105 'Reserved'

Device			
Description			
Class			
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
Error removal			

1106 'System diagnostic'

• Watchdog option			
Device			
Description	No communication between an option card and base system after 0,2 sec. (AMKAMAC: Info: Option slot 1 resp. Instance)		
Class			
Drive Behaviour	Controlled braking		
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
Error removal	Option card failure		

1107 'System diagnostics: Short circuit DC bus voltage'

• Short circuit DC bus voltage			
Device	**KE**		
Description			
Class	Warning		
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
	Info 1	0	300 ms past ELS1: UZ < 10 %
Error removal	'Clear error' inadmissible, first clear cause of fault		

• Short circuit DC bus inverter			
Device	**ZWR**		
Description	Short circuit in the DC bus of the inverter -U1		
Class	Error		
Device Behaviour	Central inverter is disconnected from the mains		
Additional Error Information (AMK Service)			
Error Removal	• Replace inverter -U1		

1108 'System diagnostics: Main contactor'

Device			
Description			
Class			
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
	Info 1	0	Main contactor does not drop. The system must be shut down by the higher ranking controller.
	Error removal		'Clear error' permissible only after fault fixing
	Info 1	1	Voltage already at X01 when UE is set.
	Error removal		Check main contactor wiring
Error removal			

Device	**KE**		
Description			
Class			
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
	Info 1	0	Main contactor does not drop. 10 s after EHS off: Mains voltage > 75 % of amplitude
		1	Voltage at X01 when UE is set.
Error removal			

• Fault main contactor inverter (n)			
Device	**ZWR**		
Description	see additional information		
Class	Error		
Device Behaviour	Automatic error reset and switch back on		
Additional Error Information (AMK Service)			
	Info 1	1	Main contactor does not drop out. 10 s after inverter OFF, there is still voltage at the terminals -U1.X01:L1.1/L2.1/L3.1
		2	With setting of UE, the voltage is applied to -U1.X01:L1.1/L2.1/L3.1 immediately
Error Removal	• Check main contactor -K2		

1109 'System diagnostics'

• Shifting of Y-point			
Device			
Description			
Class	Warning		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
Error removal	Error reset inadmissible, first clear cause of fault		

1110 'Warning brake transistor'

• Warning brake transistor			
Device	**KE**		
Description	The function of the brake transistor is not ensured any more		
Class	Warning message, reaction of the drive after 4 seconds		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
	Info 1	0	The brake transistor does not switch on
		1	The brake transistor does not switch off After 4 s error 1061, 'Braking transistor fault', Info 1 = 3, will be generated (SBM is withdrawn and power supply is disconnected)
Error removal	• Internal KE error • Replace device		

1111 'Warning external component'

• Warning external component			
Device	**KE, KW, IC, IDT5, IX**		
Description	Actual current values violate the I²t calculation, overload of the external elements e.g. at the line input: line filter, commutation choke etc, at the inverter e.g. motor cable The overload has reached the value according ID34196 'Treshold external component'		
Class	Warning		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			

Error removal	• Check application
	• Calculation check for dimensioning the rated power of the device
	• Recheck parameters:
	  • ID34193 Nominal current
	  • ID34194 Peak current
	  • ID34195 Peak current time
	  • ID34196 Threshold external component		

1112 'Overload error external component'

• Overload error external element line			
Device	**KE, KW, IC, IDT5, IX**		
Description	• Actual current values violate the I²t calculation, overload of the external elements e.g. at the line input: line filter, commutation choke etc, at the inverter e.g. motor cable		
Class	Error		
Drive Behaviour	Inverter: controlled braking of the motor		
Device Behaviour	Supply: line separation		
Additional Error Information (AMK Service)			
	Info1	1	$I_{max} < I_n$
		2	Overload has reached 100 %

Error removal	• Check application
	• Calculation check for dimensioning the rated power of the device
	• Recheck parameters:
	  • ID34193 'Nominal current external component'
	  • ID34194 'Peak current external component'
	  • ID34195 'Peak current time external component'
	  • ID34196 'Treshold external component'		

• Overload mains filter converter (n)			
Device	**ZWR**		
Description	Overload mains filter -Y1		
Class	Error		
Device Behaviour	Automatic error reset and switch back on		
Additional Error Information (AMK Service)			
Error Removal	• Check mains filter -Y1, replace if necessary		

1115 'Communication monitoring'

• Communication monitoring			
Device	**KW-R06** **iDT5** **iX** **iC**		
Description	In operation mode 'Setup', time exceeded for increasing ID33143 'Communication monitoring'		
Class	Error		
Drive Behaviour	Controlled braking		
Device Behaviour			
Additional Error Information (AMK Service)			
Error Reaction			
Error Removal	• Check master - slave communication • If necessary, replace wiring		

3.5 No. 1280 ... 1460 Operation mode / Parameter calculation

1281 'System diagnostics'

Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
			Inadmissible status BAV
Error removal	Power must be switched OFF/ON after loading a parameter set from the PC into the target system		

1282 'ID32777, ID111, ID32769'

• Standardization factor of torque-generating current, analog input			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
			KSQA
Error removal	Recheck parameters: • ID32777 Torque relative to 10 V at A1 • ID110 Inverter peak current • ID111 Motor nominal current I_N • ID32769 Magnetising current I_M		

1283 'ID111, ID32769'

• Standardization factor of torque-generating current, communication			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
			KSQK
Error removal	Recheck parameters: • ID110 Inverter peak current • ID111 Motor nominal current I_N • ID32769 Magnetising current I_M		

1284 'ID111, ID32769'

• Standardization factor of actual torque values			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
			KIQR
Error removal	Recheck parameters: • ID110 Inverter peak current • ID111 Motor nominal current I_N • ID32769 Magnetising current I_M		

1285 'ID32772 wrong'

• Slope standardization factor			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
			KPSI
Error removal	Recheck parameters: • ID32769 Magnetising current I_M • ID32770 Magnetising current I_{M1} • ID32772 Nominal velocity n_N • ID110 Inverter peak current		

1286 'ID82 or ID83 too large'

• Torque limit factor of the analog input A2			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
			KMGA
Error removal	Recheck parameters: • ID82 Positive torque limit • ID83 Negative torque limit		

1287 'ID32890: 1, 2, 5, 10'

• Pulse multiplication			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
Error removal	Recheck parameters: • ID32890 AWIW pulse multiplier		

1288 'ID110, ID111, ID32769'

• $(I_N^2 - I_M^2) > I^2_{max}$ (inverter module maximum current, specified as ID 110)			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
			ISQNENN
Error removal	Recheck parameters: • ID110 Inverter peak current • ID111 Motor nominal current I_N • ID32769 Magnetising current I_M		

1289 'ID83 too small'

• "ID83 Negative torque limit" too small negative value			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
			ISQGRN
Error removal	Recheck parameters: • ID110 Inverter peak current • ID111 Motor nominal current I_N • ID32769 Magnetising current I_M		

1290 'ID82 too large'

• "ID82 Positive torque limit" too large • Relevant parameters (ID110, ID111, ID32769) in the combination outside the permissible range			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
			ISQGRP
Error removal	Recheck parameters: • ID110 Inverter peak current • ID111 Motor nominal current I_N • ID32769 Magnetising current I_M		

1291 'ID32774 faulty'

• Standardized "ID32774 Rotor time constant"			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
			KROT
Error removal			

1292 'SEEP checksum'

<table>
<tr><td colspan="5">• Checksum error in the device specific serial EEPROM. The check takes place in the system initialization</td></tr>
<tr><td>Device</td><td colspan="4"></td></tr>
<tr><td>Description</td><td colspan="4"></td></tr>
<tr><td>Class</td><td colspan="4"></td></tr>
<tr><td>Drive Behaviour</td><td colspan="4"></td></tr>
<tr><td>Device Behaviour</td><td colspan="4">System run-up aborted</td></tr>
<tr><td colspan="5">Additional Error Information (AMK Service)</td></tr>
<tr><td rowspan="3"></td><td rowspan="3">Info 2</td><td>1</td><td colspan="2">Faulty SEEP order</td></tr>
<tr><td>2</td><td colspan="2">Checksum error in SEEP in AMK Info area ("34060 List SEEP 1)</td></tr>
<tr><td>3</td><td colspan="2">Checksum error in database (DTH)
<table><tr><td>Info 3</td><td>Number of faulty checksum (EEPROM page number)</td></tr></table></td></tr>
<tr><td>Error removal</td><td colspan="4">Check AZ-SEEP with monitor AW0 M2001C, ffffh inadmissible</td></tr>
</table>

1293 'Boot strap EEPROM'

<table>
<tr><td colspan="5">• The software has been replaced and is no longer address-compatible with the data of the parameter memory (e.g. EEPROM) in which all current drive and system data are filed</td></tr>
<tr><td>Device</td><td colspan="4"></td></tr>
<tr><td>Description</td><td colspan="4"></td></tr>
<tr><td>Class</td><td colspan="4"></td></tr>
<tr><td>Drive Behaviour</td><td colspan="4"></td></tr>
<tr><td>Device Behaviour</td><td colspan="4">System run-up aborted</td></tr>
<tr><td colspan="5">Additional Error Information (AMK Service)</td></tr>
<tr><td></td><td></td><td></td><td colspan="2"></td></tr>
<tr><td>Error removal</td><td colspan="4">• The BOOT STRAP menu item must be initialized through the control panel or the S-BUS interface
• After “Boot strapping” the user parameters must be reloaded (manually or by means of PC program)</td></tr>
</table>

1294 'EEPROM defective'

<table>
<tr><td colspan="5">• Checksum error of parameter memory for application data
• The parallel EEPROM can no longer be written or read</td></tr>
<tr><td>Device</td><td colspan="4"></td></tr>
<tr><td>Description</td><td colspan="4"></td></tr>
<tr><td>Class</td><td colspan="4"></td></tr>
<tr><td>Drive Behaviour</td><td colspan="4"></td></tr>
<tr><td>Device Behaviour</td><td colspan="4">System run-up aborted</td></tr>
<tr><td colspan="5">Additional Error Information (AMK Service)</td></tr>
<tr><td></td><td></td><td></td><td colspan="2"></td></tr>
<tr><td>Error removal</td><td colspan="4">• The BOOT STRAP menu item must be initialized through the control panel or the S-BUS interface
• After “Boot strapping” the user parameters must be reloaded (manually or by means of PC program)</td></tr>
</table>

1295 'ID100 / ID101'

• Speed controller integral component factor			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
			KIDZL

Error removal	• "ID100 Proportional gain speed control K_p" and "ID101 Integrating time speed control T_N" must be in a suitable ratio to one another
	• Recheck parameters:
	  • ID100 Proportional gain speed control K_p
	  • ID101 Integrating tim speed control T_N
	  • ID110 Inverter peak current
	  • ID111 Motor nominal current I_N
	  • ID32769 Magnetising current I_M		

1296 'ID211 / ID209 / ID210'

• The DZR adaptation P component slope factor could not be calculated correctly in the drive			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
			KPS
Error removal	Recheck parameters: • ID100 Proportional gain speed control K_p • ID110 Integrating tim speed control T_N • ID209 Lower adaption limit • ID210 Upper adaption limit • ID211 Proportional gain adaption		

1297 'ID212 / ID209 / ID210'

• The DZR adaptation I component slope factor could not be calculated correctly in the drive			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
			KIS
Error removal	Recheck parameters: • ID100 Proportional gain speed control K_p • ID110 Integrating tim speed control T_N • ID110 Inverter peak current • ID209 Lower adaption limit • ID210 Upper adaption limit • ID211 Proportional gain adaption		

1298 'ID100 faulty'

• 1 ≤ "ID100 Proportional gain speed control K_p" ≤ 32767			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
			KPDZL
Error removal	Recheck parameters: • ID100 Proportional gain speed control K_p • ID110 Integrating tim speed control T_N • ID111 Motor nominal current I_N • ID32769 Magnetising current I_M		

1299 'ID32775: even'

• An uneven pole number was entered in "ID32775 Pole number motor"			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
Error removal			

1300 'Error in Temporary Parameters'

• An error in the standardization calculation occurred on entry of a temporary parameter • The entered parameter ID is not part of the "ID270 Temporary parameter list"			
Device			
Description			
Class	Warning		
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
Error removal			

1301 'ID32778 faulty'

• 0 ≤ "ID32778 Speed relative to 10 V at A1" ≤ 100 000 rpm			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
Error removal			

1302 'System diagnostics'

• Operating mode incomplete, see "ID32800 AMK main operating mode" et seq.			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
			BA error decoupling
Error removal	Recheck parameters: • ID32800 AMK main operating mode • ID32800 ... ID32806 AMK secondary operating mode 1 ... 6		

1303 'System diagnostics'

• Operating mode incomplete, see "ID32800 AMK main operating mode" et seq.			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
			BA error DZR
Error removal	Recheck parameters: • ID32800 AMK main operating mode • ID32800 ... ID32806 AMK secondary operating mode 1 ... 6		

1304 'System diagnostics'

• Operating mode incomplete, see "ID32800 AMK main operating mode" et seq.			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
			BA error position control
Error removal	Recheck parameters: • ID32800 AMK main operating mode • ID32800 ... ID32806 AMK secondary operating mode 1 ... 6		

1305 'System diagnostics'

• Operating mode incomplete, see "ID32800 AMK main operating mode" et seq.			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
			BA error flux cond
Error removal	Recheck parameters: • ID32800 AMK main operating mode • ID32800 ... ID32806 AMK secondary operating mode 1 ... 6		

1306 'System diagnostics'

• Operating mode incomplete, see "ID32800 AMK main operating mode" et seq.			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
			Level BA errror
Error removal	Recheck parameters: • ID32800 AMK main operating mode • ID32800 ... ID32806 AMK secondary operating mode 1 ... 6		

1307 'System diagnostics'

• Position resolution not realizable			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
			IQLAGE_WRONG
Error removal	Recheck parameters: • ID116 Resolution motor encoder • ID117 Resolution external encoder • ID118 Resolution linear encoder		

1308 'System diagnostics'

• Resolution of the “Speed source pulses” source not realizable			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
			RDB3C_AKTGEBER
Error removal	Recheck parameters: • ID116 Resolution motor encoder • ID117 Resolution external encoder • ID121 Load gear input revolution • ID122 Load gear output revolution		

1309 'System diagnostics'

• Speed window larger than 107372.5 rpm			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
			DZLFENST
Error removal			

1310 'System diagnostics'

• “Pole factor POLF” calculation out of tolerance • POLF = (115200 * ZP * EIN) / (GPZ * AUS) • 0010h ≤ POLF ≤ 7fffh			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
Error removal	Recheck parameters: • ID32775 Pole number motor (ZP) • ID32776 Sinus encoder period (GPZ) • ID32960 Input Motor encoder gear (EIN) • ID32961 Output Motor encoder gear (AUS)		

1311 'System diagnostics'

• 4 GPZ calculation inconclusive			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
Error removal			

1312 'System diagnostics'

• Negated direction of rotation permissible only for A and I encoders			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
Error removal	Recheck parameter: • ID32773 Service bits: bit 16 = 1		

1313 'ID82 less then ID83'

• Plausibility monitoring of speed limits (ID82 'Positive torque limit' ≥ ID83 'Negative torque limit')	
Device	**iX / iC / iDT5 / ihX / KW-R24 / KW-R24-R / KW-R25 / KW-R26 / KW-R27**
Description	The condition ID82 ≥ ID83 must always be true. If ID82 < ID83, the diagnostic message 1313 is generated. The error can occur during parametrization and during operation by temporary changes or by specifying the limits above a cyclic channel.
Class	Error
Drive Behaviour	Error in parametrization → system run-up aborted Error during operation → coast to stop
Device Behaviour	
Additional Error Information (AMK Service)	
Error removal	Check the following parameters: • ID82 'Positive torque limit' • ID83 'Negative torque limit'

1314 'System diagnostics'

Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
Error removal	Recheck parameter: • ID32990 NK-shift"		

1315 'System diagnostics'

• Resolver 0 point shift inadmissible			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
Error removal	Recheck parameter: • ID32959 Offset resolver		

1316 'ID32769/ID100 too large'

• "ID32769 Magnetising current I_M" / "ID110 Inverter peak current" ratio too large			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
			ISDNENN
Error removal	Recheck parameters: • ID110 Inverter peak current • ID32769 Magnetising current I_M		

1317 'ID32770/ID110 too large'

• "ID32770 Magnetising current I_{M1}" / "ID110 Inverter peak current" ratio too large			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
			ISDNENN1
Error removal	Recheck parameters: • ID110 Inverter peak current • ID32770 Magnetising current I_{M1}		

1318 'ID32774 faulty'

• I component flux conduction factor			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
			KIFL
Error removal			

1319 'System diagnostics'

• Configuration of “Strobe” binary input wrong			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
Error removal			

1320 'System diagnostics'

Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
			RESERVE
Error removal			

1321 'System diagnostics'

Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
			RESERVE
Error removal			

1322 'System diagnostics'

Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
			RESERVE
Error removal			

1323 'ID32769 IM < ID111 IN'

Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
			IROOT
Error removal	Recheck parameters: ID111 Motor nominal current I_N ID32769 Magnetising current I_M		

1324 'ID32772 nN too large'

Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
			DZLNENN
Error removal	Recheck parameter: ID32772 Nominal velocity n_N		

1325 'ID32772 P1 reference'

• n_N too large			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
			DZLNENN1
Error removal	Recheck parameter: ID32772 Nominal velocity n_N		

1326 'System diagnostics'

• Source converter/on (UE) incorrect			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
Error removal	• Check ACC Bus • Recheck parameter: • ID32795 Source UE		

Device	**KE**		
Description	ACC configured as source of 'DC bus on' but no ACC bus is connected		
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
Error removal	• Check ACC Bus • Recheck parameter: • ID32795 'Source UE'		

1327 'ID104 kv factor'

• $1 \leq K_V \leq 30000$			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
			KLAGE
Error removal	Recheck parameters: • ID104 Postion loop K_V-factor • ID115 Position feedback type • ID116 Resolution motor encoder • ID117 Resolution external encoder • ID118 Resolution linear encoder • ID121 Load gear input revolution • ID122 Load gear output revolution • ID123 Feed constant • ID32776 Sinus encoder period		

1328 'System diagnostics'

Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
			RESERVE
Error removal			

1329 'ID111/ID110 > 80%'

• "ID111 Motor nominal current" may be maximum 80 % of "ID110 Inverter peak current"			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
			KSQA
Error removal	Recheck parameters: • ID110 Inverter peak current • ID111 Motor nominal current		

1330 'ID32772 > ID113'

• "ID32772 Nominal velocity" is greater than "ID113 Maximum speed"			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
			N_NENN
Error removal	Recheck parameters: • ID113 Maximum speed • ID32772 Nominal velocity		

1331 'ID209 > ID113'

• "ID209 Lower adaption limit" is greater than "ID113 Maximum speed"			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
Error removal	Recheck parameters: • ID113 Maximum speed • ID209 Lower adaption limit		

1332 'ID210 > ID113'

• "ID210 Upper adaption limit" is greater than "ID113 Maximum speed"			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
			KSQA
Error removal	Recheck parameters: • ID113 Maximum speed • ID209 Upper adaption limit		

1333 'System diagnostics'

• "ID32780 Acceleration ramp" resp. "ID32781 Deceleration ramp" are too large in reference to "ID113 Maximum speed"			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
Error removal	Recheck parameters: • ID113 Maximum speed • ID32780 Acceleration ramp • ID32781 Deceleration ramp		

1334 'ID38 > ID113'

• "ID38 Positive velocity limit" is greater than "ID113 Maximum speed"			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
Error removal	Recheck parameters: • ID38 Positive velocity limit • ID113 Maximum speed		

1335 '|ID39| > ID113'

• The absolute amount of "ID39 Negative velocity limit" is greater than "ID113 Maximum speed"			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
Error removal	Recheck parameters: • ID39 Negative velocity limit • ID113 Maximum speed		

1336 'ID32778 > ID113'

• "ID32778 Speed relative to 10 Vat A1" is greater than "ID113 Maximum speed"			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
Error removal	Recheck parameters: • ID113 Maximum speed • ID32778 Speed relative to 10 V at A1		

1337 'ID32783 > ID113'

Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
			RESERVE
Error removal			

1338 'ID157 > ID113'

• "ID157 Velocity window" is greater than "ID113 Maximum speed"			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
Error removal	Recheck parameters: • ID113 Maximum speed • ID157 Velocity window		

1339 'ID125 > ID113'

• "ID125 Velocity Threshold N_x" is greater than "ID113 Maximum speed"			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
Error removal	Recheck parameters: • ID113 Maximum speed • ID125 Velocity Threshold N_x		

1340 'ID124 > ID113'

• "ID124 Zero velocity window" is greater than "ID113 Maximum speed"			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
Error removal	Recheck parameters: • ID113 Maximum speed • ID124 Zero velocity window		

1341 'AW-Imax wrong (SEEP)'

• Inverter module maximum current = 0 is inadmissible. This value was read from the serial EEPROM of the inverter, possibly there is a defect at the serial EEPROM			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
Error removal			

1342 'System diagnostics'

• External error • Indicated at following system run-up • Timeout			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
			PEEP Timeout
Error removal	System OFF/ON (HW reset)		

1343 'System diagnostics'

• Internal fault or component failure			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
			DTH Timeout see Comm. Error AZ-M881C…, AW-M200
Error removal			

1344 'System diagnostics'

• Internal fault or component failure (AWMON)			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
			DTH Timeout see Comm. Error AZ-M881C…, AW-M200
Error removal			

1345 'System diagnostics'

• Internal fault or component failure (wrong BAV order)			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
			DTH Timeout see Comm. Error AZ-M881C…, AW-M200
Error removal			

1346 'System diagnostics'

• Internal fault or component failure (Handshake BAV/DTH)			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
			DTH Timeout see Comm. Error AZ-M881C…, AW-M200
Error removal			

1347 'System diagnostics'

• Internal fault or component failure (Handshake BAV/PEEP)			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
			DTH Timeout see Comm. Error AZ-M881C…, AW-M200
Error removal			

1348 'System diagnostics'

• Internal fault or component failure (Handshake BAV/AWMON)			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
			DTH Timeout see Comm. Error AZ-M881C…, AW-M200
Error removal			

1349 'System diagnostics'

• Internal fault or component failure			
Device	**AW**		
• Same AW numbers set at different AWs (rotary switch for AW No.)			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
Error removal			

1350 'AW not present'

• Internal fault, AW/AZ communication			
Device	**AZ** **AW**		
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
			Test comm. Error cells AZ-M881C.., AW-M200
Error removal	• AW not present or does not report • AW was stated in ID32812 (active AW), but is actually not present • AW is defective • AW processor receives system reset • Check ID32812 • Check bus lines for correct contacting • An AW disturbs the entire bus • Activate AZ without Aws (pull off plug X27, ID32812 = 0) • Same AW numbers set at different Aws (rotary switch for AW No.) • Recheck parameter: • ID32812 Active drives		

1351 'AW not active'

• The operation mode defined for an operation mode change is not defined • The selected AW is not active.			
Device	**AZ** **AW**		
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
			Ba_wechs()
Error removal	Recheck parameter: • ID32812 Active drives		

1352 'Can be changed only offline'

• ID cannot be changed online			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
			Par_wechs(), temp. data change
Error removal			

1353 'Parameter Set change wrong'

• Faulty commanding in the parameter set change • Parameter set not defined ID32813			
Device			
• ID32813 … ID32820 (depending upon AW No.) AW not active			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
			Pars_wechs( )
Error removal	Recheck parameters: ID32800 AMK main operation mode ID32801 ... ID32805 AMK secondary operation mode 1 ... 5 ID32813 ...ID32820 Parameter set assignment 1 ... 8		

1354 'Im < Im1'

• "ID32769 Magnetising current I_M" < "ID32770 Magnetising current I_{M1}" at the point P1			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
Error removal	Recheck parameters: • ID32769 Magnetising current I_M • ID32770 Magnetising current I_{M1}		

1355 'Date ID32785'

Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
			RESERVE
Error removal			

1356 'Date ID32785, ID32786'

• Contents of "ID32785 Message 16" inadmissible • Contents of "ID32786 Message 32" inadmissible			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
Error removal	Recheck parameters: • ID32785 Message 16 • ID32786 Message 32		

1357 'AWNR ID32787, ID32789, ID32791, ID32793'

Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
			Filter_dac()
Error removal	Recheck parameters: • ID32787 Source analogue channel 1 • ID32789 Source analogue channel 2 • ID32791 Source analogue channel 3 • ID32793 Source analogue channel 4		Check AW-No., permissible 0 ... 8

1358 'Source ID32787, ID32789, ID32791, ID32793'

Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
Error removal	Recheck parameters: • ID32787 Source analogue channel 1 • ID32789 Source analogue channel 2 • ID32791 Source analogue channel 3 • ID32793 Source analogue channel 4		

1359 'ID32873, ID32968, ID32977'

• Binary input port address is not permitted.	
Device	
Description	

Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
			Cfg_azea( ), option place analysis, AZ-EA
Error removal	Recheck parameters: • ID32873 Input port 1 • ID32968 Input port 2 • ID32977 Input port 3		

1360 'Opt.1 ID32846, ID32855, ID32864'

• The output port 512 … 519 is configured several times			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
Error removal	Recheck parameters: • ID32846 Output port 1 • ID32855 Output port 2 • ID32864 Output port 3		

1361 'Opt.2 ID32846, ID32855, ID32864'

• The output port 520 … 527 is configured several times			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
Error removal	Recheck parameters: • ID32846 Output port 1 • ID32855 Output port 2 • ID32864 Output port 3		

1362 'Opt.3 ID32846, ID32855, ID32864'

• The output port 528 … 535 is configured several times			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
Error removal	Recheck parameters: • ID32846 Output port 1 • ID32855 Output port 2 • ID32864 Output port 3		

1363 'Opt.4 ID32846, ID32855, ID32864'

• The output port 536 … 543 is configured several times			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
Error removal	Recheck parameters: • ID32846 Output port 1 • ID32855 Output port 2 • ID32864 Output port 3		

1364 'Definition of output bits'

Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
	Info 1	25	Recheck ID32847 ... ID32872
		41	Recheck ID26, ID34029
		42	Recheck ID301, ID303, ID305, ID307
Error removal	• Check codes for binary outputs, invalid entry		

1365 'AWNR output bit'

• The entered AW number is inadmissible. (Bin. Outputs)			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
Error removal	Recheck parameters: • ID32847 ... ID32854 Output port 1, bit 0 ... bit 7 • ID32856 ... ID32863 Output port 3, bit 0 ... bit 7 • ID32865 ... ID32872 Output port 3, bit 0 ... bit 7		

1366 'Definition of input bits'

• The entered code is inadmissible. (Bin. Inputs) • Parameterization is not plausible: ID32948 calls a function which requires further parameter setting on binary input assignment (e.g. measuring function ID32948 = 24 hex regards BE3 ID32980 = 401 hex)			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
Error removal	Recheck parameters: • ID32874 ... ID32881 Input port 1, bit 0 ... 7 • ID32969 ... ID32876 Input port 2, bit 0 ... 7 • ID32978 ... ID32985 Input port 3, bit 0 ... 7 • ID32948 Message 4x32		

1367 'ID32883 Option place 1'

• The ID for option place 1 was wrongly configured			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
Error removal			

1368 'ID32884 Option place 2'

• The ID for option place 2 was wrongly configured			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
Error removal			

1369 'ID32885 Option place 3'

• The ID for option place 3 was wrongly configured			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
Error removal			

1370 'ID32886 Option place 4'

• The ID for option place 4 was wrongly configured			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
Error removal			

1371 'ID32799 Standard Periphery'

• "ID32799 Configuration Standard periphery" was wrongly configured			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
Error removal			

1372 'Option place 1 card defect'

• Option card reports defect			
Device	**AS-PL**		
• Ethernet may be configured only in one instance			
Description			
Class			
Drive Behaviour	Coast to stop		
Device Behaviour			
Additional Error Information (AMK Service)			
			Program stack overflow
Error removal	• Check Ethernet parameterization • Check serial interface parameterization		

• Option 1 reports defect, not available or parameterization error			
Device	**A4 / A5 / A6** **iSA**		
• Ethernet may be configured only in one instance (Instance 0 or 4)			
Description			
Class			
Drive Behaviour	Coast to stop		
Device Behaviour			
Additional Error Information (AMK Service)			
	Info 1	0	Faulty instance
Error removal	• Check parameterization		

1373 'Option place 2 card defect'

• Option card reports defect			
Device	**AS-PL**		
• Ethernet may be configured only in one instance			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
Error removal	• Check Ethernet parameterization. • Check serial interface parameterization		

• Option 2 reports defect, not available or parameterization error			
Device	**A4 / A5 / A6** **iSA**		
• Fieldbus-Master, CAN or EtherCAT may be configured only in one instance (Instance 1 or 5)			
Description			
Class			
Drive Behaviour	Coast to stop		
Device Behaviour			
Additional Error Information (AMK Service)			
	Info 1	0	Faulty instance
Error removal	• Check parameterization		

1374 'Option place 3 card defect'

• Option card reports defect			
Device	**AS-PL**		
• Ethernet may be configured only in one instance			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
Error removal	• Check Ethernet parameterization. • Check serial interface parameterization		

• Option 3 reports defect, not available or parameterization error			
Device	**A4 / A5 / A6** **iSA**		
• Fieldbus-Slave may be configured only in one instance (Instance 2 or 6)			
Description			
Class			
Drive Behaviour	Coast to stop		
Device Behaviour			
Additional Error Information (AMK Service)			
	Info 1	0	Faulty instance
Error removal	• Check parameterization		

1375 'Option place 4 card defect'

• Option card reports defect			
Device	**AS-PL**		
• Ethernet may be configured only in one instance			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
Error removal	• Check Ethernet parameterization. • Check serial interface parameterization		

• Option 4 reports defect, not available or parameterization error			
Device	**A4 / A5 / A6** **iSA**		
• IO-option may be configured only in one instance (Instance 3 or 7)			
Description			
Class			
Drive Behaviour	Coast to stop		
Device Behaviour			
Additional Error Information (AMK Service)			
	Info 1	0	Faulty instance
Error removal	• Check parameterization		

1376 'ID32882 Option place 1'

• ID32882 or ID32799 wrongly configured			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
Error removal	Recheck parameters: • ID32799 Configuration standard periphery • ID32882 Slot assignment		

1377 'ID32882 Option place 2'

• ID32882 or ID32799 wrongly configured			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
Error removal	Recheck parameters: • ID32799 Configuration standard periphery • ID32882 Slot assignment		

1378 'ID32882 Option place 3'

• ID32882 or ID32799 wrongly configured			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
Error removal	Recheck parameters: • ID32799 Configuration standard periphery • ID32882 Slot assignment		

1379 'ID32882 Option place 4'

• ID32882 or ID32799 wrongly configured			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
Error removal	Recheck parameters: • ID32799 Configuration standard periphery • ID32882 Slot assignment		

1380 'ID110, ID111, ID32769'

• Wrong torque display standardization			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
			KM_WRONG
Error removal	Recheck parameters: • ID110 Inverter peak current • ID111 Motor nominal current • ID32769 Magnetising current I_M		

1381 'LIW source calculation'

Resolution of actual position value is outside the permissible range			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
			LAM_WRONG
Error removal	Recheck parameters: • ID104 Position loop KV-factor • ID115 Position feedback type • ID116 Resolution motor encoder • ID117 Resolution external position feedback • ID118 Resolution linear encoder feedback • ID121 Load gear input revolution • ID122 Load gear output revolution • ID123 Feed constant • ID32776 Sinus encoder period		

1382 'System diagnostics'

Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
	Info 1	0	"ID32953 encoder type" defined wrongly
		7	HW revision status ≤ 1.03
Error removal			

1383 '2PI value wrong'

• 2π value not defined			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
			PI_IQEA_WRONG
Error removal	Recheck parameters: • ID115 Position feedback type • ID116 Resolution motor encoder • ID117 Resolution external position feedback • ID118 Resolution linear encoder feedback • ID123 Feed constant • ID32776 Sinus encoder period		

1384 '2PI value calculation'

• 2π value cannot be calculated			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
			PI_WRONG
Error removal	Recheck parameters: • ID115 Position feedback type • ID116 Resolution motor encoder • ID117 Resolution external position feedback • ID118 Resolution linear encoder feedback • ID123 Feed constant • ID32776 Sinus encoder period		

1385 'ID116, ID32776 ratio'

Device	**AZ/AW**		
• Resolver use: ID 32953 = 3 => ID32776 = 128 • Mandatory use of AW software ≥ 0210			
Device	**KE/KW**		
• Resolver use: ID 32953 = 8 => ID32776 = 128			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
			KLIW_WRONG
Error removal	Recheck parameters connected with encoder resolution corresponding to operation mode: • ID116 Resolution motor encoder • ID118 Resolution linear encoder feedback • ID32776 Sinus encoder period • ID32934 Pulse encoder period • ID32800 AMK main operation mode • ID32801 ... ID32806 AMK second operation mode 1 ... 6		

1386 'Output DA1 … DA4'

• The output port 544 for DA1 … DA4 is configured several times			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
Error removal	Recheck parameters: • ID32846 Output port 1 • ID32855 Output port 2 • ID32864 Output port 3		

1387 'ID32846 wrong'

Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
Error removal	Recheck parameter: • ID32846 Output port 1		

1388 'ID32855 wrong'

Device	
Description	
Class	
Drive Behaviour	
Device Behaviour	System run-up aborted
Additional Error Information (AMK Service)	
Error removal	Recheck parameter: • ID32855 Output port 2

1389 'ID32864 wrong'

Device	
Description	
Class	
Drive Behaviour	
Device Behaviour	System run-up aborted
Additional Error Information (AMK Service)	
Error removal	Recheck parameter: • ID32846 Output port 3

1390 'System diagnostics'

• NC/LR time not integral.	
Device	
Description	
Class	
Drive Behaviour	
Device Behaviour	System run-up aborted
Additional Error Information (AMK Service)	
Error removal	Recheck parameters: • ID1 NC cycle time • ID32958 Command value 1 cycle

1391 'ID32772 wrong'

Device	
Description	
Class	
Drive Behaviour	
Device Behaviour	System run-up aborted
Additional Error Information (AMK Service)	
Error removal	Recheck parameter: • ID32772 Nominal velocity

1392 'ID158, ID32771, ID32772'

• Wrong standardization of comparative power Px			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
			KPX_WRONG, PX_WRONG
Error removal	Recheck parameters: • ID158 Power threshold Px • ID32771 Nominal torque • ID32772 Nominal velocity		

1393 'AW not AZ-compatible'

• Software levels AW, AZ are not compatible • The AZ and AW software level is compared in the system initialization and incompatibility displayed (e.g.: AZ x1xx does not suit AW x2xx)			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
Error removal			

1394 'ID32892: x times 2 to the power 16'

• The numerical value in ID32892 does not correspond to an integral multiple of 2^{16}			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
Error removal	Recheck parameter: • ID32892 Synchronous setpoint pulses divider		

1395 'No Main Operation Mode'

• This message is generated on system initialization if the main operation mode(BA) has been stated with 0, i.e. NO BA or BA NOT ACTIVATED. The main operation mode must always be assigned with a valid operation mode code. Solely the secondary operation modes may also be assigned with 0 (BA NOT ACTIVATED)	
Device	
Description	
Class	
Drive Behaviour	
Device Behaviour	System run-up aborted
Additional Error Information (AMK Service)	
Error removal	Recheck parameter: • ID32800 AMK main operation mode

1396 'Operation mode not defined'

• This message is generated on system initialization if a not defined operation mode code was entered for the basic operation mode and / or for one of the secondary operation modes	
Device	
Description	
Class	
Drive Behaviour	
Device Behaviour	System run-up aborted
Additional Error Information (AMK Service)	
Error removal	Recheck parameters: • ID32800 AMK main operation mode • ID32801 ... ID32806 AMK secondary operation mode 1 ... 6

1397 'Operation mode not impl.'

• This message is generated on system initialization if an operation mode code was entered for the basic operation mode and/or for one of the secondary operation modes which indeed is permissible, but is not yet supported in the existing version	
Device	
Description	
Class	
Drive Behaviour	
Device Behaviour	System run-up aborted
Additional Error Information (AMK Service)	
Error removal	Recheck parameters: • ID32800 AMK main operation mode • ID32801 ... ID32806 AMK secondary operation mode 1 ... 6

1398 'Setpoint source undefined'

• This message is generated on system initialization if a code for the setpoint source was entered in one of the ID32800 … 32809 which is not defined or if a setpoint source was preset which momentarily is not yet available. The code for the setpoint source is only checked if a sensible operation mode code has also been entered			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
Error removal	Recheck parameters: • ID32800 AMK main operation mode • ID32801 ... ID32806 AMK secondary operation mode 1 ... 6 • ID32807 AMK secondary operation mode 7 • ID32808 AMK secondary operation mode 8 • ID32909 AMK secondary operation mode 9		

1399 'Setpoint Source (SQ) is Not Admissible in this Operation Mode (BA)'

• This message is generated on system initialization if a code for the setpoint source has been entered in one of the ID32800 … 32809 which represents a not permissible combination in conjunction with the also entered code for the operation mode (e.g. position control with analog command value setting)			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
Error removal	Recheck parameters: • ID32800 AMK main operation mode • ID32801 ... ID32806 AMK secondary operation mode 1 ... 6 • ID32807 AMK secondary operation mode 7 • ID32808 AMK secondary operation mode 8 • ID32909 AMK secondary operation mode 9		

1400 'Option Card for Setpoint Source (SQ)'

• This message is generated on system initialization if a code for a setpoint source was selected on an option card in one of the ID32800 … ID32809 but the option card is not present			
Device	**AZ**		
• Option card is not present			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
Error removal	Recheck parameters: • ID32800 AMK main operation mode • ID32801 ... ID32806 AMK secondary operation mode 1 ... 6 • ID32807 AMK secondary operation mode 7 • ID32808 AMK secondary operation mode 8 • ID32909 AMK secondary operation mode 9		

1401 'MGQ not selected'

• This message is generated on system initialization if no valid code for the source of the torque limit was stated in one of the ID32800 … 32809			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
Error removal	Recheck parameters: • ID32800 AMK main operation mode • ID32801 ... ID32806 AMK secondary operation mode 1 ... 6 • ID32807 AMK secondary operation mode 7 • ID32808 AMK secondary operation mode 8 • ID32909 AMK secondary operation mode 9		

1402 'Source of Torque Limit (MGQ) inadmissible for this Operation Mode (BA)'

• This message is generated on system initialization if a source for the torque limit was stated in one of the ID32800 … 32809 which is inadmissible in combination with the selected operation mode			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
Error removal	Recheck parameters: • ID32800 AMK main operation mode • ID32801 ... ID32806 AMK secondary operation mode 1 ... 6 • ID32807 AMK secondary operation mode 7 • ID32808 AMK secondary operation mode 8 • ID32909 AMK secondary operation mode 9		

1403 'Source of Torque Limit (MGQ) not implemented'

• This message is generated on system initialization if a source for the torque limit was stated in one of the ID 32800 … ID32809 which is not present in the existing system			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
Error removal	Recheck parameters: • ID32800 AMK main operation mode • ID32801 ... ID32806 AMK secondary operation mode 1 ... 6 • ID32807 AMK secondary operation mode 7 • ID32808 AMK secondary operation mode 8 • ID32909 AMK secondary operation mode 9		

1404 'Source of Torque Limit (MGQ) AW-analog assigned'

• This message is generated on system initialization if an analog input was stated as source for the torque limit in one of the ID32800 … 32809, but this analog input is already assigned with another source			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
Error removal	Recheck parameters: • ID32800 AMK main operation mode • ID32801 ... ID32806 AMK secondary operation mode 1 ... 6 • ID32807 AMK secondary operation mode 7 • ID32808 AMK secondary operation mode 8 • ID32909 AMK secondary operation mode 9		

1405 'Speed Ramp (DZLRMP) function missing'

• This message is generated on system initialization if a speed ramp function was stated in one of the ID32800 … ID32809 which is not implemented in the existing system	
Device	
Description	
Class	
Drive Behaviour	
Device Behaviour	System run-up aborted
Additional Error Information (AMK Service)	
Error removal	Recheck parameters: • ID32800 AMK main operation mode • ID32801 ... ID32806 AMK secondary operation mode 1 ... 6 • ID32807 AMK secondary operation mode 7 • ID32808 AMK secondary operation mode 8 • ID32909 AMK secondary operation mode 9

1406 'Speed Filter (DZLFLT) function missing'

• This message is generated on system initialization if a speed filter function was stated in one of the ID32800 … ID32809 which is not implemented in the existing system	
Device	
Description	
Class	
Drive Behaviour	
Device Behaviour	System run-up aborted
Additional Error Information (AMK Service)	
Error removal	Recheck parameters: • ID32800 AMK main operation mode • ID32801 ... ID32806 AMK secondary operation mode 1 ... 6 • ID32807 AMK secondary operation mode 7 • ID32808 AMK secondary operation mode 8 • ID32909 AMK secondary operation mode 9

1407 'Selected Operation Mode (BA) not configured'

• This message is generated on an operation mode change if the selected operation mode number was not yet configured.	
Device	
Description	
Class	
Drive Behaviour	
Device Behaviour	System run-up aborted
Additional Error Information (AMK Service)	
Error removal	Recheck parameters: • ID32800 AMK main operation mode • ID32801 ... ID32806 AMK secondary operation mode 1 ... 6

1408 'Change of Operation Mode (BA) not executable'

• This message is generated on an operation mode change if the selected BA cannot be executed.			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
Error removal	Recheck parameters: • ID32800 AMK main operation mode • ID32801 ... ID32806 AMK secondary operation mode 1 ... 6		

1409 'Selected AW No. not active'

• This message is generated on an operation mode change if the selected AW No. is not activated or not present.			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
Error removal	• Activate AW No. through "ID32812 Active drives" • Do not command a not existing inverter module		

1410 'Selected Parameter Set'

• Selected parameter set not defined			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
Error removal			

1411 'Type of Position Controller is Inadmissible'

• The selected position controller type is momentarily not available or not permissible			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
Error removal			

1412 'Type of External Encoder inadmissible'

• The selected type of the external encoder system is not permissible.			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			

Error removal	• Diagnostic message comes only in connection with a position control selected in the operation mode parameter
	• Recheck parameters:
	  • ID32811 External position feed back source
	  • ID32800 AMK main operation mode
	  • ID32801 ... ID32806 secondary operation mode 1 ... 6		

1413 'Missing option card'

• A not existing command value source was defined in the operation mode parameter (e.g. missing option card, wrong slot or missing drive)			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
Error removal	Recheck parameters: ID32800 AMK main operation mode ID32801 ... ID32806 AMK secondary operation mode 1 ... 6		

1414 'Unknown AW type'

• This message is reported if an AW module of unknown type was discovered in the analysis of the operation mode parameter, i.e. the AZ detects an AW the function of which is unknown to it. This error can arise if, for instance, an older AZ software version does not support new types of AW			
Device	**AW** **AZ**		
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
Error removal			

1415 'Wrong AW type'

• The inverter does not support the stated operation mode (ID32800 …)			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
Error removal			

1416 'Change of Operation Mode inadmissible'

• This message is reported if it is attempted to change the operation mode on an inverter module for parallel operation			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
Error removal			

1417 'System diagnostics'

• The chosen operation mode cannot be mapped			
Device	**AZ**		
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
Error removal	Recheck parameters: • ID32800 AMK main operation mode • ID32801 ... ID32806 AMK secondary operation mode 1 ... 6		

1418 'System diagnostics'

• The chosen operation mode cannot be mapped			
Device	**AW**		
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
Error removal	Recheck parameters: • ID32800 AMK main operation mode • ID32801 ... ID32806 AMK secondary operation mode 1 ... 6		

1419 'System diagnostics'

• Speed filter activated but parameterised wrongly			
Device	**AZ**		
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
			Check_dzlfilt( )
Error removal	Recheck parameters: • ID32800 AMK main operation mode • ID32801 ... ID32806 AMK secondary operation mode 1 ... 6		

1420 'System diagnostics'

• Speed ramp is activated but the ramp parameters are asymmetric or faulty			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
			Check_dzlrmp( )
Error removal	Recheck parameters: • ID32780 Acceleration ramp • ID32781 Deceleration ramp • ID32800 AMK main operation mode • ID32801 ... ID32806 AMK secondary operation mode 1 ... 6		

1421 'System diagnostics'

• "ID82 Positive torque limit" faulty			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
			Check_momgrp()
Error removal	Recheck parameters: • ID82 Positive torque limit • ID32800 AMK main operation mode • ID32801 ... ID32806 AMK secondary operation mode 1 ... 6		

1422 'System diagnostics'

• Internal lists of controller configuration do not fit the operation mode			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
			Init_cfglist( )
Error removal	Recheck parameters: • ID32800 AMK main operation mode • ID32801 ... ID32806 AMK secondary operation mode 1 ... 6		

1423 'Inadmissible Setpoint Source'

• This warning occurs on analysis of the ID32948 Config. AZ message			
Device	**AZ**		
• Possibly AZ-IG option card not present			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
Error removal	Recheck parameters: • ID32948 Message 4x32 • ID32800 AMK main operation mode • ID32801 ... ID32806 AMK secondary operation mode 1 ... 6		

1424 'Inadmissible Setpoint Source'

• This warning occurs on analysis of the ID32948 Config. AZ message			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
Error removal	Recheck parameter: • ID32849 Message 4x32		

1425 'Polarity'

• The polarities may only be changed in pair-wise (setpoint and actual value)			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
	Info 1	0	ID85 'Torque polarity'
		1	ID43 'Velocity polarity'
		2	ID55 'Closed loop polarity'
Error removal	Recheck parameter: • ID43 'Velocity polarity' • ID55 'Closed loop polarity' • ID85 'Torque polarity'		

1426 'ID121/122 wrong'

• The gear factors ID121 and ID122 cannot be implemented. (The marginal conditions for the scaling factors are not fulfilled.)			
Device	**AZ** **ihx**		
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
Error removal	Recheck parameters: • ID121 Load gear input revolution • ID122 Load gear output revolution		

1427 'ID44 inadmissible'

• An inadmissible bit combination was set in "ID44 Scaling of velocity data"			
Device	**ihX**		
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
Error removal			

1428 'ID86 inadmissible'

• An inadmissible bit combination was set in "ID86 Torque data scaling"			
Device	**ihX**		
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
Error removal			

1429 'ID160 inadmissible'

• An inadmissible bit combination was set in "ID160 Scaling method acceleration data" • The data reference must agree with the position data reference in "ID76 Position data scaling"			
Device	**ihX**		
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
Error removal	Recheck parameters: • ID76 Position data scaling • ID160 Scaling method acceleration data		

1430 'Position scaling'

• The scaling set through the position scaling parameters ID77, ID78, ID79 as well as ID121, ID122 or ID123 and the current encoder resolution cannot be implemented. (The marginal conditions for the scaling factors are not fulfilled)			
Device	**ihX**		
Description			
Class	Warning		
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
Error removal	Recheck parameters: • ID77 Translation position scaling factor • ID78 Translation position scaling exponent • ID79 Rotatory position resolution • ID121 Load gear input revolution • ID122 Load gear output revolution • ID123 Feed constant		

1431 'Velocity scaling'

• The scaling set through the velocity scaling parameters ID45, ID46 as well as ID123 cannot be implemented. (The marginal conditions for the scaling factors are not fulfilled)	
Device	**ihX**
Description	
Class	
Drive Behaviour	
Device Behaviour	System run-up aborted
Additional Error Information (AMK Service)	
Error removal	Recheck parameters: • ID45 Velocity scaling factor • ID46 Velocity scaling exponent • ID123 Feed constant

1432 'Velocity scaling IPO'

• The scaling set through the velocity scaling parameters ID45, ID46 as well as ID121, ID122 or ID123 cannot be implemented. (The marginal conditions for the scaling factors are not fulfilled)	
Device	**ihX**
Description	
Class	
Drive Behaviour	
Device Behaviour	System run-up aborted
Additional Error Information (AMK Service)	
Error removal	Recheck parameters: • ID45 Velocity scaling factor • ID46 Velocity scaling exponent • ID121 Load gear input revolution • ID122 Load gear output revolution • ID123 Feed constant

1433 'Torque scaling'

• The scaling set through the torque / force scaling parameters ID93, ID94 as well as ID123 and ID32771 cannot be implemented. (The marginal conditions for the scaling factors are not fulfilled)	
Device	**ihX**
Description	
Class	
Drive Behaviour	
Device Behaviour	System run-up aborted
Additional Error Information (AMK Service)	
Error removal	Recheck parameters: • ID93 Torque scaling factor • ID94 Torque scaling exponent • ID123 Feed constant • ID32771 Nominal torque M_N

1434 'Acceleration scaling'

• The scaling set through the velocity scaling parameters ID161, ID162 as well as ID121, ID122 or ID123 cannot be implemented. (The marginal conditions for the scaling factors are not fulfilled)			
Device	**ihX**		
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
Error removal	Recheck parameters: • ID161 Acceleration scaling factor • ID162 Acceleration scaling exponent • ID121 Load gear input revolution • ID122 Load gear output revolution • ID123 Feed constant		

1435 'ID76 inadmissible'

• An inadmissible bit combination was set in "ID76 Position data scaling"			
Device	**ihX**		
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
Error removal	Recheck parameter: • ID76 Position data scaling		

1436 'Decade switch'

• Configuration decade switch inadmissible See configuration of binary input			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
Error removal			

1437 'Configuration SIWL' (Software Pulse Transmission)

• Setpoint source in ID32964 inadmissible • Inadmissible external actual position value selected; see ID32800 et seq. • Encoder resolution is not compatible with ID32966 and ID32967			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
Error Removal			

Device	**KW-R05** **KW-R06** **KW-R07**
Description	

Class	**Warning**		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
	Info 1	13	The encoder frequency for the observer filter is greater than 87,5 % of the maximum value.
	Error Removal		Reduce ID34259 'Maximum scanning frequency' or increase ID34251 'Line counts SIWL output' Verification is not possible until continuous operation
		19	The encoder frequency of the output encoder is greater than 87,5 % of the maximum value.
	Error Removal		• Reduce ID34259 'Maximum scanning frequency' or increase ID34251 'Line counts SIWL output' Verification is not possible until continuous operation • Reduce speed • Reduce ID34253 'SIWL factor' or increase ID34254 'SIWL divisor'

Class	Error		
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
	Info 1	1	No valid encoder type chosen in ID34250 'SIWL source'
		2	ID34252 'Offset position index' ≥ ID34251 'Line counts SIWL output'
		3	ID34251 'Line counts SIWL output' = 0
		4	ID34251 'Line counts SIWL output' ≥ 2^{22} => More than 2^{24} increments
		5	With bus encoder no line counts are specified (ID34255 'SIWL modulo IN' > 0)
		6	ID34256 'Filter observer' time constant is inadmissible (600 µs ≤ ID34256 ≤20 ms)
		7	ID34259 'Maximum scanning frequency' of SIWL output encoder is inadmissible (1 kHz ≤ ID34259 ≤2 MHz)
		8	ID32953 'Encoder type' is not a valid encoder type as SIWL source
		9	ID32953 'Encoder type' is inadmissible as SIWL source e.g. sensorless encoder or V/f-operation mode
	Error Removal		Recheck parameters
		14	ID34253 'SIWL factor' is 0 or too large
		15	ID34254 'SIWL divisor' is 0 or too large
	Error Removal		• Reduce ID34253 and ID34254 with the same factor • ID34254 ≠ 0

Class	Error		
Drive Behaviour	Controlled Braking		
Device Behaviour			
Additional Error Information (AMK Service)			
	Info 1	12 [1]	The encoder frequency for the observer filter is too large. So the sense of rotation can invert.
	Error Removal		Reduce ID34259 'Maximum scanning frequency' or increase ID34251 'Line counts SIWL output' Verification is not possible until continuous operation
		18 [1]	The encoder frequency of the output encoder is too large. So the sense of rotation can invert.
	Error Removal		• Reduce ID34259 'Maximum scanning frequency' or increase ID34251 'Line counts SIWL output' Verification is not possible until continuous operation • Reduce speed • Reduce ID34253 'SIWL factor' or increase ID34254 'SIWL divisor'
		20 [1]	Deviation is too large, the following error increases Verification is not possible until continuous operation
	Error Removal		• Reduce speed • Increase ID34259 • Reduce ID34253 • Increase ID34254
		23 [1]	Within application of a bus encoder ID34255 'SIWL modulo IN' is exceeded. An actual position value > Modulo IN + 1 is reported. Verification is not possible until continuous operation
	Error Removal		• Recheck ID34255 • Recheck modulo calculation
		24 [2]	The encoder resolution is too high
	Error Removal		Select an encoder with a lower resolution
		25[2]	I encoder cannot be used as absolute encoder, pre-initialisation ≠ 0 is not possible
	Error Removal		ID34257.5 = 0
Remarks	1)		With this error occurring, the position value might be lost e.g. because the SIWL maximum frequency was exceeded After clearing the error, the SIWL must be re-initialised and the zero pulse of the SIWL output must be set again.
	2)		This error will be displayed again with the next system run-up (e.g. after clear error) if pre-initialisation is parameterised (ID34257.5 = 1) and the error is not removed.
Error Removal	Recheck parameters in general: • ID32953 'Encoder type' • ID34250 'SIWL source' • ID34251 'Line counts SIWL output' • ID34252 'Offset position index' • ID34253 'SIWL factor' • ID34254 'SIWL divisor' • ID34255 'SIWL modulo IN' • ID34256 'Filter observer' • ID34257 'SIWL control' • ID34258 'SIWL status' • ID34259 'Maximum scanning frequency'		

1438 'Band width barrier'

• Band width barrier is not configurable • Inadmissible entry in "ID32932 Barrier frequency" or "ID32933 Band width" • ID32933 > ID32932…			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
Error Removal	Recheck parameters: • ID32932 Barrier frequency • ID32933 Band width		

1440 'Data record changed'

• "ID32996 Data signification" of the current data record does not agree with the serial number of the unit			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
Error Removal	Recheck parameter: • ID32996 Data signification		

1441 'Clock synchronization'

• Clock master / clock slave combination not permissible			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
	Info 1	1	SERCOS parameterized as clock master and ACC as clock slave
		2	SERCOS parameterized as clock master and PLC as clock slave
		3	PLC parameterized as clock master and ACC as clock slave
Error Removal			

1442 'SEEP configuration'

• An inadmissible value has been detected in a check of a SEEP cell			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
	Info 1	1	Test overload time cell 20014, 20018 and 20024
Error Removal			

1443 'Test generator'

• Incorrect parameter setting for test generator			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
	Info 1	1	"ID34044 TG Configuration list" too large (actual size > 32 bytes)
		2	Faulty configuration
		3	RF can’t be activated by the test generator
		4	DC BUS enable(UE) is missing
		6	Amplitude “High” < Amplitude “Low”
		7	Unused signal destination
		8	Incorrect frequency
		9	Status “Init function”
		10	Parameters write / read error
		11	System booting could not be executed
		12	Change of operating mode could not be executed
		14	Memory error for sine table
		15	SBM System ready is missing
		16	Ramp for trapezium function could not be executed
		19	RF disable after test generator is started
Error Removal			

1444 'PWM frequency'

• Incorrect parameter setting for PWM frequency			
Device			
Description			
Class	Error		
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
	Info 1	0	ID34048 'PWM frequency' does not contain 4 kHz or 8 kHz
		1	4 kHz values in the device SEEP are invalid
		4	ID34048 'PWM frequency' has been changed. System OFF/ON, (HW reset) required
Error Removal	• Info 1 = 4 System OFF/ON, (HW reset) or reset the PWM frequency to the original value		

Device	**KE**		
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
	Info 1	0	ID34048 'PWM frequency' does not contain 8 kHz
Error Removal			

1445 'Current controller'

• Incorrect parameter setting for current			
Device			
Description			
Class	Error		
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
	Info 1	0	Kpi in Q controller not workable
		1	Kii in Q controller not workable
		3	Kpi in D controller not workable
		4	Kii in D controller not workable
		5	"ID34151 Kp current Q" = 0; "ID34152 Kp current D" ≠ 0
		6	Current adaptation slope Kpi in Q controller too large
		7	Current adaptation slope Kii in Q controller too large
		8	Application threshold current adaptation ID34177 'Lower threshold current adaption'> ID34178 'Upper threshold current adaption'
		100	Model-based current controller is not possible. Only for synchronous machines
Gerät	**KU- / KW-R03**		
	Info 1	2	"ID34051 Kp current D" = 0; "ID34052 TN current D" ≠ 0
Error Removal	Recheck parameters: • ID34051 'Current path D proportional gain KP' • ID34052 'Current path D integral-action time TN' • ID34151 'Current path Q proportional gain KP' • ID34152 'Current path D proportional gain KP' • ID34177 'Lower threshold current adaption' • ID34178 'Upper threshold current adaption' • ID34179 'Gradient path Q proportional gain' • ID34180 'Gradient path Q integral-action time' Info 1 = 100: Deactivate model-based current control • ID32773 'Service bits' bit 27		

1446 'EF can not be activated'

• EF monitoring is selected in "ID32901 Global service bits" but the controller card does not meet the hardware requirements			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
Error Removal	Recheck parameter: • ID32901 Global service bits		

1447 'Motor encoder gear'

• The result of the calculation (ID32776 * ID32961)/32960 must be an integer value.			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
Error Removal	Recheck parameters: • ID32776 Sinus encoder period • ID32960 Input motor encoder gear • ID32961 Output motor encoder gear		

1448 'ID113 > ID34153'

• "ID113 Maximum Speed" is higher than "ID34153 Maximum Speed Motor" which was written into the encoder data base.			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
Error Removal	Recheck parameters: • ID113 Maximum speed • ID34153 Maximum speed motor		

1451 'Configuration temperature sensor'

• The sensor defined in ID34166 is not valid • The user defined charcteristic according to ID34202, ID34203, ID34204 is not plausible • Hardware not suitable for temperature sensor PT1000			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
	Info 1	0	The configured sensor in ID34166 is not valid
		1	User defined characteristic is not plausible
		2	Hardware not suitable for temperature sensor PT1000
Error Removal	Recheck parameters: • ID34166 Temperature sensor motor • ID34203 Voltage at 25 degree • ID34204 Voltage at 75 degree • ID34205 Voltage at 125 degree Info 1 = 2: Replace device or use another temperature sensor		

1453 'Feed forward control'

• Error on feed forward control			
Device	**KW-R05 / KW-R06 / iX / iC / iDT5 / ihX / KW-R26 / KW-R27**		
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
	Info 1	0	Source acceleration for load model is not defined. Several sources were selected. ID34225 'Mode feed forward control' Bit 0 , Bit 2, or Bit 3
Error Removal	Select only one acceleration source		

1454 'Error initialisation angle observer'

• Error initialisation angle observer			
Device	**KW-R06** **iDT5** **iX / i3X** **iC**		
Description	The observer for sensorless detection of the rotor position could not be initialised		
Class	Error		
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
	Info1	1	ID34233 = 0 and ID34164 = 0
		2	ID34045 = 0, ID34046 = 0 and ID34167 = 0
Error Removal	Recheck parameters: • ID34045 'Inductance path D' • ID34046 'Inductance path Q' • ID34164 'Terminal resistance' • ID34167 'Terminal Inductance' • ID34233 'Phase resistance'		

1455 'Plausibility I/O'

• Configured inputs and outputs for plausibility check			
Device	**KW-R0x / KW-R2x / iC / iDT5 / iX / ihX**		
Description			
Class	Error		
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
	Info 1	1	Only 1 analog input is configured
		2	Input and output simultaneously configured in I/O port
		3	Limit switch and stop setpoint function is simultaneously configured in positive or negative direction
Error removal	• Check I/O Konfiguration		

1456 'Ratio ID33194 to ID33195 incorrect'

• Plausibility check ID33194 and ID33195

Device	**KW-R26 / KW-R27**		
Description	The ratio ID33194 'Tolerance limit estimator' to ID33195 'Monitoring cycle estimator' is incorrect.		
Class	Error		
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
	Info 1	1	ID33194 < 1
		2	ID33195 < 1
		3	$ID33194 \times 62,5\mu s > \frac{ID33195}{2}$
Error removal	Check the following IDs: ID33194 'Tolerance limit estimator' ID33195 'Monitoring cycle estimator' The content of the IDs must meet the following requirements: • ID33194 ≥ 1 • ID33195 ≥ 1 • $ID33194 \times 62,5\mu s \leq \frac{ID33195}{2}$		

1457 'ID38 less then ID39'

• Plausibility monitoring of speed limits (ID38 'Positive velocity limit' ≥ ID39 'Negative velocity limit')	
Device	**iX / iC / iDT5 / ihX / KW-R24 / KW-R24-R / KW-R25 / KW-R26 / KW-R27**
Description	The condition ID38 ≥ ID39 must always be true. If ID38 < ID39, the diagnostic message 1457 is generated. The error can occur during parametrization and during operation by temporary changes or by specifying the limits above a cyclic channel.
Class	Error
Drive Behaviour	Error in parametrization → system run-up aborted Error during operation → Coast to stop
Device Behaviour	
Additional Error Information (AMK Service)	
Error Removal	Check the following parameters: • ID38 'Positive velocity limit' • ID39 'Negative velocity limit'

3.6 No. 1536 ... 1559 Serial EEPROM

1537 'System diagnostics'

• SEEP error in the inverter • See "ID32773 Service bits", SBM withdrawal			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
			Inadmissible SEEP order
Error Removal			

1538 'System diagnostics'

• Taskmaster- / taskslave combination is inadmissible			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
			Error in AWMON reading SEEP
Error Removal			

1539 'SEEP 1st checksum'

• Checksum of the SEEP range 1 is not correct			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
			Inadmissible SEEP order
Error Removal			

Device	**KE**		
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
	Info1	0	Error checksum SEEP, cell 0 - 37
Error Removal			

1540 'SEEP 2nd checksum'

• Checksum of the SEEP range 2 is not correct			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
			Inadmissible SEEP order
Error Removal			

Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
	Info1	1	Error checksum SEEP, cell 39 - 49
		2	Error checksum SEEP, cell 64 - 78
		3	Error checksum SEEP, cell 79 - 93
		4	Error checksum SEEP, cell 94 - 108
		5	Error checksum SEEP, cell 109 - 123
Error Removal			

1541 'Commanded AW missing'

• The commanded inverter module is not present			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
Error Removal			

1542 'System diagnostics'

Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
			SEEP driver error
Error Removal			

1543 'System diagnostics'

• The manufacturer information was not written correctly in the SEEP			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
Error Removal			

1544 'ID32953 no adjustment permissible'

• If "ID32953 Encoder type" ≠ A type encoder no encoder basic adjustment is permissible

Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
Error Removal			

1545 'System diagnostics'

• Errors occurred when writing the current encoder values in the SEEP. Values were not written correctly			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
Error Removal			

1546 'System diagnostics'

• Fault counter is missing			
Device	**AZ**		
• Possibly AW is not present, …			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
			SEEP fault counter missing
Error Removal			

1547 'System diagnostics'

Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
			AWMON timeout / AZSEEP driver
Error Removal			

1548 'System diagnostics'

Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
			Default in SEEP, after ½h for not initialized SEEP
Error Removal			

1549 'System diagnostics'

• Clock master / clock slave combination not permissible			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
			SEEP Alloc / Dealloc timeout
Error Removal			

1550 'System diagnostics'

• Clock master / clock slave combination not permissible			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
			SEEP Alloc / Dealloc error
Error Removal			

1551 'Encoder track failed'

• Encoders actual position value determined internally from inputs G1N/G1I or G2N/G2I does not change over time • Occurs during encoder basic adjustment, failure of an encoder track • Signals not present at G1N, G1I, G2N or G2I			
Device			
Description			
Class	Warning		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
Error Removal			

1552 'Encoder adjustment abort'

• Encoder adjustment for was aborted

Device	**KW-R06 / KW-R25 / KW-R26 / KW-R27 / iX-R3 / iC-R3 / iDT5-R3 / ihX**		
Description	Encoder adjustment for setting of commutation was aborted		
Class	Error		
Drive Behaviour	Coast to stop		
Device Behaviour	Controller enabled (RF) is withdrawn internally		
Additional Error Information (AMK Service)			
	Info 1	0	--
		1	RF was set before the command *encoder adjustment* was set.
		2	ID32953 'Encoder type': Encoder type or motor model not correct
		3	RF was set to zero before the function *encoder adjustment* was finished.
		4	RF is active while service command is active
Error Removal	• Do not set RF before the function *encoder adjustment* is started • Do not reset RF before the function *encoder adjustment* is finished • Withdraw RF and execute the service command again • Recheck parameter: • ID32953 'Encoder type'		

- Encoder adjustment was aborted

Device	**KU-R03(P)** **KW-R03(P)** **KW-R04**		
Description			
Class	Error		
Drive Behaviour	Coast to stop		
Device Behaviour	Controller enabled (RF) is withdrawn internally		
Additional Error Information (AMK Service)			
	Info 1	1	Faulty encoder type (during changing encoder position)
		2	Faulty encoder type (during encoder adjustment)
		3	RF is set or withdrawn too early (alignment)
		4	RF is withdrawn (during encoder setting)
		5	RF is set or withdrawn too early (during encoder setting)
		6	Time out 29 s is exceeded with SWK

Error Removal	• Set RF not before the function *encoder adjustment* is started
	• Reset RF not before the function *encoder adjustment* is finished
	• Recheck parameters:
	  • ID32953 'Encoder type'
	  • ID34094 'Rise time SWC'
	  • ID34099 'Delay time SWC'		

1553 'Encoder adjustment timeout'

• Timeout encoder adjustment			
Device	**Controller cards** **KU-R03(P)** **KW-R03(P)** **KW-R04**		
Description	After command *encoder adjustment* was started RF was not set within the timeout time		
Class	Error		
Drive Behaviour	Drive keeps standstill		
Device Behaviour	RF = 0 is kept		
Additional Error Information (AMK Service)			
	Info1	1	time out exceeded during encoder adjustment
		2	time out exceeded during rotor alignment
Error Removal	• After the command *encoder adjustment* RF must be set within 60 seconds.		

• Timeout while encoder adjustment			
Device	**Controller cards** **KW-R06**		
Description	A timeout occurred during encoder adjustment		
Class	Error		
Drive Behaviour	Drive keeps standstill		
Device Behaviour	RF = 0 is kept		
Additional Error Information (AMK Service)			
	Info1	0	--
		1	RF was not set within 10 s
		2	RF was not withdrawn within 2 min
		3	RF was not withdrawn automatically within 10 s
Error Removal	• Configure a binary input as source for RF and chose it • After the command *encoder adjustment*, RF must be set quickly • For safety RF will be withdrawn after 2 minutes if rotor is only adjusted • Recheck parameter: • ID32796 'Source RF'		

1554 'ID32776 Sinus Encoder Period is faulty'

Device			
Description	The number of encoder teeth is counted over one revolution of the encoder from reference pulse to reference pulse and compared with parameter "ID32776 Sinus encoder period". A difference has occurred here		
Class	Warning		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
Error Removal	• Occurs during the basic encoder adjustment • Recheck parameter: • ID32776 Sinus encoder period		

1555 'Reference pulse'

Device			
Description	The reference pulse could not be detected during a determined period		
Class	Warning		
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
Error Removal	• Occurs during the basic encoder adjustment		

1556 'Reference Pulse - Encoder Input'

Device			
Description	The comparator voltage, which generates the digital pulse D0 from the encoder signal S0, is determined in the process. This comparator voltage has run to the minimum or maximum value		
Class	Warning		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
Error Removal	• One of the G0N / G0I signals (reference pulse track) is not present • Occurs during the basic encoder adjustment		

1557 'Turn axis'

Device			
Description	No change of the inverter's internal encoder signal counter was determined during a defined time period		
Class	Warning		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
Error Removal	• Occurs during the basic encoder adjustment		

1558 'System diagnostics'

• Inverter transfers faulty encoder feedback values			
Device			
Description			
Class	Warning		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
			Online adjustment
Error Removal			

3.7 No. 1792 ... 1849 Drive commanding

1794 'System diagnostics'

• Interpolator			
Device			
Description			
Class	Warning		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
			IPO, end position not reached
Error Removal	Recheck parameters: • ID41 Homing velocity • ID136 Positive acceleration • ID137 Negative acceleration • ID222 Spindle position speed • ID32956 Additional acceleration value		

1795 'System diagnostics'

• Interpolator			
Device			
Description			
Class	Warning		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
			IPO, dxidiv factor
Error Removal	Recheck parameters: • ID41 Homing velocity • ID136 Positive acceleration • ID137 Negative acceleration • ID222 Spindle position speed • ID32956 Additional acceleration value		

1796 'System diagnostics'

• Interpolator			
Device			
Description			
Class	Warning		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
			IPO, mkipstart
Error Removal	Recheck parameters: • ID41 Homing velocity • ID136 Positive acceleration • ID137 Negative acceleration • ID222 Spindle position speed • ID32956 Additional acceleration value		

1797 'System diagnostics'

• Interpolator			
Device			
Description			
Class	Warning		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
			IPO, mkipstart = 8 in Ipsteuer
Error Removal	Recheck parameters: • ID41 Homing velocity • ID136 Positive acceleration • ID137 Negative acceleration • ID222 Spindle position speed • ID32956 Additional acceleration value		

1798 'System diagnostics'

• Interpolator			
Device			
Description			
Class	Warning		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
			IPO, mkipstart = 1 or 2 in Ipsteuer
Error Removal	Recheck parameters: • ID41 Homing velocity • ID136 Positive acceleration • ID137 Negative acceleration • ID222 Spindle position speed • ID32956 Additional acceleration value		

1799 'System diagnostics'

• Interpolator			
Device			
Description			
Class	Warning		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
			IPO, mkipstart = 4 in Ipsteuer
Error Removal	Recheck parameters: • ID41 Homing velocity • ID136 Positive acceleration • ID137 Negative acceleration • ID222 Spindle position speed • ID32956 Additional acceleration value		

1800 'System diagnostics'

• Interpolator • Reduction ID136, ID137			
Device			
Description			
Class	Warning		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
			IPO standardisation avzgmax too large
Error Removal	Recheck parameters: • ID41 Homing velocity • ID136 Positive acceleration • ID137 Negative acceleration • ID222 Spindle position speed • ID32956 Additional acceleration value		

1801 'System diagnostics'

• Interpolator • Increase ID136, ID137			
Device			
Description			
Class	Warning		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
			IPO standardisation avzgmax too small
Error Removal	Recheck parameters: • ID41 Homing velocity • ID136 Positive acceleration • ID137 Negative acceleration • ID222 Spindle position speed • ID32956 Additional acceleration value		

1802 'System diagnostics'

• Interpolator • Increase ID136, ID137			
Device			
Description			
Class	Warning		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
			IPO standardisation amax too small
Error Removal	Recheck parameters: • ID41 Homing velocity • ID136 Positive acceleration • ID137 Negative acceleration • ID222 Spindle position speed • ID32956 Additional acceleration value		

1803 'System diagnostics'

• Interpolator • Check control speed			
Device			
Description			
Class	Warning		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
			IPO standardisation vmaxein or voein too large
Error Removal	Recheck parameters: • ID41 Homing velocity • ID136 Positive acceleration • ID137 Negative acceleration • ID222 Spindle position speed • ID32956 Additional acceleration value		

1804 'System diagnostics'

• Check final value (target value) • Operator transmit inadmissible data			
Device			
Description			
Class	Warning		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
			IPO standardisation xieneinneu-xiendein alt too large
Error Removal			

1805 'System diagnostics'

• Interpolator standardisation: dxifaktor with remainder ID136, ID137, ID116 ratio to one another			
Device			
Description			
Class	Warning		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
			IPO standardisation dxifaktor remainder
Error Removal	Recheck parameters: • ID116 Resolution motor encoder • ID136 Positive acceleration • ID137 Negative acceleration		

1806 'System diagnostics'

• Interpolator standardisation: dxifaktor = 0: increase ID136, ID137, ID116			
Device			
Description			
Class	Warning		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
			IPO standardisation dxifaktor
Error Removal	Recheck parameters: • ID116 Resolution motor encoder • ID136 Positive acceleration • ID137 Negative acceleration		

1807 'System diagnostics'

• Permissible time between KMD commanding and BAV operation mode management was exceeded			
Device			
Description			
Class	Warning		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
			Timeout KMD -> BAV
Error Removal			

1808 'System diagnostics'

• Operation mode management acknowledges error after commanding			
Device			
Description			
Class	Warning		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
			Error KMD -> BAV
Error Removal			

1809 'System diagnostics'

• Inadmissible commanding code in KMD-SS, check interface • STOP order if IPO not active • FURTHER order, if IPO not stopped • Undefined order – Order does not correspond to START, ABORT, STOP, FURTHER, VALUE NEW			
Device			
Description			
Class	Warning		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
Error Removal			

1810 'System diagnostics'

• Inadmissible commanding function in KMD-SS, check interface			
Device			
Description			
Class	Warning		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
Error Removal			

1811 'System diagnostics'

• Inverter can no longer be addressed			
Device			
Description			
Class	Warning		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
			Timeout KMD -> AWMON
Error Removal			

1812 'System diagnostics'

• Inverter can no longer be addressed			
Device			
Description			
Class	Warning		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
			Error KMD -> AWMON
Error Removal			

1813 'KMD user error'

• Inadmissible order in KMD-SS			
Device			
Description			
Class	Warning		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
Error Removal	Check interface		

1814 'System diagnostics'

• Inadmissible commanding operation mode selected, BA may be assigned code 0…9 according to ID32800 …32809			
Device			
Description			
Class	Warning		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			

Error Removal	• Check interface
	• Recheck parameters:
	  • ID32800 AMK main operation mode
	  • ID32801 ... ID32809 AMK secondary operation mode 1 ... 9		

1815 'Controller enable missing'

Commanding without RF, QRF not possible, control interrupted.			
Device			
Description			
Class	Warning		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
Error Removal	Order must be repeated after RF activation or starting conditions must be restored (e.g. by means of abort function code)		

1816 'Not homed'

• Inverter is not homed, function requires a homed system			
Device			
Description			
Class	Warning		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
Error Removal			

1817 'System diagnostics'

• Synchronous running source in synchronous running inadmissible			
Device			
Description			
Class	Warning		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
Error Removal	Recheck parameters: • ID32800 AMK main operation mode • ID32801 ... ID32805 AMK secondary operation mode 1 ... 5		

1818 'System diagnostics'

Device			
Description			
Class	Warning		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
			Inadmissible state in KMD
Error Removal			

1819 'System diagnostics'

• Inverter address calculation impossible, operation mode incomplete			
Device			
Description			
Class	Warning		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
Error Removal	Recheck parameters: ID32800 AMK main operation mode ID32801 ... ID32806 AMK secondary operation mode 1 ... 6		

1820 'System diagnostics'

• Ramp down error e.g. in lifting axis function, time according to ID32954 was exceeded			
Device			
Description			
Class			
Drive Behaviour	Controlled braking		
Device Behaviour			
Additional Error Information (AMK Service)			
Error Removal	Recheck parameter: • ID32954 Time ramp down monitor		

1821 'System diagnostics'

• IPO cannot perform direction change			
Device			
Description			
Class	Warning		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
Error Removal			

1822 'System diagnostics'

• IPO cannot be activated			
Device			
Description			
Class	Warning		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
			IPO timeout
Error Removal			

1823 'System diagnostics'

• IPO cannot be activated			
Device			
Description			
Class	Warning		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
			IPO error
Error Removal			

1824 'System diagnostics'

• Inadmissible KMD code in KMD-SS, inadmissible timing check interface			
Device			
Description			
Class	Warning		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
			RESERVE
Error Removal			

1825 'System diagnostics'

• SINCOS encoder, encoder does not report within 2 sec. through RS485-SS			
Device			
Description			
Class	Warning		
Drive Behaviour			
Device Behaviour	SBM withdrawal		
Additional Error Information (AMK Service)			
Error Removal	Check encoder or cable		

1826 'System diagnostics'

• SINCOS encoder, checksum of the encoder acknowledgement does not agree (XOR)			
Device			
Description			
Class	Warning		
Drive Behaviour			
Device Behaviour	SBM withdrawal		
Additional Error Information (AMK Service)			
Error Removal	Possible causes are faults of the RS485 signal cables, or of the RS485 input		

1827 'System diagnostics'

• Invalid encoder type, the SINCOS encoder type is not permitted in the spindle positioning and synchronous control drive function			
Device			
Description			
Class	Warning		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
Error Removal	Recheck parameter: • ID32953 Encoder type		

1828 'System diagnostics'

• This message can occur only in connection with an abort of drive functions (or RF withdrawal during an active drive function) • The user has not set the synchronization bit “ub_basync” for external command value synchronization and has attempted an operation mode change (inadmissible!), error message and SBM withdrawal (inverter cannot be controlled, operation mode change in the operation mode change)			
Device			
Description			
Class	Warning		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
Error Removal			

1829 'System diagnostics'

"ID55 Closed loop polarity" and "ID43 Velocity polarity" may be only positive in spindle positioning or synchronous control drive function			
Device			
Description			
Class	Warning		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
Error Removal	Recheck parameters: • ID43 Velocity polarity • ID55 Closed loop polarity		

1830 'System diagnostics'

• “Flying saw” drive function, waiting distance (ID278) is greater than the reference value 2PI according to ID116, ID117 or ID103			
Device			
Description			
Class	Warning		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
Error Removal	Recheck parameters: • ID103 Modulo value • ID116 Resolution motor encoder • ID117 Resolution external encoder • ID278 Synchronous additional angle position • ID32800 AMK main operation mode		

1831 'System diagnostics'

• SINCOS encoder, encoder reports error (error bit set)			
Device			
Description			
Class	Warning		
Drive Behaviour			
Device Behaviour	SBM withdrawal		
Additional Error Information (AMK Service)			
Error Removal	Defective encoder or faulty system		

1832 'System diagnostics'

• “Absolute positioning” drive function • The preset position is more than |31Bit| removed from the current position command value (inadmissible!)			
Device			
Description			
Class	Warning		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
Error Removal			

1833 'System diagnostics'

• “Lifting axis” drive function, $\|n_{actual}\| \geq \|1.2 \times n_{limit}\|$			
Device			
Description			
Class			
Drive Behaviour	Controlled braking		
Device Behaviour			
Additional Error Information (AMK Service)			
Error Removal	Check loading of the system in connection with the preset limits		

1834 'System diagnostics'

• SINCOS encoders: The difference of the double sampling of the absolute value in the “Homing” drive function does not lie in the position window according to ID 57.			
Device			
Description			
Class	Warning		
Drive Behaviour			
Device Behaviour	SBM withdrawal		
Additional Error Information (AMK Service)			
Error Removal	• Axis in motion or system disturbed • Recheck parameter: • ID57 In position window		

1835 'System diagnostics'

• Special lift function • Driver commanding <-> database disturbed			
Device			
Description			
Class			
Drive Behaviour	Coast to stop		
Device Behaviour			
Additional Error Information (AMK Service)			
Error Removal	• Internal interface assigned or parameterized EEPROM defective		

1836 'System diagnostics'

• Special Lift function • Check lift learning travel error			
Device			
Description			
Class			
Drive Behaviour	Coast to stop		
Device Behaviour			
Additional Error Information (AMK Service)			
Error Removal	Check KSE, KS contacts		

1837 'System diagnostics'

• Special Lift function • Check invalid order input			
Device			
Description			
Class			
Drive Behaviour	Coast to stop		
Device Behaviour			
Additional Error Information (AMK Service)			
Error Removal	KMD interface (floor input and driving order in variable 1)		

1838 'System diagnostics'

• Special Lift function • "ID32798 User list 1" contains invalid data			
Device			
Description			
Class			
Drive Behaviour	Coast to stop		
Device Behaviour			
Additional Error Information (AMK Service)			
Error Removal	Recheck parameter: ID32798 User list 1		

1839 'System diagnostics'

• Special Lift function • The shaft contact KS contact monitoring detects an invalid contact position. The contact monitoring can be switched through "ID32798 User list 1"			
Device			
Description			
Class			
Drive Behaviour	Coast to stop		
Device Behaviour			
Additional Error Information (AMK Service)			
Error Removal	Recheck parameter: • ID32798 User list 1		

1840 'System diagnostics'

• Special Lift function • Inadmissible interruption of an active lift function (SBM withdrawal, emergency stop switch, …)			
Device			
Description			
Class			
Drive Behaviour	Coast to stop		
Device Behaviour			
Additional Error Information (AMK Service)			
Error Removal			

1841 'System diagnostics'

Device			
Description			
Class	Warning		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
			RESERVE
Error Removal			

1842 'System diagnostics'

• Special lift function • KS in the destination not equal to 1			
Device			
Description			
Class	Warning		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
Error Removal			

1843 'System diagnostics'

Device			
Description			
Class	Warning		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
			RESERVE
Error Removal			

3.8 No. 2048 ... 2079 Logical subscriber, S-BUS

2049 'System diagnostics'

Device			
Description			
Class	Warning		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
			No memory enable in PDU processing
Error Removal			

2050 'System diagnostics'

ID address or ID property is not known			
Device			
Description			
Class	Warning		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
	Info 1		The command code of the PDU to be evaluated is not known (LT: Logical subscriber) only PS3 software problem version PS ≤ 2.07
		5	ID is not available
		20	ID has no unit
		21	ID has no minimum
		22	ID has no maximum
Error Localization			
	Info 2		Number of the addressed ID
	Info 4		Number of the parameter set
Error Removal			

2051 'System diagnostics'

• Waiting time after order to logical subscriber is exceeded			
Device			
Description			
Class	Warning		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
			LT timeout
Error Removal			

2052 'System diagnostics'

• The ID to be edited is not contained in the database of the system			
Device			
Description			
Class	Warning		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
Error Removal			

2053 'System diagnostics'

• Error acknowledgement in commanding the database			
Device			
Description	• The ID can not be written		
Class	Warning		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
	Info 1		Error LT-DTH
		0	invalid access, access to invalid parameters
		11	ID maximum is exceeded
		12	ID minimum is below
		13	ID is read only
Error Localization			
	Info 2		Number of the addressed ID
	Info 4		Number of the parameter set
Error Removal			
	ADB-File update in AIPEX PRO		
	ADB File update in Controller		

2054 'System diagnostics'

• Error acknowledgement in commanding the monitor	
Device	
Description	
Class	Warning
Drive Behaviour	

Device Behaviour			
Additional Error Information (AMK Service)			
			Error LT-MONITOR
Error Removal			

2055 'System diagnostics'

• Error acknowledgement in commanding the serial EEPROM			
Device			
Description			
Class	Warning		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
			Error LT-SEEP
Error Removal			

2056 'System diagnostics'

• Error acknowledgement in commanding the operation mode management			
Device			
Description			
Class	Warning		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
			Error LT-BAV
Error Removal			

2057 'System diagnostics'

• Error acknowledgement in commanding the drive commanding KMD			
Device			
Description			
Class	Warning		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
			Error LT-KMD
Error Removal			

2058 'System diagnostics'

• Error in LT → KMD commanding inverter, LT → KMD - logical subscriber at KMD-SS			
Device			
Description			
Class	Warning		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
Error Removal			

2059 'System diagnostics'

• Error in LT→ KMD commanding AW2			
Device			
Description			
Class	Warning		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
Error Removal			

2060 'System diagnostics'

• Error in LT → KMD commanding AW3			
Device			
Description			
Class	Warning		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
Error Removal			

2061 'System diagnostics'

• Error in LT → KMD commanding AW4			
Device			
Description			
Class	Warning		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
Error Removal			

2062 'System diagnostics'

• Error in LT → KMD commanding AW5			
Device			
Description			
Class	Warning		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
Error Removal			

2063 'System diagnostics'

• Error in LT → KMD commanding AW6			
Device			
Description			
Class	Warning		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
Error Removal			

2064 'System diagnostics'

• Error in LT → MD commanding AW7			
Device			
Description			
Class	Warning		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
Error Removal			

2065 'System diagnostics'

• Error in LT → KMD commanding AW8			
Device			
Description			
Class	Warning		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
Error Removal			

2066 'System diagnostics'

• Error acknowledgement in commanding a drive control			
Device			
Description			
Class	Warning		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
			LT drive error
Error Removal			

2067 'System diagnostics'

• Error acknowledgement in commanding the diagnostics			
Device			
Description			
Class	Warning		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
			LT diagnostics error
Error Removal			

2068 'System diagnostics'

• Error acknowledgement in commanding the display function			
Device			
Description			
Class	Warning		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
			Error LT display
Error Removal			

2069 'System diagnostics'

• Error acknowledgement in commanding the lift function			
Device			
Description			
Class	Warning		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
			Error LT lift
Error Removal			

2070 'System diagnostics'

• LT-SBUS, inverter not present			
Device			
Description			
Class	Warning		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
Error Removal			

2071 'System diagnostics'

• Failure in the s-bus hardware; re-boot system or check hardware			
Device			
Description			
Class	Warning		
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
	Info 1	1	Error during initializing of S-Bus (caused by ABK card)
		2	Error in COM port
Error Removal			

2072 'System diagnostics'

• S-bus software received faulty information from connected device, check sent messages			
Device			
Description			
Class	Warning		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
	Info 1	1	Module received a PDU from wrong S-bus port
		2	S-bus PDU contains a unknown S-bus attribute
		3	S-bus PDU contains a unknown Sercos element number in task
		4	Drive has reported a SB_task_error
		5	S-bus PDU contains unknown S-bus command code
Error Removal			

2073 'System diagnostics'

Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
	Info 1	33	Length of ID34040 not permissible
		34	In ID34040 Time base not permissible
		35	In ID34040 Trigger position not permissible
		36	Too many values per cycle
		37	Resource error
		39	Signal code not available
		40	Command code not permissible
		41	A new configuration was transmitted during the RUN mode
		42	Read-out mode not permissible
		44	Channel number not permissible
		45	Buffer length incorrect
		46	Configuration error – a triggering of an external source (Bi t0 … 1) and source for external triggering (Bit4) were adjusted isochronal
		47	An external triggering was configured but there is no free PDO
		48	The difference between the system watches of the trigger sender and the trigger receiver is negative
		49	No free HEAP for the buffer
Error Removal	• Check scope parameters • Recheck Parameter • ID34040 OSC configuration list		

2074 'System diagnostics'

• Disturbance of scope function			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
	Info 1	1	Allocate memory
		2	Re-allocate memory
Error Removal			

3.9 No. 2304 ... 2370 Inverter Hardware

2305 'Phase U Short Circuit'

Device	**AW**		
• As from AW 0210 replacement by message 2334			
Description			
Class			
Drive Behaviour	Coast to stop		
Device Behaviour	Single treatment		
Additional Error Information (AMK Service)			
Error Removal			

2306 'Phase V Short Circuit'

Device	**AW**		
• As from AW 0210 replacement by message 2334			
Description			
Class			
Drive Behaviour	Coast to stop		
Device Behaviour	Single treatment		
Additional Error Information (AMK Service)			
Error Removal			

2307 'Phase W Short Circuit'

• Short-circuit between 2 phases of the output terminals			
Device	**AW**		
• Defect in the AW. As from AW 0210 replacement by message 2334			
Description			
Class			
Drive Behaviour	Coast to stop		
Device Behaviour	Single treatment		
Additional Error Information (AMK Service)			
Error Removal			

2308 'Supply +12 V'

Device			
Description			
Class			
Drive Behaviour	Coast to stop		
Device Behaviour	Single treatment		
Additional Error Information (AMK Service)			
Error Removal			

2309 'Supply'

• Internal supply voltages of the inverter module do not have the correct value			
Device	**AW** **AZ**		
• Damaged ribbon cable, connection at the connector X27 of the AZ module or X57 of the AW module is faulty			
Description			
Class			
Drive Behaviour	Coast to stop		
Device Behaviour	Single treatment		
Additional Error Information (AMK Service)			
Error Removal			

2310 'Encoder communication'

<table>
<tr><td colspan="4">

- Error in communication with encoder
- Encoder does not report/no encoder present
- Encoder cable defective or not connected
- Error in encoder database

</td></tr>
<tr><td>Device</td><td colspan="3"></td></tr>
<tr><td>Description</td><td colspan="3"></td></tr>
<tr><td>Class</td><td colspan="3">Fehler</td></tr>
<tr><td>Drive Behaviour</td><td colspan="3">Coast to stop</td></tr>
<tr><td>Device Behaviour</td><td colspan="3">System run-up aborted</td></tr>
<tr><td colspan="4">Additional Error Information (AMK Service)</td></tr>
<tr><td></td><td colspan="3">Error in communication:</td></tr>
<tr><td></td><td>Info 1</td><td>1</td><td>Timeout: No acknowledgement of the encoder</td></tr>
<tr><td></td><td></td><td>2</td><td>CRC error: Faulty transmission of the encoder</td></tr>
<tr><td></td><td></td><td>3</td><td>Alarm bit: The internal error bit of the encoder is set</td></tr>
<tr><td></td><td></td><td>4</td><td>No single or multi-turn encoder recognized.
<table>
<tr><td>Info 2</td><td>0</td><td>ID32776 'Sine encoder period' is higher than the real solution of the single turn encoder. Check parameter ID32953 'Encoder type'</td></tr>
<tr><td colspan="3">P- / Q-encoder: ID34265 'Encoder ratio'</td></tr>
<tr><td rowspan="3">Info 2</td><td>1</td><td>Motor revolution or encoder revolution not equal 1</td></tr>
<tr><td>2</td><td>No power of two</td></tr>
<tr><td>3</td><td>Motor revolution not equal 1 on singleturn encoder</td></tr>
</table></td></tr>
<tr><td></td><td></td><td>5</td><td>Handshake: The answer of the encoder is wrong, disturbed communication, damaged encoder.</td></tr>
<tr><td></td><td></td><td>6</td><td>Command cannot be executed by driver since encoder not yet initialized
Help: Start System run-up again</td></tr>
<tr><td></td><td></td><td>7/
307</td><td>Motor was in motion when reading the position
<table>
<tr><th>Trigger</th><th>Measure</th></tr>
<tr><td>AFP command READ_SINCOS</td><td>Increase ID57 'In position window'</td></tr>
<tr><td>Run-up</td><td>Motor must stand still during encoder run-up</td></tr>
</table></td></tr>
<tr><td></td><td></td><td>8</td><td>Encoder property not compatibility, e.g. digital resolution to high, encoder type at present not possible.</td></tr>
<tr><td></td><td></td><td>9</td><td>Signal error at the interpretation of the analog pulse (SIN, COS is not equal to the absolute pulse).
Help: Check the cable of the encoder feedback.</td></tr>
<tr><td></td><td></td><td>87</td><td>The SUM bit in the DSL status is set and indicates that one or more bits are set in the encoder summary register. Each bit in the summary register displays an error message in the encoder status register. Info 2 displays the content of the encoder Summery register.</td></tr>
</table>

	Error in action with encoder database:		
	Info 1	10	Identification: Reading error ID32842 'Encoder list customer', the encoder data are invalid Help: The ID32842 must be recorded with valid data.
		11	Checksum wrong: Data of ID32842 'Encoder list customer' in the encoder are wrong. Data of the were changed in the system without saving them in the encoder
		12	ID32842 'Encoder list customer' was changed without saving the data in the encoder
		13	Identification: Reading error “encoder list motor", the wrong list is invalid or the list is empty. Help: The encoder list motor must be recorded trough AMK with valid data.
		14	Checksum wrong: Data of the “Motor encoder list” in the encoder are wrong. Data of the “Motor encoder list” were changed in the system without saving them in the encoder
		15	The data of the ID No. listed in the “User encoder list” require more memory than available in the encoder
		16	The addressed memory cell may not be written
		17	Entered address does not exist
		18	The memory range in the encoder cannot be determined correctly
		19	The offset address in the encoder cannot be determined correctly
		20	ID34160 'Part number motor' is not equal with the part number motor witch is written into the encoder Help: Read the motor data from the encoder.
		21	In DSL-encoder is no database structure applied
		30	Reading access:Error on reading data from DTH
		31	Writing access:Error on writing data into DTH
		32	ID wrong: ID number not available
		33	Setpoint in ID32942 has a invalid polarity sign, referred to the motor sense of rotation ID32773, bit 16
		34	The absolute setpoint in ID32942 is over the limit of the encoder (ID116 x distinguishable revolutions of the encoder)
		40	Inadmissible status
		41	Timeout encoder commanding
		70	A communication to FPGA has not been established

Info 2	0	Error initialization Hiperface
	1	Error initialization HDSL
	2	Error initialization EnDat
	4	Read error FPGA-version (I-encoder)
	5	Error in the data transfer of the FPGA
	6	Acknowledgment of the FPGA wrong

<table>
<tr><td></td><td>Info 1</td><td>80</td><td>Survey the DSL-connection recognized an error
<table>
<tr><td>Info 2</td><td>0</td><td>Error: In status word was error bits set
<table><tr><td>Info 3</td><td>Status word</td></tr></table>
Online status, high-byte: Active status bits: 1Ah = 0001 1010h
<table>
<tr><th>Bit</th><th>Name</th><th>Function</th><th>Active</th></tr>
<tr><td>7</td><td>INT</td><td>Status interrupt-line</td><td>-</td></tr>
<tr><td>6</td><td>SUM</td><td>Byte for error bits</td><td>x</td></tr>
<tr><td>5</td><td>VTR</td><td>CRC-error on safe channel</td><td>-</td></tr>
<tr><td>4</td><td>FIX1</td><td>ever '1'</td><td>x</td></tr>
<tr><td>3</td><td>POS</td><td>Invalid quickly position (position roughly)
(Monitored separately)</td><td>-</td></tr>
<tr><td>2</td><td>VPOS</td><td>Invalid safety position</td><td>-</td></tr>
<tr><td>1</td><td>QMLW</td><td>Survey QM-value < 14</td><td>-</td></tr>
<tr><td>0</td><td>PRST</td><td>Protocol-reset</td><td>x</td></tr>
</table>
Online status, low-byte: Is not relevant for cyclic survey</td></tr>
<tr><td></td><td>1</td><td>Error: An error was occurred to query the diagnostic register
<table><tr><td>Info 3</td><td>Error number</td></tr></table></td></tr>
<tr><td></td><td>2</td><td>Warning: DSL-signals shows a increased interference level
<table><tr><td>Info 3</td><td>EDGE-register, more as 4 bits was set</td></tr></table></td></tr>
<tr><td></td><td>3</td><td>Warning: Signal run time was more than 1000ns
<table><tr><td>Info 3</td><td>Delay-register > 10</td></tr></table></td></tr>
<tr><td></td><td>4</td><td>Warning: Received signal strength is not optimal
<table><tr><td>Info 3</td><td>RSSI-register < 6, maximum 12</td></tr></table></td></tr>
<tr><td></td><td>5</td><td>Error: Received signal strength is bad
<table><tr><td>Info 3</td><td>RSSI-register < 2</td></tr></table></td></tr>
<tr><td></td><td>6</td><td>Warning: Signal quality is not optimal
<table><tr><td>Info 3</td><td>QM-register < 15</td></tr></table></td></tr>
<tr><td></td><td>7</td><td>Error: Signal quality is bad
<table><tr><td>Info 3</td><td>QM-register < 8</td></tr></table></td></tr>
<tr><td></td><td>8</td><td>Error: Connection to DSL-encoder was lost</td></tr>
<tr><td></td><td>9</td><td>Error: More than 6 positions was roughly because of errors
<table><tr><td>Info 3</td><td>ACCERR-register</td></tr></table></td></tr>
<tr><td></td><td>10</td><td>Warning: In event register error bits was set
<table><tr><td>Info 3</td><td>EVENT-register</td></tr></table></td></tr>
<tr><td></td><td>11</td><td>Error: POS bit set longer than allowed (Estimator active)
<table><tr><td>Info 3</td><td>Number of cycles until error message</td></tr></table></td></tr>
</table>
</td></tr>
</table>

	Info 1	81	Error group= 40h DSL-encoder has been detected an error with a resource access Info 3 | error code
		82	Error group = 41h DSL-encoder has been detected an error with a resource access Info 3 | error code
		83	error group = 42h DSL-encoder has been detected an error with a resource access Info 3 | error code
		84	Error group = 43h DSL-encoder has been detected an error with a resource access Info 3 | error code
		85	Error during initialization of the DSL encoder
		86	
		101	No multiturn encoder available
		102	Wrong encoder type available
		103	No modulo operation parameterized (ID76, ID32800)
		104	There is no modulo value in ID103
		105	CRC of the stored data is wrong
		106	Encoder data has changed and is no longer compatible with the stored values
		107	Correction value and actual position are in the wrong quadrant
		108	Resolution in ID116 too large
		109	Resolution in ID116 or ID103 too large
Note	Encoder errors of the option card KU-/KW-EN1 are distinguished from the motor encoder by Info 1 + 100		
Error Removal	• Check cable or plug • Check cable shield • Reduce cable length Info 1 = 17 Info2 = 5 or 6: Fault or defect of the controller card • Drive OFF / ON. Replace the control card if it recurs. Info1 = 80, 85, 86 Check encoder cable / POS bit is set on the DSL line due to faults / POS bit is set due to vibrations • Check the shielding of the DSL line • Check the mechanics for vibrations • Check ID33194 and ID33195 Info 1 = 101 bis 109 • Check encoder type, multiturn type F, T or V (Modulo operation is not supported at this time for encoder type Q- or Y) • Check ID76 and ID32800, this function supports modulo operation according ID103. • Check modulo value in ID103 ($0 < ID103 \leq 2^{30}$) • Check resolution in ID116 ($ID116 \leq 2^{19}$) • The encoder was moved by more than a quarter of the encoder range before switching onDeactivate function and force with RF-change, that the data will be deleted. Then activate the function again and save the data with RF change.		

Device	**IDT**
Description	Messages during initialization (ID32773.23.= 1: reading the absolute position during initialization)
Class	see below
Drive Behaviour	
Device Behaviour	System run-up aborted
Additional Error Information (AMK Service)	

<table>
<tr><th>Device</th><th colspan="3">IDT</th></tr>
<tr><td rowspan="3"></td><td colspan="3">ID32773.27 = 0</td></tr>
<tr><td>Info 1</td><td>6</td><td>Warning
Monitor of the UPS supply has triggered</td></tr>
<tr><td>9</td><td>Error
Actual position value change has been detected while no UPS was active (position reference has been lost).</td></tr>
<tr><td rowspan="3"></td><td colspan="3">ID32773.27 = 1</td></tr>
<tr><td>Info 1</td><td>3</td><td>Error
<table><tr><td>Info 2</td><td>10</td><td>Survey of valid Flash has activated</td></tr></table></td></tr>
<tr><td>9</td><td>Error
Faulty encoder angle was detected during system run-up</td></tr>
</table>

<table>
<tr><th>Device</th><th colspan="3">IDT</th></tr>
<tr><td>Description</td><td colspan="3">Error in combination with absolute encoder (type C)</td></tr>
<tr><td>Class</td><td colspan="3">see below</td></tr>
<tr><td>Drive Behaviour</td><td colspan="3"></td></tr>
<tr><td>Device Behaviour</td><td colspan="3"></td></tr>
<tr><td colspan="4">Additional Error Information (AMK Service)</td></tr>
<tr><td rowspan="6"></td><td rowspan="6">Info 1</td><td>3</td><td>Absolute encoder error
<table>
<tr><td rowspan="8">Info 2</td><td>1</td><td>Speed higher than 6000 rpm</td></tr>
<tr><td>2</td><td>Motor movement during the encoder power down (no battery power supply mode)</td></tr>
<tr><td>6</td><td>Communication error during the read access</td></tr>
<tr><td>7</td><td>Communication error during the write access</td></tr>
<tr><td>8</td><td>System SW error</td></tr>
<tr><td>9</td><td>Position lost because of the deep low power mode command</td></tr>
<tr><td>10</td><td>No valid record for position data is detected</td></tr>
</table></td></tr>
<tr><td>5</td><td>Error
Encoder communication error</td></tr>
<tr><td>6</td><td>Warning
Absolute encoder power off detected</td></tr>
<tr><td>8</td><td>Error
Faulty encoder firmware</td></tr>
<tr><td>9</td><td>Error
Motor movement in low power mode without USV</td></tr>
<tr><td>Error Removal</td><td colspan="3">• Encoder included in motor electric
Message incl. info 1 and info 2 to AMK service for error localisation</td></tr>
</table>

2311 'Encoder signal'

<table>
<tr><td colspan="4">

Motor encoder defective
Encoder cable defective or not connected
Motor is equipped with a D encoder
Possibly A encoder with defective field plates
The SINE encoder monitoring can be switched off through ID32773
Overcurrent encoder supply voltage
Quadrant error of the encoder signals
Difference between analog angle and digital angle of the encoder too large
When comparing between analog angle and digital angle, an error has occurred

</td></tr>
<tr><td>Device</td><td colspan="3"></td></tr>
<tr><td>Description</td><td colspan="3"></td></tr>
<tr><td>Class</td><td colspan="3"></td></tr>
<tr><td>Drive Behaviour</td><td colspan="3">Coast to stop or will be decelerated sensorless to stand still</td></tr>
<tr><td>Device Behaviour</td><td colspan="3">Controller enable (RF) is withdrawn internally</td></tr>
<tr><td colspan="4">Additional Error Information (AMK Service)</td></tr>
<tr><td rowspan="17"></td><td rowspan="17">Info 1</td><td>1</td><td>Inadmissible level at the encoder input (operating)</td></tr>
<tr><td>2</td><td>The amplitude at the A/D converter input of an encoder track is less than 0.6 V
(normal level: 2 V). Filtration: 5x within 50 ms leads to shutdown.</td></tr>
<tr><td>3</td><td>In homing with T encoder or operation of synchronous machine with T encoder no feedback of the encoder.</td></tr>
<tr><td>4</td><td>In homing with T encoder or operation of synchronous machine with T encoder faulty transmission of the encoder.</td></tr>
<tr><td>5</td><td>In homing with T encoder or operation of synchronous machine with T encoder the internal error bit of the encoder was set.</td></tr>
<tr><td>6</td><td>On operation of synchronous machine with T encoder the drive has moved on system run-up.</td></tr>
<tr><td>7</td><td>Amplitude of a resolver signal at the A/D converter input is less than 0.6 V (normal level: 2 V)</td></tr>
<tr><td>12</td><td>The amplitude at the A/D converter input of an encoder track is too large.</td></tr>
<tr><td>13</td><td>Initializing ENDAT encoder</td></tr>
<tr><td>14</td><td>Output current of the encoder supply voltage >500 mA (>1000 mA on KW-R25 / KW-R26 / KW-R27)</td></tr>
<tr><td>20</td><td>Error in the evaluation of analogue and digital position (quadrant error)</td></tr>
<tr><td>100</td><td>When adjustment the HW counter with the digital signals, there is no stable state when acceleration.</td></tr>
<tr><td>101</td><td>Inadmissible level at the encoder input (acceleration)</td></tr>
<tr><td>401</td><td>Difference between analog angle and digital angle too large
<table><tr><td>Info2</td><td>Difference</td></tr><tr><td>Info3</td><td>Limit value</td></tr></table></td></tr>
<tr><td>402</td><td>Digital resolution of the encoder too small
<table><tr><td>Info2</td><td>Resolution</td></tr><tr><td>Info3</td><td>Limit value</td></tr></table></td></tr>
<tr><td>403</td><td>The calculated limit, which corresponds to 5 °_{electrical}, can not be mapped with the encoder.
<table><tr><td>Info2</td><td>Calculated limit value</td></tr><tr><td>Info3</td><td>Minimum value</td></tr></table></td></tr>
<tr><td>404</td><td>Timeout reading position 1</td></tr>
<tr><td>405</td><td>Timeout reading position 2</td></tr>
<tr><td>Device</td><td colspan="3">AW</td></tr>
</table>

	As from AW 2.11 4696 error analysis (code) through monitor cell M 7CFF. Data for T encoder also apply for S encoder
Error Removal	

- Encoder errors of the option card KU-/KW-EN1 are distinguished from the motor encoder by Info(I) + 100
- Clear error or system OFF/ON (HW reset)
- Check encoder cable for damage
- Check encoder signals

2312 'Output Terminal Ground Fault'

- Short-circuit between a phase of the output terminals and PE

Device			
Description			
Class			
Drive Behaviour	Coast to stop		
Device Behaviour	Single treatment		
Additional Error Information (AMK Service)			
Error Removal	Defective motor connection cable or a defective motor		

2313 'Synchronous running error'

- Inadmissible 16-bit position command value input (step change) or disturbed signal paths

Device			
Description			
Class			
Drive Behaviour	Controlled braking		
Device Behaviour			
Additional Error Information (AMK Service)			
Error Removal	Usually hardware problem, see. Com. error AZ M881C …		

2314 'Master Synchronous Telegram AW'

- Master synchronous telegram error on inverter

Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	Single treatment		
Additional Error Information (AMK Service)			
Error Removal			

2315 'AW controller clock error'

Lack of the controller clock was detected by an AW			
Device	**AW** **AZ**		
Description			
Class			
Drive Behaviour	Coast to stop		
Device Behaviour	Single treatment		
Additional Error Information (AMK Service)			
Error Removal	• Fault on the AZ -> AW interface • Damaged ribbon cable • Connection at the connector X27 of the AZ module or X57 of the AW module is faulty		

2316 'Motor direction of rotation'

• Direction of rotation monitoring recognizes defect on activating RF (only motor operation)			
Device			
Description			
Class			
Drive Behaviour	Coast to stop		
Device Behaviour	Single treatment		
Additional Error Information (AMK Service)			
Error Removal	Encoder tracks reversed polarity, output terminal phase sequence		

2317 'External encoder direction of rotation'

• Reserve, this message is not yet supported			
Device			
Description			
Class			
Drive Behaviour	Coast to stop		
Device Behaviour	Single treatment		
Additional Error Information (AMK Service)			
Error Removal	Encoder tracks reversed polarity		

2318 'Control deviation'

• Position control difference has exceeded the increment number defined by means of ID159 • Torque limits ID82 / ID83 too low • Check speed controller parameters ID100 / ID101 • Position control parameter ID104 not optimized • Speed limit ID38/ID39 too low • Motor too weak for this application • Inverter module too weak for this motor	
Device	
Description	
Class	
Drive Behaviour	Controlled braking
Device Behaviour	
Additional Error Information (AMK Service)	
Error Removal	Recheck parameters: • ID38 Positive velocity limit • ID39 Negative velocity limit • ID82 Positive torque limit • ID83 Negative torque limit • ID100 Proportional gain speed control KP • ID101 Integration acting time speed control TN • ID104 Position loop KV factor • ID159 Excessive Error

2319 'n > nmax'

• Safety shutdown in the inverter • Actual speed was more than 1.25 * "ID113 Maximum speed”	
Device	
Description	
Class	
Drive Behaviour	Coast to stop
Device Behaviour	Single treatment
Additional Error Information (AMK Service)	
Error Removal	• Motor encoder faulty

2320 'EF inactive'

• Output stage enabling (EF) inactive with controller enable RF active			
Device			
Description			
Class			
Drive Behaviour	Coast to stop		
Device Behaviour	Single treatment		
Additional Error Information (AMK Service)			
Error Removal	Check EF		

• Output stage enabling (EF) inactive with controller enable RF active / STO active					
Device	**KW-R06 / -R07 / -R16 / -R17 / -R24 / -R24-R / -R25 / -R26 / -R27 / iX / iC / iDT5 / / iX-R3 / iC-R3 / iDT5-R3 / ihX**				
Description					
Class	Error				
Drive Behaviour	Coast to stop				
Device Behaviour	-				
Additional Error Information (AMK Service)					
	Info 1	1	Info 2	0	
				1	
				2	
				3	
				4	
				5	Monitoring function runs system-internally with the fastest cycle time. The message can also occur in systems without safety functionality and suppress known messages with Info 2 = 0, 1 or 2.
Error Removal	Check EF / STO Check Safety functionality				

2321 'System diagnostics'

• IGBT monitoring in PWM device detects overcurrent			
Device	KE/KW		
Description			
Class	Error		
Drive Behaviour	Coast to stop		
Device Behaviour			
Additional Error Information (AMK Service)			
	Info 1	0	I*t monitoring, 30 ms, 110% Imax IGBT
		1	Failure in Seep-list (cell 20014)
		2	The IGBT temperature is greater than allowed for this type
Error Removal	• Check drive load / motor sizing • Check overload by measuring motor torque • Reduce load (torque limit) optimize gain settings		

Class	Warning
Drive Behaviour	
Device Behaviour	System run-up aborted
Additional Error Information (AMK Service)	

	Info 1	3	Temperature model is not supported
Error Removal	• Check revision of the device (SEEP-data) • Upgrate to new revision (SEEP-data) • Disable temperatur model via ID32901 Bit9=0 (KW-R05: Error message will be inhibitted; KW-R03: Temperature model is disabled)		

2322 'System diagnostics'

• Inverter RAM memory error			
Device			
Description			
Class			
Drive Behaviour	Coast to stop		
Device Behaviour			
Additional Error Information (AMK Service)			
Error Removal			

2323 'System diagnostics'

• VECON watchdog			
Device	**KW-R03**		
Description			
Class			
Drive Behaviour	Coast to stop		
Device Behaviour			
Additional Error Information (AMK Service)			
Error Removal			

• Lifecheck FPGA			
Device	**KW-R0x / -R1x / -R26 / -R27**		
Description			
Class			
Drive Behaviour	Coast to stop		
Device Behaviour			
Additional Error Information (AMK Service)			
Error Removal	• Device OFF/ON, (HW reset) • If the error recurs, replace controller card		

2324 'System diagnostics'

• Hardware significance in the AW SEEP invalid (M8030, 2 or 3 current measuring elements) • Furthermore differentiation of the U_Z sensors new 1/150 or old 1/200			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
Error Removal			

2325 'System diagnostics'

• Error (timeout 5s) current controller adjustment			
Device			
Description			
Class			
Drive Behaviour	Coast to stop		
Device Behaviour			
Additional Error Information (AMK Service)			
Error Removal			

2326 'System diagnostics'

Device			
Description			
Class			
Drive Behaviour	Coast to stop		
Device Behaviour			
Additional Error Information (AMK Service)			
			Rerserve
Error Removal			

2327 'Plausibility of the External Encoder'

• Plausibility monitoring between motor encoder and external positioning encoder initiated			
Device			
Description	Plausibility monitoring between motor encoder and ext. encoder detects too high slip (special software)		
Class			
Drive Behaviour	Coast to stop		
Device Behaviour			
Additional Error Information (AMK Service)			
Error Removal			

2328 'System diagnostics'

• Missing option card e.g. in the KU. For instance, if an AMK-A encoder is defined in "ID32953 Encoder type", then the option card AW- /KU- AG1 must also be detected			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
Error Removal			

2329 'System diagnostics'

• Commutation error in synchronous machine with AMK-T encoder (SINCOS absolute value encoder). Cause is a motion of the motor in system initialization			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
Error Removal			

2330 'System diagnostics'

Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
			Reserve
Error Removal			

2331 'System diagnostics'

• Ramp down error • The actual speed value is not reduced in the 0.5 s grid. The ramp down monitoring can be switched off through ID32773			
Device	**AW**		
• As from AW 0210, AW ramp down error			
Description			
Class			
Drive Behaviour	Coast to stop		
Device Behaviour			
Additional Error Information (AMK Service)			
Error Removal			

2332 'System diagnostics'

Device			
Description	Motor phase error (special software)		
Class			
Drive Behaviour	Coast to stop		
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
Error Removal	Check motor connection and motor cable		

2333 'Position growth too large'

• Inverter cannot process the cyclic 32-bit position setpoint growth per ID2 'SERCOS cycle time' (sampling time) • Wrong 32-bit input of setpoint by user • Fault in the bus system (cycle failures cause the next valid setpoint to increase too much) • Incorrect operating mode: Modulo operation is not permitted			
Device	KW-R06 / KW-R16 / KW-R07 / KW-R17 / iX(-R3) / iC(-R3) / iDT5(-R3) /ihXT /KW-R24-R / KW-R25 / KW-R26 / KW-R27		
Description			
Class			
Drive Behaviour	• System booting aborted • Controlled braking		
Device Behaviour			
Additional Error Information (AMK Service)			
	Info 1	0	Inadmissible position increase with controller enable set (QRF = 1)
		10	Inadmissible operating mode (modulo operation active, see ID76 'Position scaling data' or ID32800 'AMK main operating mode') (Extended position increase monitoring is not possible in modulo mode, see ID33304 'Motion service switch')
		11	Inadmissible position increase with controller enable not set (QRF = 0)
Error Removal	• Specify permissible setpoint • Select permissible operating mode • Repair bus fault		

2334 'System diagnostics'

• Output terminal overcurrent			
Device			
Description			
Class			
Drive Behaviour	Coast to stop		
Device Behaviour			
Additional Error Information (AMK Service)			
Error Removal			

2335 'Error reference pulse'

• Monitoring of reference pulse ID32773. 6=1 is active • Disturbance of reference pulse			
Device			
Description			
Class			
Drive Behaviour	Coast to stop		
Device Behaviour			
Additional Error Information (AMK Service)			
Error Removal			

2336 'System diagnostics'

• Current setpoint at the analog input of the slave AW was too large. (Only in parallel connection of AWs)			
Device	**AW**		
Description			
Class			
Drive Behaviour	Coast to stop		
Device Behaviour			
Additional Error Information (AMK Service)			
Error Removal			

2337 'No clock enable acknowledgement'

• Clock enable is not acknowledged by the inverter • Consequential error			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
Error Removal			

2338 'Magnetizing timeout'

• No magnetizing possible			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
Error Removal	• e.g. motor cables not connected on activating the controller enable • Lack of DC bus voltage		

2339 'Ramp down error'

• Inverter runs inconstantly (dxi/dt) to speed n=0, ramp down monitoring can be switched off through ID32773 • Motor drifts with low speed. • As from AW 0210 replacement by message 2331			
Device			
Description			
Class			
Drive Behaviour	Controlled braking		
Device Behaviour			
Additional Error Information (AMK Service)			
Error Removal	• Check motor phases (U, V, W connected correctly?) • Encoder signal connections		

2340 'Communication on AW'

• Inverter-side communication error, fault			
Device			
Description			
Class			
Drive Behaviour	Controlled braking		
Device Behaviour			
Additional Error Information (AMK Service)			
Error Removal			

2341 Communication on AZ'

• AZ-side communication error, fault			
Device			
Description			
Class			
Drive Behaviour	Controlled braking		
Device Behaviour			
Additional Error Information (AMK Service)			
Error Removal			

2342 'System diagnostics'

Device			
Description			
Class			
Drive Behaviour	Coast to stop		
Device Behaviour			
Additional Error Information (AMK Service)			
			QUITT AWMON-ERROR, RGRF
Error Removal			

2343 'System diagnostics'

Device			
Description			
Class			
Drive Behaviour	Coast to stop		
Device Behaviour			
Additional Error Information (AMK Service)			
			TIMEOUT BSÜ
Error Removal			

2344 'Monitoring actual position'

• The encoder absolute position and the internal actual position have a deviation of more than 0.5% of the encoder resolution.			
Device			
Description			
Class			
Drive Behaviour	Coast to stop		
Device Behaviour			
Additional Error Information (AMK Service)			
			Deviation shown as 0.1% (Resolution absolute encoder)
Error Removal			

2345 'Inverter overload error'

• Current feedback values violate the I^2t calculation • 100 % overload • Previously 2349 'Inverter overload warning'			
Device	**AW** **KU** **RM**		
Description			
Class	Error		
Drive Behaviour	Controlled braking		
Device Behaviour			
Additional Error Information (AMK Service)			
			I^2t monitoring, 30 ms, 100% I_{max} IGBT
Error Removal	• Check motor parameters • No or wrong encoder cable connected • Unstable, oscillating drive • Wrong encoder period number defined		

Device	**KE**		
Description			
Class	Warning		
Drive Behaviour	Controlled braking		
Device Behaviour			
Additional Error Information (AMK Service)			
	Info1	0	I^2t error, I_{max} for 60 s at KE I^2t error, I_{max} for 10 s at KES
Error Removal			

• Overload inverter (n)			
Device	**ZWR**		
Description	Overload inverter -U1 (I^2t error, I_{max} for 10 s)		
Class	Error		
Device Behaviour	Automatic error reset and switch back on		
Additional Error Information (AMK Service)			
Error Removal	• Check inverter -U1		

2346 'Converter temperature error'

• Temperature of the device too high • PTC resistor interruption			
Device			
Description			
Class	Warning		
Drive Behaviour	Controlled braking		
Device Behaviour			
Additional Error Information (AMK Service)			
Error Removal			

Device	**KE**		
Description			
Class	Error		
Drive Behaviour	Controlled braking		
Device Behaviour			
Additional Error Information (AMK Service)			
	Info1	0	Temperature of cold plate -> SEEP cell 37 ITK (analogue)
Error Removal			

• Overtemperature inverter (n)			
Device	**ZWR**		
Description	Overtemperature inverter -U1 (> 75 °C)		
Class	Error		
Device Behaviour	Automatic error reset and switch back on		
Additional Error Information (AMK Service)			
Error Removal	• Check cooling system		

• Temperature of the device too high			
Device	**iSA**		
Description			
Class	Error		
Device Behaviour	No autonomous reaction of the controller. The user must initiate appropriate action via the PLC program . e.g. device switch off		
Additional Error Information (AMK Service)			
	Info1	0	Error heat sink temperature
		1	Error temperature interior
Error Removal			

• Temperature of the device too high			
Device	**ihX**		
Description			
Class	Error		
Device Behaviour	Controlled braking		
Additional Error Information (AMK Service)			
	Info1	0	Error heat sink temperature
		1	Error temperature interior (≥87 °C)
Error Removal	Improve cooling		

2347 'Motor temperature error'

• Temperature of the motor too high • PTC resistor interruption			
Device			
Description			
Class			
Drive Behaviour	Controlled braking		
Device Behaviour			
Additional Error Information (AMK Service)			
Error Removal			

2348 'System diagnostics'

Device			
Description			
Class			
Drive Behaviour	Coast to stop		
Device Behaviour			
Additional Error Information (AMK Service)			
			Reserve
Error Removal			

2349 'Inverter overload warning'

• Device shuts down after 4 sec. with error 2345 'Inverter overload error' • Current feedback values violate the I^2t calculation			
Device	**AW** **KU** **RM**		
Description			
Class	Warning message, reaction of the drive after 4 seconds		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
Error Removal	• Motor wrongly connected • No or wrong encoder cable connected • Unstable, oscillating drive • Wrong encoder period number defined		

2350 'Device temperature warning'

• Device shuts down after 4 sec. With error 2346			
Device			
Description			
Class	Warning message, reaction of the drive after 4 seconds		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
Error Removal			

Device	**KE**		
Description			
Class			
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
	Info1	0	Temperature of cold plate -> SEEP cell 37 ITK (analogue)
Error Removal			

• Device shuts down if the temperature ≥87 °C. With error 2346			
Device	**ihX**		
Description			
Class	Warning message, Status LED orange		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
	Info1	0	Interior temperature of the device ≥83 °C
Error Removal	Improve cooling		

2351 'Motor temperature warning'

• Motor overtemperature warning or PTC resistor interruption			
Device	**AW**		
• SBM is withdrawn, drive shuts down after 4sec with error 2347			
Description			
Class	Warning message, reaction of the drive after 4 seconds		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
Error Removal			

2352 'Motor overload warning'

• The thermal overload limit of the motor is reached • Shutting down the drive with error 2353 “Motor overload” after the time ID 32943 “WARNING TIME”			
Device	**AZ** **KU**		
Description			
Class	Warning message, reaction of the drive after 4 seconds		
Drive Behaviour	Controlled braking		
Device Behaviour			
Additional Error Information (AMK Service)			
Error Removal			

2353 'Motor overload error'

• The thermal overload limit of the motor is reached			
Device	**AZ** **KU**		
Description			
Class	Error		
Drive Behaviour	Coast to stop		
Device Behaviour			
Additional Error Information (AMK Service)			
Error Removal			

2354 'Handshake brake'

• Plausibility monitoring is active; ID32773. 13 = 1 • Handshake does not come within "ID207 Drive off delay time"			
Device			
Description			
Class	Warning		
Drive Behaviour	Drive is still active (QRF=1)		
Device Behaviour			
Additional Error Information (AMK Service)			
Error Removal	• Error reset is not allowed until axis is secured		

2356 'Setpoint stop active'

• Setpoint stop active			
Device	**KE/KW** **KU**		
Description	The limit switches configured at the binary inputs for positive (code 33909) and negative (code 33910) setpoint processing are actuated at the same time (low active)		
Class	Warning		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
Error Removal	• Check limit switch, replace if necessary • Check signal wiring, replace if necessary		

2357 'Device overload warning'

• Current actual values infringe the overload threshold ID32999 of the I^2t calculation • Switching off the drive with 2358 'Device overload error' at 100% overload			
Device			
Description			
Class	Warning		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
Error Removal	• Motor incorrectly connected • Check motor parameters • No or incorrect encoder channel connected • Unstable, oscillating drive • Incorrect number of encoder periods defined		

2358 'Device overload error'

• Current actual values infringe the I^2t calculation • 100% overload • Previously "2357 Device overload warning"			
Device			
Description			
Class			
Drive Behaviour	Coast to stop		
Device Behaviour			
Additional Error Information (AMK Service)			
Error Removal			

2359 'Motor overload warning'

• "ID114 Overload limit motor" is reached • Switching off the drive with "2360 Motor overload error" at 100% overload			
Device			
Description			
Class	Warning		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
Error Removal	Recheck parameter: • ID32920 Overload time motor • ID34168 'Time maximum current motor' • ID109 'Motor peak current'		

2360 'Motor overload error'

• The thermal overload limit of the motor is reached • 100% overload • Previously "2359 Motor overload warning"			
Device			
Description			
Class	Error		
Drive Behaviour	Controlled braking		
Device Behaviour			
Additional Error Information (AMK Service)			
Error Removal			

2361 'EF Logic'

• The selected EF monitor has responded			
Device			
Description			
Class			
Drive Behaviour	Coast to stop		
Device Behaviour			
Additional Error Information (AMK Service)			
	Info 1	0	EF logic infringed, detected by controller
		1	EF logic infringed, detected by VECON
Error Removal	• Device is not EF compatible • Hardware error -> change device		

2362 'Error Commutation Motor'

• A fault has occurred during the evaluation of the commutation angle			
Device	**KW** **KWZ** **KW-R06** **iX / iC / iDT5**		
Description			
Class	Error		
Drive Behaviour	Coast to stop		
Device Behaviour	Controller enable (RF) is withdrawn		
Additional Error Information (AMK Service)			
	Info1	20	Error occurred in alignment on homing position during SW commutation
		21	Error occurred during commutation (internal firmware error - contact AMK service)

Valid for ID32773 'Service bits', bit 28 = 0

Additional Error Information (AMK Service)			
	Info1	10	Wrong calculation
		11	Wrong direction of rotation (phase sequence)
		12	Slope is too large Info2: Actual value of the slope measured Info3: Parameter limit value for the maximum slope
		13	Slope is too small Info2: Actual value of the slope measured Info3: Parameter limit value for the maximum slope
		14	Offset is too large (absolute value) Info2: Actual value of the offset measured Info3: Parameter limit value for the maximum offset
		15	Deviation is too large (absolute value) Info2: Actual value of the offset measured Info3: Parameter limit value for the maximum offset
		16	Wrong state (internal firmware error - contact AMK service)
		17	Error when reading the list ID34174 'SWK monitoring'
		18	Error when updating the list ID34174 'SWK monitoring'
Error Removal	• The commutation was not able to evaluate a position (The motor was moved by an external torque) • Motor must be able to move freely; disconnect the load and check if the shaft can move freely • Motor current to small; check ID111 'Motor nominal current IN', ID34095 'Final value SWC' • Wrong direction of rotation; change direction of rotation by changing 2 phases of the motor • RF was withdrawn during the SW commutation; RF is not allowed to be withdrawn before SW commutation has finished • Check limit values in ID34174 'SWK monitoring'		

Valid for ID32773 'Service bits', bit 28 = 1 (wake&shake commutation)

Additional Error Information (AMK Service)			
	1. cycle		
	Info1	1	Axis moved negatively with positive setpoint
		2	Axis moved more than 90° to positive direction
		3	Axis moved less than 2° with 90° positive setpoint
		4	Axis moved positively with negative setpoint
		5	Axis moved more than 90° to negative direction
		6	Axis moved less than 2° with 90° negative setpoint
	2. cycle		
	Info1	7	Axis moved negatively with positive setpoint
		8	Axis moved more than 90° to positive direction
		9	Axis moved less than 2° with 90° positive setpoint
		10	Axis moved positively with negative setpoint
		11	Axis moved more than 90° to negative direction
		12	Axis moved less than 2° with 90° negative setpoint
Error Removal	• **Info1 = 1, 7:** Motor phases mixed up or mechanical movement to negative direction; interchange motor phases, re-commutate • **Info1 = 2, 8:** Axis would 'bolt' or mechanical movement to positive direction; check number of poles • **Info1 = 3, 9:** Axis is blocked to positive direction or encoder does not work correctly; axis must be able to move freely; check encoder and cabling • **Info1 = 4, 10:** Motor phases mixed up or mechanical movement to positive direction; interchange motor phases, re-commutate • **Info1 = 5, 11:** Axis would 'bolt' or mechanical movement to negative direction; check number of poles • **Info1 = 6, 12:** Axis is blocked to negativedirection or encoder does not work correctly; axis must be able to move freely; check encoder and cabling		

2365 'Error angle observer'

• Error angle observer			
Device	**KW-R06 / R16 / R07 / R17 / R2x** **iDT5** **iX** **iC**		
Description	An error occurred during operation of the observer for sensorless detection of the rotor position		
Class	Error		
Drive Behaviour	Controlled braking		
Device Behaviour			
Additional Error Information (AMK Service)			
	Info1	1	The difference between encoder angle and observer angle exceeds ID33151.
		2	The needful load torque of the motor can not to apply by Sensorless with low speed. The motor can not follow the actual speed value
Error Removal			
	Info1	1	• If additional message 2311 'Encoder signal': Check encoder and encoder wiring, replace if necessary • Recheck parameters: ◦ ID33151 'Maximal angular deviation of encoder-sensorless' ◦ ID34045 'Inductance path D' ◦ ID34046 'Inductance path Q' ◦ ID34164 'Terminal resistance' ◦ ID34167 'Terminal Inductance' ◦ ID34233 'Phase resistance'
		2	• If possible to increase ID34069 'Starting current' for further torque.The torque ramps setting slower for less torque by the acceleration • Recheck parameters: ◦ ID100 'Speed control proportional gain KP' ◦ ID101 'Integral-action time speed control TN' ◦ ID102 'Differentiating time speed control TD' ◦ ID32780 'Acceleration ramp' ◦ ID32781 'Deceleration ramp' ◦ ID32782 'Deceleration ramp RF inactive' ◦ ID34069 'Starting current'

2366 'Limit switch'

• Limit switch monitoring			
Device	**KW-R0x, KW-R2x, iX, ihX**		
Description			
Class	Warning, Error (parametrizable by ID532 Bit 2)		
Drive Behaviour	Controlled braking		
Device Behaviour			
Additional Error Information (AMK Service)			
	Info 1	0	positive limit switch has triggered
		1	negative limit switch has triggered
		2	both limit switches have triggered (plausibility)
Error removal	• Check the limit switch contacts • Check limit switch wiring		

2367 'Error Non Dual Use'

• The maximum permissible electrical output frequency of 599 Hz for non-dual-use devices was exceeded. (Torque control mode)	
Device	**iX / iC / ihX**
Description	
Class	
Drive Behaviour	Coast to stop
Device Behaviour	
Additional Error Information (AMK Service)	
Error Removal	• Select operating point at lower output frequency • Use of a dual-use device • Use the BA position or speed control instead of the BA torque control. In these operating modes, the speed setpoint is internally limited. The output frequency of 599 Hz can not be exceeded.

3.10 No. 2560 ... 2599 SERCOS / EtherCAT

2560 'System diagnostics'

• EtherCAT			
Device	**A7**		
Description			
Class			
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
	Info 1 (ErrorCode)	1	Parsing error: Unable to find node 'VendorID' Info 2 (Alias): Slave physical address Info 3 (ErrorInfo1): 0 Addr (ErrorInfo2): 0
		2001	In 'ECAT_libraryConfigure', 'memoryAlloc', 'memoryFree', 'openFile' or 'checkFile' are ZERO Info 2 (Alias): 0 Info 3 (ErrorInfo1): 0 Addr (ErrorInfo2): 0
		2002	Library has been initialized. Call 'ECAT_libraryConfigure' Info 2 (Alias): 0 Info 3 (ErrorInfo1): 0 Addr (ErrorInfo2): 0
		2003	Unable to allocate memory for EtherCAT master Info 2 (Alias): 0 Info 3 (ErrorInfo1): 0 Addr (ErrorInfo2): 0
		2004	Unable to parse ENI file Info 2 (Alias): 0 Info 3 (ErrorInfo1): 0 Addr (ErrorInfo2): 0

		2005	Master configuration failed with error code Info 2 (Alias): 0 Info 3 (ErrorInfo1): Error code Addr (ErrorInfo2): 0
		2006	Trying to configure master with an inconsistent configuration state Info 2 (Alias): 0 Info 3 (ErrorInfo1): Configuration level Addr (ErrorInfo2): 0
		2008	Unable to allocate slaves queue (enhanced configuration) Info 2 (Alias): 0 Info 3 (ErrorInfo1): -7 Addr (ErrorInfo2): 0
		2009	Unable to allocate memory for acyclic frame Info 2 (Alias): 0 Info 3 (ErrorInfo1): -7 Addr (ErrorInfo2): 0
		2011	Parsing error: Variable name or product revision length exceeds maximum length Info 2 (Alias): 0 Info 3 (ErrorInfo1): Name length Addr (ErrorInfo2): Max. name length
		2012	Parsing error: 'AutoIncAddr', 'SlavePhysAddr' and 'IdentificationAdo' are not configured Info 2 (Alias): 0 Info 3 (ErrorInfo1): 0 Addr (ErrorInfo2): 0
		2013	Parsing error: Unable to find node 'AutoIncAddr' or 'Value' Info 2 (Alias): 0 Info 3 (ErrorInfo1): Slave physical address Addr (ErrorInfo2): 0
		2014	Parsing error: 'AutoIncAddr', 'SlavePhysAddr' and 'IdentificationAdo' are not configured Info 2 (Alias): Slave physical address Info 3 (ErrorInfo1): 0 Addr (ErrorInfo2): 0
		2016	Parsing error: Unable to find node 'ProductCode' Info 2 (Alias): Slave physical address Info 3 (ErrorInfo1): 0 Addr (ErrorInfo2): 0
		2017	Parsing error: Unable to find node 'RevisionNo' Info 2 (Alias): Slave physical address Info 3 (ErrorInfo1): 0 Addr (ErrorInfo2): 0
		2018	Parsing error: Unable to find node 'SerialNo' Info 2 (Alias): Slave physical address Info 3 (ErrorInfo1): 0 Addr (ErrorInfo2): 0
		2019	Unable to add slave to network configuration Info 2 (Alias): Slave physical address Info 3 (ErrorInfo1): 0 Addr (ErrorInfo2): 0

		2020	Parsing error: Unable to add Tx PDO Info 2 (Alias): Slave physical address Info 3 (ErrorInfo1): PDO index Addr (ErrorInfo2): PDO subindex
		2021	Parsing error: Unable to add Rx PDO Info 2 (Alias): Slave physical address Info 3 (ErrorInfo1): PDO index Addr (ErrorInfo2): PDO subindex
		2022	Parsing error: Unable to find node 'Ado' Info 2 (Alias): 0 Info 3 (ErrorInfo1): Slave physical address Addr (ErrorInfo2): 0
		2023	Unable to allocate slaves queue Info 2 (Alias): 0 Info 3 (ErrorInfo1): -7 Addr (ErrorInfo2): 0
		2024	Master configuration failed due to Identification ADO duplication [ADO %d, Value %d] Info 2 (Alias): 0 Info 3 (ErrorInfo1): Identification ado (address offset) Addr (ErrorInfo2): Identification value
		2024 (E)	Master configuration failed due to duplicated identification Ado Info 2 (Alias): 0 Info 3 (ErrorInfo1): Configuration level Addr (ErrorInfo2): Slave index
		2025	Parsing error: Unable to find node 'Info' Info 2 (Alias): 0 Info 3 (ErrorInfo1): 0 Addr (ErrorInfo2): 0
		2026	Parsing error: Unable to find node 'Cmd' Info 2 (Alias): 0 Info 3 (ErrorInfo1): 0 Addr (ErrorInfo2): 0
		2027	Parsing error: Unable to find node 'Physics' Info 2 (Alias): 0 Info 3 (ErrorInfo1): 0 Addr (ErrorInfo2): 0
		2028	Unable to open ENI file Info 2 (Alias): 0 Info 3 (ErrorInfo1): 0 Addr (ErrorInfo2): 0
		2030	Unable to find ENI file Info 2 (Alias): 0 Info 3 (ErrorInfo1): 0 Addr (ErrorInfo2): 0
		2031	In 'ECAT_masterCreate', 'sampleTime' parameter is too big compared to network reset timeout Info 2 (Alias): 0 Info 3 (ErrorInfo1): 0 Addr (ErrorInfo2): 0

		2032	In 'ECAT_masterCreate', invalid 'sampleTime' parameter Info 2 (Alias): 0 Info 3 (ErrorInfo1): 0 Addr (ErrorInfo2): 0
		2033	Unable to add detected slave due to the given error code Info 2 (Alias): 0 Info 3 (ErrorInfo1): Error code Addr (ErrorInfo2): Slave index
		3000	Number of detected slaves differs from the expected number of slaves Info 2 (Alias): 0 Info 3 (ErrorInfo1): Active slaves Addr (ErrorInfo2): Expected slaves
		3000 (E)	Info 2 (Alias): 0 Info 3 (ErrorInfo1): Network state Addr (ErrorInfo2): 0
		3001	Current network state and expected network state are different Info 2 (Alias): 0 Info 3 (ErrorInfo1): Network state Addr (ErrorInfo2): Expected network state
		3002	Current network state and expected network state are different Info 2 (Alias): 0 Info 3 (ErrorInfo1): Network state Addr (ErrorInfo2): Expected network state
		3003	Current network state and expected network state are different (network state is unknown) Info 2 (Alias): 0 Info 3 (ErrorInfo1): Network state Addr (ErrorInfo2): Expected network state
		3004	Invalid parent Rx port Info 2 (Alias): 0 Info 3 (ErrorInfo1): Slave physical address Addr (ErrorInfo2): Parent Rx port
		3005	Invalid parent Tx port Info 2 (Alias): 0 Info 3 (ErrorInfo1): Slave physical address Addr (ErrorInfo2): Parent TX port
		3006	Master failed to calculate propagation delays (invalid values are provided in 'ErrorInfo1' and 'ErrorInfo2') Info 2 (Alias): 0 Info 3 (ErrorInfo1): Dt1 Addr (ErrorInfo2): Dt2
		3007	Autotopology detection disabled, but position is unknown for slave with the given physical address Info 2 (Alias): 0 Info 3 (ErrorInfo1): Slave physical address Addr (ErrorInfo2): Number of slaves
		3011	Network DC (DIstributed Clock) not synchronized Info 2 (Alias): 0 Info 3 (ErrorInfo1): Sync error Addr (ErrorInfo2): Max sync error

		3012	Master stopped Info 2 (Alias): 0 Info 3 (ErrorInfo1): FSM (finite state machine) state Addr (ErrorInfo2): FSM (finite state machine) stage
		3013	Service to check network status failed Info 2 (Alias): 0 Info 3 (ErrorInfo1): 0 Addr (ErrorInfo2): Number of active slaves
		3014	Failed to read a register in the initialize phase Info 2 (Alias): 0 Info 3 (ErrorInfo1): Register Addr (ErrorInfo2): Data length
		3015	Prepare DC internal service failed Info 2 (Alias): 0 Info 3 (ErrorInfo1): Register Addr (ErrorInfo2): Data length
		3016	Master service to check the network state failed! (An internal register access service failed) Info 2 (Alias): 0 Info 3 (ErrorInfo1): Register Addr (ErrorInfo2): Data length
		3017	Internal error: Can not append service Info 2 (Alias): Slave physical address Info 3 (ErrorInfo1): FSM (finite state machine) state Addr (ErrorInfo2): FSM (finite state machine) stage
		3018	Unable to find slave's parent to calculate propagation delay Info 2 (Alias): 0 Info 3 (ErrorInfo1): FSM (finite state machine) state Addr (ErrorInfo2): FSM (finite state machine) stage
		3019	Slaves are not synchronized Info 2 (Alias): 0 Info 3 (ErrorInfo1): 0 Addr (ErrorInfo2): Sync error
		3021	Master stopped in fatal state. This error indicates that a fatal error happened or the user has invoked 'ECAT_masterSetComError()' per to stop the master Info 2 (Alias): Info 3 (ErrorInfo1): Previous state Addr (ErrorInfo2): 0
		3022	Current network state and expected network state are different (network state is unknown) Info 2 (Alias): 0 Info 3 (ErrorInfo1): Network state Addr (ErrorInfo2): Expected network state
		4000	Slave is missing Info 2 (Alias): Slave physical address Info 3 (ErrorInfo1): ECAT state Addr (ErrorInfo2): 0
		4001	Invalid frames received Info 2 (Alias): Slave physical address Info 3 (ErrorInfo1): EtherCAT state Addr (ErrorInfo2): Port number

		4001 (E)	Invalid frames received Info 2 (Alias): Slave physical address Info 3 (ErrorInfo1): Invalid frames counter Addr (ErrorInfo2): Error counter
		4002	On port X detected x forwarded Errors Info 2 (Alias): Slave physical address Info 3 (ErrorInfo1): port number Addr (ErrorInfo2): number of errors
		4003	SDO init cmd failed Info 2 (Alias): Slave physical address Info 3 (ErrorInfo1): SDO index Addr (ErrorInfo2): SDO subindex
		4004	EtherCAT transition failed (timeout) Info 2 (Alias): Slave physical address Info 3 (ErrorInfo1): Register Addr (ErrorInfo2): Data length
		4005	EtherCAT transition failed (validation failed) Info 2 (Alias): Slave physical address Info 3 (ErrorInfo1): Register Addr (ErrorInfo2): Data length
		4007	Slave has been configured to use DC (Distributed Clock), but does not support DC Info 2 (Alias): Slave physical address Info 3 (ErrorInfo1): Slave uses DC (Distributed Clocks) Addr (ErrorInfo2): Slave supports DC (Distributed Clocks)
		4008	Slave [PhysAddr] uncontrolled state change from 'oldState' to 'newState' Info 2 (Alias): Slave physical address Info 3 (ErrorInfo1): Old state (e. g. 8) Addr (ErrorInfo2): New state (e. g. 4)
		4008 (E)	SoE init cmd failed Info 2 (Alias): Slave physical address Info 3 (ErrorInfo1): Drive number Addr (ErrorInfo2): ID
		4009	No answer from slave, therefore is missing Info 2 (Alias): Slave physical address Info 3 (ErrorInfo1): 0 Addr (ErrorInfo2): 0
		4010	Inconsistent link status on the given port Info 2 (Alias): Slave physical address Info 3 (ErrorInfo1): Port number Addr (ErrorInfo2): Link status
		4010 (E)	Inconsistent port status Info 2 (Alias): Slave physical address Info 3 (ErrorInfo1): Port number Addr (ErrorInfo2): Port status
		4011	Inconsistent link status on the given port (should be closed) Info 2 (Alias): Slave physical address Info 3 (ErrorInfo1): Port number Addr (ErrorInfo2): Link status

		4011 (E)	Inconsistent port status on the given port (should be closed) Info 2 (Alias): Slave physical address Info 3 (ErrorInfo1): Port number Addr (ErrorInfo2): Port status
		4012	EtherCAT reset failed with the given AL status code Info 2 (Alias): Slave physical address Info 3 (ErrorInfo1): EtherCAT state Addr (ErrorInfo2): Status code
		4013	Internal register access service failed (AL control) Info 2 (Alias): Slave physical address Info 3 (ErrorInfo1): Register Addr (ErrorInfo2): Data length
		4014	Internal register access service failed (AL status) Info 2 (Alias): Slave physical address Info 3 (ErrorInfo1): Register Addr (ErrorInfo2): Data length
		4016	Internal register access service failed (DL status) Info 2 (Alias): Slave physical address Info 3 (ErrorInfo1): Register Addr (ErrorInfo2): Data length
		4017	Wrong VendorID detected Info 2 (Alias): Slave physical address Info 3 (ErrorInfo1): Detected VendorID (Identification number of the device manufacturer) Addr (ErrorInfo2): Configured VendorID (Identification number of the device manufacturer)
		4018	Wrong Product ID detected Info 2 (Alias): Slave physical address Info 3 (ErrorInfo1): Detected ProductID (Identification number of the EtherCAT device) Addr (ErrorInfo2): Configured ProductID (Identification number of the EtherCAT device)
		4019	Detected xx Errors on the EtherCAT processing unit Info 2 (Alias): Slave physical address Info 3 (ErrorInfo1): Number of errors Addr (ErrorInfo2): -
		4020	Slave has been configured to use DC, but DC has been disabled in EEPROM Info 2 (Alias): Slave physical address Info 3 (ErrorInfo1): Slave uses DC (Distributed Clocks) Addr (ErrorInfo2): Slave supports DC (Distributed Clocks)
		4021	Error reordering slaves Info 2 (Alias): Slave physical address Info 3 (ErrorInfo1): Ado (address offset) Addr (ErrorInfo2): Identification value
		4022	Master stopped in fatal state Info 2 (Alias): 0 Info 3 (ErrorInfo1): FSM (finite state machine) state Addr (ErrorInfo2): FSM (finite state machine) stage

		4023	Calculated delay exceeds cycle time Info 2 (Alias): 0 Info 3 (ErrorInfo1): Slave physical address Addr (ErrorInfo2): Calculated delay
		4024	Failed to get slave's parent Info 2 (Alias): Slave physical address Info 3 (ErrorInfo1): Previous port Addr (ErrorInfo2): 0
		4026	SDO write error: Slave does not support CoE protocol Info 2 (Alias): Slave physical address Info 3 (ErrorInfo1): Supported protocols Addr (ErrorInfo2): 0
		4028	SDO read error: Slave does not support CoE protocol Info 2 (Alias): Slave physical address Info 3 (ErrorInfo1): Supported protocols Addr (ErrorInfo2): 0
		4029	A CoE service otification has been received, but the service is not supported Info 2 (Alias): Slave physical address Info 3 (ErrorInfo1): CoE service Addr (ErrorInfo2): 0
		4030	Prepare DC internal service failed Info 2 (Alias): Slave physical address Info 3 (ErrorInfo1): Register Addr (ErrorInfo2): Data length
		4031	The slave set up the EtherCAT error flag Info 2 (Alias): Slave physical address Info 3 (ErrorInfo1): Current EtherCAT state Addr (ErrorInfo2): Previous EtherCAT state
		4032	Internal slave state machine has been stopped to a specific state due to an error Info 2 (Alias): Slave physical address Info 3 (ErrorInfo1): Slave internal state machine state Addr (ErrorInfo2): Slave internal state machine stage
		4033	Port must be connected to the given remote slave Info 2 (Alias): Slave physical address Info 3 (ErrorInfo1): Port number Addr (ErrorInfo2): Remote slave physical address
		4034	Port must be connected to the master Info 2 (Alias): Slave physical address Info 3 (ErrorInfo1): 0 Addr (ErrorInfo2): Port number
		4035	Port number should be closed Info 2 (Alias): Slave physical address Info 3 (ErrorInfo1): 0 Addr (ErrorInfo2): Port number
		4036	Failed to read station physical address Info 2 (Alias): Slave physical address Info 3 (ErrorInfo1): 0 Addr (ErrorInfo2): 0

		4037	On port x detected x link lost events Info 2 (Alias): Slave physical address Info 3 (ErrorInfo1): Port number Addr (ErrorInfo2): Number of errors
		4038	Port management error Info 2 (Alias): Slave physical address Info 3 (ErrorInfo1): Previous port Addr (ErrorInfo2): 0
		4039	Port management error Info 2 (Alias): Slave physical address Info 3 (ErrorInfo1): Previous port Addr (ErrorInfo2): 0
		4040	Internal error: While reading SDO, Rx buffer pointer is ZERO Info 2 (Alias): 0 Info 3 (ErrorInfo1): 0 Addr (ErrorInfo2): 0
		4041	Internal error: While reading fragmented SDO, rx buffer pointer is ZERO Info 2 (Alias): 0 Info 3 (ErrorInfo1): 0 Addr (ErrorInfo2): 0
		4042	Slave-to-slave communication failed with the given error code Info 2 (Alias): Source slave physical address Info 3 (ErrorInfo1): Error code Addr (ErrorInfo2): 0
		4043	SDO read failed with the abort code returned by another error message Info 2 (Alias): Slave physical address Info 3 (ErrorInfo1): SDO index Addr (ErrorInfo2): SDO subindex
		4043 (E)	SDO read failed. This message provides the abort error code Info 2 (Alias): Error code (MSB) Info 3 (ErrorInfo1): Error code (LSB) Addr (ErrorInfo2): 0
		4044	Address read from register differs from configured station address Info 2 (Alias): Slave physical address Info 3 (ErrorInfo1): 0 Addr (ErrorInfo2): 0
		4045	Slave-to-slave communication request, but destination slave does not exist Info 2 (Alias): Source slave physical address Info 3 (ErrorInfo1): Destination slave physical address Addr (ErrorInfo2): 0
		4046	Slave-to-slave communication request, but destination slave does not support mailbox Info 2 (Alias): Destination slave physical address Info 3 (ErrorInfo1): Source slave physical address Addr (ErrorInfo2): 0
		4047	Failed to append slave-to-slave communication message Info 2 (Alias): Destination slave physical address Info 3 (ErrorInfo1): Mailbox data length Addr (ErrorInfo2): 0

		4049	SoE read error: slave does not support SoE protocol Info 2 (Alias): Slave physical address Info 3 (ErrorInfo1): Supported protocols Addr (ErrorInfo2): 0
		4050	SoE write error: slave does not support SoE protocol Info 2 (Alias): Slave physical address Info 3 (ErrorInfo1): Supported protocols Addr (ErrorInfo2): 0
		4051	FoE error: slave does not support FoE protocol Info 2 (Alias): Slave physical address Info 3 (ErrorInfo1): Supported protocols Addr (ErrorInfo2): 0
		4052	EoE init cmd failed Info 2 (Alias): Slave physical address Info 3 (ErrorInfo1): 0 Addr (ErrorInfo2): 0
		4053	FoE init cmd failed Info 2 (Alias): Slave physical address Info 3 (ErrorInfo1): 0 Addr (ErrorInfo2): 0
		4054	FoE mismatched packet number detected Info 2 (Alias): Slave physical address Info 3 (ErrorInfo1): 0 Addr (ErrorInfo2): 0
		4055	EoE service initialization failed Info 2 (Alias): Slave physical address Info 3 (ErrorInfo1): 0 Addr (ErrorInfo2): 0
		4056	EoE send packet failed Info 2 (Alias): Slave physical address Info 3 (ErrorInfo1): 0 Addr (ErrorInfo2): 0
		4057	EoE mismatched fragment number detected Info 2 (Alias): Slave physical address Info 3 (ErrorInfo1): Fragment number Addr (ErrorInfo2): Expected fragment number
Error Removal			

2561 'System diagnostics'

• SERCOS	
Device	
Description	Failure of the master within communication phase 3 or 4 Master does not send any or just irregular frames of setpoint and actual values
Class	Error
Drive Behaviour	Controlled braking
Device Behaviour	
Additional Error Information (AMK Service)	
Error Removal	Check wiring

<table>
<tr><td colspan="4">• EtherCAT</td></tr>
<tr><td>Device</td><td colspan="3">KW-EC1
KWZ
KW-R0x / KW-R1x / KW-R2x
A4 / A5 / A6
iX / ihX / iC / iDT5 / iSA
KE(N,S)-xEx</td></tr>
<tr><td>Description</td><td colspan="3">EtherCAT master does not send any or just irregular frames of setpoint and actual values</td></tr>
<tr><td>Class</td><td colspan="3">Behavior according ID34027</td></tr>
<tr><td>Drive Behaviour</td><td colspan="3">Coast to stop</td></tr>
<tr><td>Device Behaviour</td><td colspan="3">• It will be initiated a 'AL State Change Request' in 'Safe Operational'
• Adjustable, see ID34027 'BUS failure character'</td></tr>
<tr><td colspan="4">Additional Error Information (AMK Service)</td></tr>
<tr><td></td><td>Info 1</td><td>1</td><td>Failure of frame with real time data in "Operational" mode
In "Operational" mode within two(1*) cycles no setpoint or actual values were written or read
<table><tr><td>Info 2</td><td>ID28 MST error counter</td></tr><tr><td>Info 3</td><td>Bit 0=1 - Input event (AT) missing
Bit 1=1 - Output event (MDT) missing</td></tr></table></td></tr>
<tr><td></td><td></td><td>2</td><td>Input 'Sync Manager Watchdog' event
<table><tr><td>Info 2</td><td>Actual AL state</td></tr></table></td></tr>
<tr><td></td><td></td><td>3</td><td>Wrong value for the message counters (specific for VARAN communication)
<table><tr><td>Info 2</td><td>Last value of the message counter</td></tr><tr><td>Info 3</td><td>Previous Value of the message counter (the message counters must be increased by 1 on each cycle in operational state)</td></tr></table></td></tr>
<tr><td>Error Removal</td><td colspan="3">Check EtherCAT wiring</td></tr>
</table>

1*) default value according to SERCOS is 2. The value is adjustable from 2-256 on firmware 2014/16 in ID34026 instance 1.

2562 'System diagnostics'

<table>
<tr><td colspan="4">• MDT reception error in the Comm.phase 3 or 4</td></tr>
<tr><td>Device</td><td colspan="3"></td></tr>
<tr><td>Description</td><td colspan="3"></td></tr>
<tr><td>Class</td><td colspan="3"></td></tr>
<tr><td>Drive Behaviour</td><td colspan="3">Controlled Braking</td></tr>
<tr><td>Device Behaviour</td><td colspan="3"></td></tr>
<tr><td colspan="4">Additional Error Information (AMK Service)</td></tr>
<tr><td></td><td></td><td></td><td></td></tr>
<tr><td>Error Removal</td><td colspan="3"></td></tr>
</table>

2563 'System diagnostics'

<table>
<tr><td colspan="4">• SERCOS</td></tr>
<tr><td>Device</td><td colspan="3"></td></tr>
<tr><td>Description</td><td colspan="3">Invalid communication phase</td></tr>
<tr><td>Class</td><td colspan="3">Error</td></tr>
<tr><td>Drive Behaviour</td><td colspan="3">Controlled braking</td></tr>
<tr><td>Device Behaviour</td><td colspan="3"></td></tr>
<tr><td colspan="4">Additional Error Information (AMK Service)</td></tr>
<tr><td></td><td></td><td></td><td></td></tr>
<tr><td>Error Removal</td><td colspan="3"></td></tr>
</table>

• EtherCAT			
Device	**KW-EC1** **KWZ** **KW-R0x / KW-R1x / KW-R2x** **A4 / A5 / A6** **iX / ihX / iC / iDT5 / iSA** **KE(N,S)-xEx**		
Description	EtherCAT AL fault The EtherCAT master has requested an invalid status or bootstrap (Bootstrap is not supported)		
Class	Error		
Drive Behaviour	Coast to stop		
Device Behaviour			
Additional Error Information (AMK Service)			
	Info 1	0	Requested an invalid status
		1	Bootstrap is not supported
Error Removal	Incorrect specification from EtherCAT master.		

2564 'System diagnostics'

• SERCOS			
Device			
Description	Phase ramp up (sequence)		
Class	Error		
Drive Behaviour	Controlled braking		
Device Behaviour			
Additional Error Information (AMK Service)			
Error Removal			

• EtherCAT			
Device	**KW-EC1** **KWZ** **KW-R0x / KW-R1x / KW-R2x** **A4 / A5 / A6** **iX / ihX / iC / iDT5 / iSA** **KE(N,S)-xEx**		
Description	EtherCAT AL fault The EtherCAT master has specified an incorrect status sequence		
Class	Error		
Drive Behaviour	Coast to stop		
Device Behaviour			
Additional Error Information (AMK Service)			
Error Removal	Incorrect specification from EtherCAT master.		

2565 'System diagnostics'

• Phase switchback (not on phase 0)			
Device			
Description			
Class			
Drive Behaviour	Controlled braking		
Device Behaviour			
Additional Error Information (AMK Service)			
Error Removal			

2566 'System diagnostics'

• Phase switchover without ready message			
Device			
Description			
Class			
Drive Behaviour	Controlled braking		
Device Behaviour			
Additional Error Information (AMK Service)			
Error Removal			

2569 'System diagnostics'

• Memory error (allocating)			
Device			
Description			
Class			
Drive Behaviour	Controlled braking		
Device Behaviour			
Additional Error Information (AMK Service)			
Error Removal			

2570 'System diagnostics'

• Memory error (deallocating)			
Device			
Description			
Class			
Drive Behaviour	Controlled braking		
Device Behaviour			
Additional Error Information (AMK Service)			
Error Removal			

2571 'System diagnostics'

• Timeout during communication phases switch-over (AS-PL)			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
Error Removal			

2572 'System diagnostics'

• SERCOS			
• AT/MDT configuration error • During KMD ID127 read error in the database			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
	Info 1	10	MDT too large
		11	Starting addr. (ID9) outside MDT or (ID9+data record length) > ID10
		12	Too many MDT-IDs (cycl.)
		13	Too many MDT-IDs
		14	Too many AT-IDs
		15	AT too large
		16	One of the IDs in the AT is a list parameter
		17	AT contains not configurable IDs Info 2 | ID-No.
		18	Configuration in ID24 does not fit in MDT range (too many bytes in the config. data record)
		19	One of the IDs in the MDT is a list parameter
		20	MDT contains not configurable ID Info 2 | ID-No.
		21	Too many temporary IDs
		22	Error in initialisation of temporary IDs
		23	ID7 too small (ID7 lies before the AT end)
		24	ID8 too small (ID8 lies before the MDT end)
		25	During CMD 127 error in reading database
		27	In phase 2 received value ID2 is unequal instance value
Error Removal	• Info 1 = 10 ... 22: Check the MDT or AT configuration in the master ("ID16 Configuration list AT", "ID24 Configuratin list MDT").		

• EtherCAT	
• EtherCAT configuration error	
Device	**KW-EC1** **KWZ** **KW-R0x / KW-R1x / KW-R2x** **A4 / A5 / A6** **iX / ihX / iC / iDT5 / iSA** **KE(N,S)-xEx**
Description	
Class	Error
Drive Behaviour	Coast to stop
Device Behaviour	
Additional Error Information (AMK Service)	

	Info 1	5	"ID15 Telegram type parameter" ≠ 7
		6	ID-No in configuration list is described incorrectly (Internal error (AMK Service)) Info 2: ID-No. / index
		10	MDT too large Info 2: last ID-No. / index
		11	Starting addr. (ID9) outside MDT or (ID9+data record length) > ID10
		12	Too many MDT-IDs (cycl.)
		13	Too many MDT-IDs
		14	Too many AT-IDs
		15	AT too large Info 2: last ID-No. / index
		16	One of the IDs in the AT is a list parameter
		17	AT contains not configurable IDs Info 2: ID-No. / CAN index
		18	Configuration in ID24 does not fit in MDT range (too many bytes in the config. data record)
		19	One of the IDs in the MDT is a list parameter
		20	MDT contains not configurable ID Info 2: ID-No. / CAN index
		21	Too many temporary IDs
		22	Error in initialisation of temporary IDs
	The master has specified an inappropriate MDT or AT configuration		
		27	EtherCAT register "DC Cycle Time Sync0" is not equal to "ID2 SERCOS cycle time" when device is switched on
		29	EtherCAT configuration: Mailbox is faulty
		30	EtherCAT configuration: Out-Sync manager is faulty
		31	EtherCAT configuration: In-Sync manager is faulty
		32	EtherCAT configuration: Synchronisation is faulty
		33	AT list ID16 is faulty
		34	MDT list ID24 is faulty
		79	Software error
		81	Software error at AT Info 2: 0 = Module error; ID-No. = Pointer to ID not available
		82	Software error at MDT Info 2: 0 = Module error; ID-No. = Pointer to ID not available
		83	Memory ALLOC error when changing AL Info 2: Function case number
		84	Software error at ID read Info 2: ID-No.

Error Removal	• Info 1 = 10 ... 22: Check the MDT or AT configuration in the master ("ID16 Configuration list AT", "ID24 Configuration list MDT"). • Info 1 = 27: Check ID2 'SERCOS cycle time' in instance 0 or 2 and adapt in ID2 from EtherCAT Master. Is the EtherCAT Slave a Ax Controller, then must be entered ID2 in EtherCAT Slave manually on instance. This entry is not made in Ax controller as EtherCAT slaves trough the master. Instance 2 is the master not known. • Info 1 = 29 ... 32: Check whether a correct XML device description file is used in the master Info 1 = 30: too many output data Info 1 = 31: too many input data

2573 'System diagnostics'

• SERCOS			
Device			
Description	Memory cell error (system error)		
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
	Info 1	21, 22, 23, 33, 61, 70, 72	Software error
Error Removal	Software error => Transfer information to AMK Service		

<table>
<tr><td colspan="5">• EtherCAT</td></tr>
<tr><td>Device</td><td colspan="4">KW-EC1
KWZ
KW-R0x / KW-R1x / KW-R2x
A4 / A5 / A6
iX / ihX / iC / iDT5 / iSA
KE(N,S)-xEx</td></tr>
<tr><td>Description</td><td colspan="4">EtherCAT memory error or special error</td></tr>
<tr><td>Class</td><td colspan="4">Error</td></tr>
<tr><td>Drive Behaviour</td><td colspan="4"></td></tr>
<tr><td>Device Behaviour</td><td colspan="4">Coast to stop</td></tr>
<tr><td colspan="5">Additional Error Information (AMK Service)</td></tr>
<tr><td rowspan="19"></td><td rowspan="19">Info 1</td><td>1</td><td colspan="2">Error in memory request</td></tr>
<tr><td>10</td><td colspan="2">Module message transmission error</td></tr>
<tr><td>15</td><td colspan="2">Timeout access Mailbox ID</td></tr>
<tr><td>20</td><td colspan="2">Error during firmware update</td></tr>
<tr><td>21, 22, 23</td><td colspan="2">EtherCAT software error</td></tr>
<tr><td>33</td><td colspan="2">EtherCAT software error</td></tr>
<tr><td>40</td><td colspan="2">ID reading error<table><tr><td>Info 3</td><td>ID-No.</td></tr></table></td></tr>
<tr><td>41</td><td colspan="2">Signal address reading error<table><tr><td rowspan="4">Info 2</td><td>1</td><td>Bits ID13, ID182</td></tr><tr><td>2</td><td>Bits ID144</td></tr><tr><td>3</td><td>Bits ID301, ID303</td></tr><tr><td>4</td><td>Bits ID305, ID307</td></tr><tr><td>Info 3</td><td colspan="2">Signal code.</td></tr></table></td></tr>
<tr><td>42</td><td colspan="2">Device type unknown (Product code)<table><tr><td rowspan="3">Info 2</td><td>1</td><td>SEEP value incorrect</td></tr><tr><td>2</td><td>Error EEPROM content</td></tr><tr><td>3</td><td>CoE device type unknown</td></tr></table></td></tr>
<tr><td>43</td><td colspan="2">EtherCAT/VARAN initialisation error<table><tr><td rowspan="2">Info 2</td><td>1</td><td>EtherCAT</td></tr><tr><td>2</td><td>VARAN</td></tr></table></td></tr>
<tr><td>44</td><td colspan="2">"Clear error" was not successful</td></tr>
<tr><td>45</td><td colspan="2">"Clear error" software error</td></tr>
<tr><td>46</td><td colspan="2">Error in “Real Time Data Manager” entry</td></tr>
<tr><td>47</td><td colspan="2">AT DMA transfer error</td></tr>
<tr><td>48</td><td colspan="2">MDT DMA transfer error</td></tr>
<tr><td>50</td><td colspan="2">Error during EtherCAT slave system initialisation</td></tr>
<tr><td>61</td><td colspan="2">EtherCAT software error</td></tr>
<tr><td>70</td><td colspan="2">EtherCAT software error</td></tr>
<tr><td>Error Removal</td><td colspan="4">EtherCAT software error => Transfer information to AMK-Service</td></tr>
</table>

2574 'System diagnostics'

• SERCOS			
Device			
Description	SERCOS-Asic memory test		
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
Error Removal			

• EtherCAT	
Device	**KW-EC1** **KWZ**
Description	Error during memory test in the EtherCAT Chip (The memory test is carried out without EtherCAT link!)
Class	
Drive Behaviour	Coast to stop
Device Behaviour	
Additional Error Information (AMK Service)	
Error Removal	Replace KU-EC1, KW-EC1.

2575 'System diagnostics'

• In Kx-SC2 modules: ext. 48 V power supply is not available or has been applied too late			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
Error Removal			

2576 'System diagnostics'

Device			
Description	Internal memory initialization During initialization error in reading database		
Class	Error		
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
	Info 1	1	During initialization error in reading database
		2	Too many master instances
		3	More than one slave instance
		4	Error in writing database ("ID34150 Configuration list BC")
		5	Error in deletion "ID34142 Node list"
		6	Error in writing "ID34142 Node list"
		7	Same card addresses configured
		8	Installation synchronization function failed
		9	Installation copying function before PGT failed
		10	Installation copying function after PGT failed
		11	ID2 unequal for SC-master and SC-slave
		12	Error cause of additional initializations out of the *.ccb
Error Removal	Check bus parameterization		

• EtherCAT			
Device	**KW-R0x / KW-R1x / KW-R2x** **A4 / A5 / A6** **iX / ihX / iC / iDT5 / iSA** **KE(N,S)-xEx**		
Description	EtherCAT memory error or special error		
Class			
Drive Behaviour			
Device Behaviour	EtherCAT does not start		
Additional Error Information (AMK Service)			
	Info 1	13	Error initialising ETC SoE service
		14	BUS type not known – SoE, CoE and VARAN are possible. SEEP value incorrect
Error Removal			

2577 'System diagnostics'

• Allocation of the real time control or real time status bit			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
Error Removal			

2578 'System diagnostics'

• Test function active message (continuous light, zero bit stream)			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
Error Removal			

2579 'System diagnostics'

• Error on initialization of the SERCOS option card			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
	Info 1	1	Error on card access
		2	Inadmissible value IRQ
		3	Inadmissible baud rate (only cards with HP Trans/Rec can transfer more than 4 Mbit)
		4	Wrong option card type, no AMK option card or option card type does not match the master/slave setting "ID34025 BUS mode"
		5	Wrong revision of the option card (CPLD version)
		6	Option card type and redundancy incompatible
Error Removal	Check installation of the option card		

2581 'System diagnostics'

• SERCOS master driver initialization			
Device			
Description	Option card type invalid or option card defective		
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
	Info 1	1	Memory SERCON ASIC SercosDriverInit( )
		2	Version SERCON ASIC SercosDriverInit( )
		3	Reset error SERCON ASIC SercosDriverInit( )
		4	Memory SERCON ASIC SercosDriverInit( )
		10	Too many cyclic data (ScmFillMov( ))
		11	ID for cyclic telegram not available (ScmFillMov( ))
		12	Too many cyclic parameters (ScmFillMov( ))
		13	ID incorrect length (ScmFillMov( ))
		49	Driver not installed SercosDriverInit( )
		257	SERCOS-III FPGA code wrong
		258	SERCOS-III no master FPGA
		260	SERCOS-III FPGA version is not supported
		536	Invalid SERCOS cycle time (ID 2)
		1029	Error during memory allocation
Error Removal	Check bus parameterization		

2582 'System diagnostics'

• SERCOS master driver initialization			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
	Info 1	1	Memory assignment
		2	Too many slaves
		3	Too many SERCOS rings
		4	Too many slaves
Error Removal	Check bus parameterization		

2583 'System diagnostics'

• SERCOS master configuration "ID34036 CCB File"			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
	Info 1	1	"ID34036 CCB File" is empty
		2	No slaves in "ID34036 CCB File"
		3	Too many slaves in "ID34036 CCB File"
		4	Entry with invalid data format in "ID34036 CCB File"
		5	Invalid format of "ID34036 CCB File"
		10	Too many entries in the MDT configuration
		11	Axis in MDT master configuration does not exist
		12	Axis in MDT slave configuration does not exist
		13	Too many entries in the AT configuration
		14	Axis in AT master configuration does not exist
		15	Axis in AT slave configuration does not exist
		16	Too many entries in the broadcast configuration
		17	Axis in broadcast configuration is not broadcast axis
		18	Node address for broadcast configuration does not exist
		19	Telegram type configuration permitted only for slave
		20	Node address for telegram type configuration does not exist
		21	Configuration SERCOS control permitted only for master
		22	Node address for SERCOS control configuration does not exist
		23	Configuration SERCOS status permitted only for master
		24	Node address for SERCOS status configuration does not exist
		25	Unknown entry in CCB list ID34036
		28	Node address not in the ring
		29	Number of nodes in all ring lists is not equal to number of nodes in node list
		30	ID (element) of the Broadcast configuration not available
		31	ID (element) of the AT configuration not available Info 2: Node address
		32	ID (element) of the MDT configuration not available Info 2: Node address
		33	"ID34036 CCB-File" cannot be read
		34	wrong attribute
		35	"ID34054 CCB-Filename" for slave configured
		36	MDT-konfiguration of a non valid node (8000 h)
		37	AT-konfiguration of a non valid node (8000 h)
		38	Error during writing ID34054 CCB-filename
		41	XML configuration file: End tag missing
		43	XML configuration file: File has to start with start tag
		44	XML configuration file: Start tag name missing
		45	XML configuration file: End tag name missing
		47	XML configuration file: Start tag missing
		48	XML configuration file: Invalid token

		49	XML configuration file: Invalid tag
		50	XML configuration file: Empty configuration file
		52	XML configuration file: Configuration file without usable content
		53	XML configuration file: Tag name communication missing
		54	XML configuration file: Tag name ring missing
		55	XML configuration file: Attribute RingConfigurationID missing
		56	XML configuration file: Tag name RingGeneral missing
		57	XML configuration file: Tag name MasterAdress missing
		58	XML configuration file: Tag name MDTLengths missing
		59	XML configuration file: Tag name TelegrammLength missing
		60	XML configuration file: Tag name ATLength missing
		61	XML configuration file: Tag name Node missing
		62	XML configuration file: Attribute NodeAddress missing
		63	XML configuration file: Tag name SVCAT missing
		64	XML configuration file: Tag name SVCMDT missing
		65	XML configuration file: Tag name Connection missing
		66	XML configuration file: Attribute ConnectionID missing
		67	XML configuration file: Attribute tpcyc missing
		68	XML configuration file: Attribute TelegrammType missing
		69	XML configuration file: Attribute TelegrammNumber missing
		70	XML configuration file: Attribute Offset missing
		71	XML configuration file: Tag Producer missing
		72	XML configuration file: Tag PLCVariable missing
		73	XML configuration file: Attribute Length missing
		74	XML configuration file: Attribute Address missing
		75	XML configuration file: Attribute Name missing
		76	XML configuration file: Attribute Offset missing
		77	XML configuration file: Tag Consumer missing
		78	XML configuration file: Attribute RingConfigurationID missing
		79	XML configuration file: Error during writing the RingConfigurationID
		80	XML configuration file: Error during writing the cycle time (ID2)
		81	XML configuration file: Attribute sync missing for the PLC variable
		82	XML configuration file: Telegram Length cannot be divided by 4
		83	XML configuration file: Offset cannot be divided by 4
		84	XML configuration file: PLC address range exceeded
		85	XML configuration file: Too many cross-communication relations
		86	XML configuration file: Invalid length MDT
		87	XML configuration file: Invalid length AT
Error Removal	• Check bus configuration • Check SERCOS-III Master XML configuration file ("ID1204 XML-File", "ID1205 SML-File"), Info2 = instance		

2584 'System diagnostics'

• SERCOS master phase switchover	
Device	
Description	
Class	
Drive Behaviour	
Device Behaviour	System run-up aborted
Additional Error Information (AMK Service)	

	Info 1	1	Ring is open Fiberbreak Info 2: Phase
		2	Ring is open MST late Info 2: Phase
		3	Ring is open MST miss Info 2: Phase
		4	Redundancy: master isolated
		5	master no clock signal
		9	Invalid telegram received P1 (AT wrong address) Info 3: Address
		13	receive of non valid telegram P1 (AT data unequal 1) Info 3: Address
		15	Phase change cannot be performed Info 2: Phase
		35	Timeout Info 2: Phase
		40	MST invalid phase information received Info 2: Phase
		42	It is not possible to switch from phase 1 into 0
		43	no drive response P1 Info 3: Address
		80	Timeout
		81	No participant found in phase 0
		82	Configuration file in the slave does not match the file in the master Info 2: Address
		522	Slave sends even though a phase exchange has been initiated Info 2: Phase Info 3: Address
		523	Slave does send after phase exchange Info 2: Phase Info 3: Address
		524	Timeout, no stable slave detection in master
		525	Invalid ATs in phase 0
		527	Ring/line in phase 0 not closed
		529	No participant found in phase 0
		530	A specified node is missing Info 2: Phase Info 3: Address
		532	Ring/line in phase 0 not closed
		536	Invalid SERCOS cycle time (ID2)
		545	No link at output in phase 0
Error Removal	• Check fibre optic conductors • Check slaves		

2585 'System diagnostics'

• SERCOS master time slot calculation			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
	Info 1	6	"ID5 Minimal feedback acquisition time" from slave is not available for time slot calculation
		20	"ID3 Drive transmission reaction time" from slave is not available for time slot calculation
		25	"ID88 Recovery time receive-receive" from slave is not available for time slot calculation
		29	"ID2 SERCOS cycle time" is too short
		31	"ID90 Command value copytime" from slave is not available for time slot calculation
		44	"ID4 Transmit/receive time" from slave is not available for time slot calculation
		45	"ID96 Slave identifier (SKLN)" from slave is not available for time slot calculation
		46	"ID87 Recovery time transmit-transmit" from slave is not available for time slot calculation
		80	Timeout
		533	Invalid MDT length in configuration file
		534	Invalid AT length in configuration file
		536	Invalid "ID2 SERCOS cycle time"
		537	Invalid "ID1 NC cycle time"
		538	Internal error
		539	Internal error
		540	Internal error
		541	Internal error
		543	Too much cyclic data in SERCOS cycle
		544	Too many telegrams in SERCOS cycle
Error Removal	• Check slaves • Check SERCOS-III Master XML configuration file ("ID1204 XML File", "ID1205 XML File"), Info2 = instance		

2586 'System diagnostics'

• SERCOS master service channel			
Device			
Description			
Class	Warning		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
	Info 1	1	Protocol error: HS_AT ! = HS_MDT + BUSY = 1 Info 3: Node address
		2	Error on initialization of service channel
		3	Router error Info 2: Error of the router Info 3: Error location
		4	Data access attribute unknown Info 3: Node address
		33	Busy Timeout Info 2: ID Info 3: Node address
		34	Handshake timeout bit Info 2: ID Info 3: Node address
		80	Timeout Info 2: ID Info 3: Node address
		81	Startup error Info 3: Node address
		9	Error service channel acc. SERCOS e.g. data transmission to long (Info 3: node address) Info 3: Node address
		> 0x1000	Error service channel acc. SERCOS e.g. data transmission to long Info 3: Node address 0x88xxerror in ROUTER from slave Info 3: Node address
		514	Service channel already assigned
Error Removal			

2587 'System diagnostics'

• SERCOS master incorrect data in the service channel			
Device			
Description			
Class	Warning		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
			Error message according to SERCOS
Error Removal			

2588 'System diagnostics'

• SERCOS master error in command execution			
Device			
Description			
Class	Warning		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
	Info 1	36	Command timeout Info 2: ID Info 3: Node address
Error Removal			

2589 'System diagnostics'

• SERCOS master has detected ring interruption			
Device			
Description			
Class	Warning		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
Error Removal	• Check fibre optic cable • Check slaves		

2590 'System diagnostics'

• SERCOS master has detected AT failure			
Device			
Description			
Class	Warning		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
	Info 1	xx	xx = Node address of the slave
Error Removal	Check slaves		

2591 'System diagnostics'

• SERCOS master software error			
Device			
Description			
Class	Warning		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
			Contents SERCON Register 17
Error Removal			

2592 'System diagnostics'

• SERCOS master has detected MST failure			
Device			
Description			
Class	Warning		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
Error Removal	Check fibre optic cable		

2593 'System diagnostics'

• SERCOS master real time error			
Device			
Description			
Class	Warning		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
			Additional driver information
Error Removal			

2594 'System diagnostics'

• SERCOS master software error			
Device			
Description			
Class	Warning		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
Error Removal			

2595 'System diagnostics'

• SERCOS			
Device			
Description	Error SERCOS synchronization		
Class	Warning		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
	Info 1	1	SERCOS master synchronization timeout
		2	SERCOS synchronization lost
Error Removal			

<table>
<tr><td colspan="4">• EtherCAT</td></tr>
<tr><td>Device</td><td colspan="3">KW-EC1
KWZ
KW-R0x / KW-R1x / KW-R2x
A4 / A5 / A6
iX / ihX / iC / iDT5 / iSA
KE(N,S)-xEx</td></tr>
<tr><td>Description</td><td colspan="3">Error EtherCAT synchronisation</td></tr>
<tr><td>Class</td><td colspan="3">Error</td></tr>
<tr><td>Drive Behaviour</td><td colspan="3">Coast to stop</td></tr>
<tr><td>Device Behaviour</td><td colspan="3">• It will be initiated a 'AL State Change Request' in 'Safe Operational'
• Adjustable, see ID34027 'BUS failure character'</td></tr>
<tr><td colspan="4">Additional Error Information (AMK Service)</td></tr>
<tr><td rowspan="3"></td><td rowspan="3">Info 1</td><td>2</td><td>EtherCAT synchronisation not reached
◦ While changing from "Safe operational" to "Operational" the synchronisation on distributed clock was not reached</td></tr>
<tr><td>3</td><td>EtherCAT synchronisation lost
◦ In the state "Operational" the state of the synchronisation in the cycle is checked and in 2 subsequent cycles “not synchronous” detected</td></tr>
<tr><td>4</td><td>Toggle bit in control word is incorrect</td></tr>
<tr><td>Error Removal</td><td colspan="3">Check settings for distributed clock in the master</td></tr>
</table>

2596 'System diagnostics'

<table>
<tr><td colspan="4">• SERCOS master has received the “error” acknowledgment to a command</td></tr>
<tr><td>Device</td><td colspan="3"></td></tr>
<tr><td>Description</td><td colspan="3"></td></tr>
<tr><td>Class</td><td colspan="3">Warning</td></tr>
<tr><td>Drive Behaviour</td><td colspan="3"></td></tr>
<tr><td>Device Behaviour</td><td colspan="3"></td></tr>
<tr><td colspan="4">Additional Error Information (AMK Service)</td></tr>
<tr><td></td><td>Info 1</td><td></td><td>Command ID
<table><tr><td>Info 2</td><td>Node address</td></tr><tr><td>Info 3</td><td>Acknowledgment</td></tr></table></td></tr>
<tr><td>Error Removal</td><td colspan="3"></td></tr>
</table>

2597 'System diagnostics'

<table>
<tr><td colspan="4">• SERCOS master has received an error message from a remote node</td></tr>
<tr><td>Device</td><td colspan="3"></td></tr>
<tr><td>Description</td><td colspan="3"></td></tr>
<tr><td>Class</td><td colspan="3">Warning</td></tr>
<tr><td>Drive Behaviour</td><td colspan="3"></td></tr>
<tr><td>Device Behaviour</td><td colspan="3"></td></tr>
<tr><td colspan="4">Additional Error Information (AMK Service)</td></tr>
<tr><td rowspan="2"></td><td rowspan="2">Info 1</td><td>1</td><td>Error status class 1</td></tr>
<tr><td>2</td><td>Warning status class 2</td></tr>
<tr><td>Error Removal</td><td colspan="3"></td></tr>
</table>

2598 'System diagnostics'

• SERCOS has indicated a bad signal quality on the OWG receiver (excessive receive data distortion RDIST) • OWG disconnection AS-FSR1			
Device			
Description			
Class	Warning		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
	Bad signal quality on the OWG receiver		
	Info 1	1	Master
		2	Slave
		4	Master verify ring
		5	Slave verify ring
	Disconnection OWG receiver (redundant)		
	Info 1	10	Main ring error during bootup
		11	Verify ring error during bootup
		14	Main ring error during operation Info 2: Node (256 = master)
		15	Verify ring error during operation Info 2: Node (256 = master)
		527	No link is detected during the bus booting time ("ID34026 BUS mode attribut")
Error Removal			

2599 'System diagnostics'

• Error while activating the advanced operating mode			
Device	**KW-R0x / KW-R1x / KW-R2x** **iX / iC / iDT5** **ihX**		
Description			
Class	Error		
Drive Behaviour	Coast to stop or it is braked sensorless		
Device Behaviour			
Additional Error Information (AMK Service)			
	Info 1	1	Unknown or Not Supported operating mode
		2	Error in function "interpolation"
		3	Operating mode active Info 2: 1 = Allocating; 2 = Handshake module
Error Removal	Check default values		

3.11 No. 2600 ... 2619 Profibus (PB) / Profinet (PN)

2600 'System diagnostics'

• Error memory space			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
Error Removal			

• Memory error			
Device	**A4 / A5 / A6** **iSA**		
Description	Profibus error - Profibus / Profinet does not start		
Class	Error		
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
	Info1	1	Software error - memory
		10	Software error - message sending
		20	A5: Profibus option card A-SPB missing
		30	Internal error
Error Removal	• Info1 = 20: check device • AMK service		

2601 'System diagnostics'

• Adapter cannot be initialized			
Device	**A4 / A5 / A6** **iSA**		
Description	Profibus error - Profibus / Profinet does not start		
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
	Info 1	1	Module number not permitted (>3)
		2	SPC3 buffer size not possible
		3	Initialization error (e.g. module address jumper plugged in)
		4	It's not possible to read initial parameters.
		5	AFP because of an active option card not available
		6	Number of synchronous data modules is not allowed.
		7	Configuration not possible
Error Removal			

2602 'System diagnostics'

• Cable is interrupted (reaction according to "ID 34027 BUS failure characteristics")			
Device			
Description			
Class	Warning		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
Error Removal			

2603 'System diagnostics'

• Data exchange mode is exited (e.g. after watchdog error; reaction according to "ID34027 BUS failure characteristics")			
Device			
Description			
Class	Warning		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
Error Removal			

2604 'System diagnostics'

• Inadmissible field bus handshake code (e.g. SERVERERROR, SERVERWARNING, …)			
Device			
Description			
Class	Warning		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
	Info 1	1	Input handshake
		2	Output handshake
Error Removal			

2605 'System diagnostics'

• PROFIBUS Initialization/ Error state			
Device			
Description			
Class	Warning		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
	Info 1	16	PROFIBUS Controller not in “Offline” state
		17	Node address error
		18	Input/output length error 2
Error Removal			

<table>
<tr><td colspan="4">• PROFIBUS error bus configuration</td></tr>
<tr><td>Device</td><td colspan="3">A4 / A5 / A6
iSA</td></tr>
<tr><td>Description</td><td colspan="3">Profibus error - Profibus / Profinet does not start
(bus master configuration error)</td></tr>
<tr><td>Class</td><td colspan="3">Error</td></tr>
<tr><td>Drive Behaviour</td><td colspan="3"></td></tr>
<tr><td>Device Behaviour</td><td colspan="3">System run-up aborted</td></tr>
<tr><td colspan="4">Additional Error Information (AMK Service)</td></tr>
<tr><td></td><td>Info1</td><td>17</td><td>Slave address error</td></tr>
<tr><td></td><td></td><td>24</td><td>Profibus configuration: wrong length
<table><tr><td>Info2</td><td>1</td><td>ID1204 'XML file' / P.S.2 - length too small
<table><tr><td>Info3</td><td>Length of ID Header</td></tr></table></td></tr><tr><td></td><td>2</td><td>Master length too large
<table><tr><td>Info3</td><td>Length Master</td></tr></table></td></tr></table></td></tr>
<tr><td></td><td></td><td>35</td><td>Master configuration -
Wrong I/O modules or not supported
<table><tr><td>Info2</td><td>I/O Module Identifier</td></tr><tr><td>Info3</td><td>I/O Module Offset in Master CFG Indication</td></tr></table></td></tr>
<tr><td>Error Removal</td><td colspan="3">• Check bus master configuration</td></tr>
</table>

2606 'System diagnostics'

<table>
<tr><td colspan="4">• PROFIBUS MSAC-C1 error (Master-Slave Acyclic Communication-Class1)</td></tr>
<tr><td>Device</td><td colspan="3"></td></tr>
<tr><td>Description</td><td colspan="3"></td></tr>
<tr><td>Class</td><td colspan="3">Warning</td></tr>
<tr><td>Drive Behaviour</td><td colspan="3"></td></tr>
<tr><td>Device Behaviour</td><td colspan="3"></td></tr>
<tr><td colspan="4">Additional Error Information (AMK Service)</td></tr>
<tr><td></td><td></td><td></td><td></td></tr>
<tr><td>Error Removal</td><td colspan="3"></td></tr>
</table>

2607 'System diagnostics'

<table>
<tr><td colspan="4">• PROFIBUS MSAC-C2 error (Master-Slave Acyclic Communication-Class2)</td></tr>
<tr><td>Device</td><td colspan="3"></td></tr>
<tr><td>Description</td><td colspan="3"></td></tr>
<tr><td>Class</td><td colspan="3">Warning</td></tr>
<tr><td>Drive Behaviour</td><td colspan="3"></td></tr>
<tr><td>Device Behaviour</td><td colspan="3"></td></tr>
<tr><td colspan="4">Additional Error Information (AMK Service)</td></tr>
<tr><td></td><td></td><td></td><td></td></tr>
<tr><td>Error Removal</td><td colspan="3"></td></tr>
</table>

2608 'System diagnostics'

• PROFIBUS initialisation error			
Device			
Description			
Class	Warning		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
	Info 1	1	Buffer configuration too small
		2	Input/output data size wrongly configured ("ID34025 BUS mode"/Inst1)
		3	Wrong / not supported PROFIdrive standard telegram
		5	KW software older than 2004/52
		8	ID 2<> 0.5 ms by PROFIdrive Telegram 105
		21 - 28	ID READ error during initialization
		31 - 34	Reading error during initialization
		38	ID READ error ("ID 32840 Diagnostic List")
		41	ID WRITE error ("ID34023 BUS address paricipant")
		42	ID WRITE error ("ID32944 SYADR")
		148 - 255	Software error
Error Removal			

<table>
<tr><td colspan="4">• PROFIBUS error</td></tr>
<tr><td>Device</td><td colspan="3">A4 / A5 / A6
iSA</td></tr>
<tr><td>Description</td><td colspan="3"></td></tr>
<tr><td>Class</td><td colspan="3">Error</td></tr>
<tr><td>Drive Behaviour</td><td colspan="3"></td></tr>
<tr><td>Device Behaviour</td><td colspan="3">System run-up aborted: Profibus does not start</td></tr>
<tr><td colspan="4">Additional Error Information (AMK Service)</td></tr>
<tr><td rowspan="11"></td><td rowspan="11">Info 1</td><td>9</td><td>DP cycle ID2 faulty, e. g. less than 1 ms<table><tr><td>Info2</td><td>DP cycle ID2 / µs</td></tr></table></td></tr>
<tr><td>50</td><td>Number of input bytes in slave greater than number of input bytes in master<table><tr><td>Info2</td><td>Input size slave</td></tr><tr><td>Info3</td><td>Input size master</td></tr></table></td></tr>
<tr><td>51</td><td>Number of output bytes in slave greater than number of output bytes in master<table><tr><td>Info2</td><td>Output size slave</td></tr><tr><td>Info3</td><td>Output size master</td></tr></table></td></tr>
<tr><td>52</td><td>Not enough input modules in master<table><tr><td>Info2</td><td>Number of input modules in slave</td></tr><tr><td>Info3</td><td>Number of input modules in master</td></tr></table></td></tr>
<tr><td>53</td><td>Not enough output modules in master<table><tr><td>Info2</td><td>Number of output modules in slave</td></tr><tr><td>Info3</td><td>Number of output modules in master</td></tr></table></td></tr>
<tr><td>54</td><td>Input module in slave not equal to input module in master<table><tr><td>Info2</td><td>Module offset / bytes</td></tr></table></td></tr>
<tr><td>55</td><td>Output module in slave not equal to output module in Master<table><tr><td>Info2</td><td>Module offset / bytes</td></tr></table></td></tr>
<tr><td>56</td><td>Dummy input module in slave does not match input module in master<table><tr><td>Info2</td><td>Module offset / bytes</td></tr></table></td></tr>
<tr><td>57</td><td>Dummy output module in slave does not match output module in master<table><tr><td>Info2</td><td>Module offset / bytes</td></tr></table></td></tr>
<tr><td>Error Removal</td><td colspan="3">• Check bus configuration
• ID1204 'XML file'</td></tr>
</table>

2609 'System diagnostics'

• PROFIBUS Warning – wrong parameter initialization • Read error ID 173 • Global Control Sync Loss			
Device			
Description			
Class	Warning		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
	Info 1	1	Wrong initialized "ID32799 Configuration standard peripherie"
		2	Wrong initialized "ID34026 BUS mode attribut"
		3	Wrong initialized "ID32926 AMK homing cycle parameter"
		4	Wrong initialized "ID32855 Output port 2"
		5	Wrong initialized "ID32863v Port 2 bit 7"
		6	Wrong initialized "ID32968 Input port 2"
		7	Wrong initialized "ID32973 Port 2 bit 4"
		8	Wrong initialized "ID32976 Port 2 bit 7"
		20	Global Control Sync Loss
		173	Error by reading "ID173 Marker position A"
Error Removal			

2610 'System diagnostics'

<table>
<tr><td colspan="4">• PROFIBUS error bus configuration</td></tr>
<tr><td>Device</td><td colspan="3">A4 / A5 / A6
iSA</td></tr>
<tr><td>Description</td><td colspan="3">Profibus error - Profibus / Profinet does not start
(error slave (device) bus configuration drive mode)</td></tr>
<tr><td>Class</td><td colspan="3">Error</td></tr>
<tr><td>Drive Behaviour</td><td colspan="3"></td></tr>
<tr><td>Device Behaviour</td><td colspan="3">System run-up aborted</td></tr>
<tr><td colspan="4">Additional Error Information (AMK Service)</td></tr>
<tr><td></td><td>Info1</td><td>1</td><td>Module incorrect or not supported</td></tr>
<tr><td></td><td></td><td>2</td><td>Variable type not allowed
<table><tr><td>Info2</td><td>Typ
<table><tr><td>Info3</td><td>Index</td></tr></table></td></tr></table></td></tr>
<tr><td>Error Removal</td><td colspan="3">Check bus slave configuration</td></tr>
</table>

2611 'System diagnostics'

<table>
<tr><td colspan="4">• PROFIBUS error bus configuration</td></tr>
<tr><td>Device</td><td colspan="3">A4 / A5 / A6
iSA</td></tr>
<tr><td>Description</td><td colspan="3">Profibus error - Profibus / Profinet does not start
(error slave (device) bus configuration)</td></tr>
<tr><td>Class</td><td colspan="3">Error</td></tr>
<tr><td>Drive Behaviour</td><td colspan="3"></td></tr>
<tr><td>Device Behaviour</td><td colspan="3">System run-up aborted</td></tr>
<tr><td colspan="4">Additional Error Information (AMK Service)</td></tr>
<tr><td></td><td>Info1</td><td>2</td><td>Variable type not allowed
<table><tr><td>Info2</td><td>Typ
<table><tr><td>Info3</td><td>Index</td></tr></table></td></tr></table></td></tr>
<tr><td>Error Removal</td><td colspan="3">Check bus slave configuration</td></tr>
</table>

2612 'System diagnostics'

<table>
<tr><td colspan="3">• PROFIBUS error bus configuration</td></tr>
<tr><td>Device</td><td colspan="2">A4 / A5 / A6
iSA</td></tr>
<tr><td>Description</td><td colspan="2">Profibus error - Profibus / Profinet does not start
(error initialization bus driver)</td></tr>
<tr><td>Class</td><td colspan="2">Error</td></tr>
<tr><td>Drive Behaviour</td><td colspan="2"></td></tr>
<tr><td>Device Behaviour</td><td colspan="2">System run-up aborted</td></tr>
<tr><td colspan="3">Additional Error Information (AMK Service)</td></tr>
<tr><td></td><td>Info1</td><td>Initialization error</td></tr>
<tr><td>Error Removal</td><td colspan="2"></td></tr>
</table>

2613 'System diagnostics'

<table>
<tr><td colspan="4">• PROFIBUS error bus configuration</td></tr>
<tr><td>Device</td><td colspan="3">A4 / A5 / A6
iSA</td></tr>
<tr><td>Description</td><td colspan="3">Profibus error - Profibus / Profinet does not start
(error initialization bus driver)</td></tr>
<tr><td>Class</td><td colspan="3">Error</td></tr>
<tr><td>Drive Behaviour</td><td colspan="3"></td></tr>
<tr><td>Device Behaviour</td><td colspan="3">System run-up aborted</td></tr>
<tr><td colspan="4">Additional Error Information (AMK Service)</td></tr>
<tr><td></td><td>Info1</td><td>1</td><td>Initialization error synchronization</td></tr>
<tr><td></td><td></td><td>2</td><td>Initialization error mailbox</td></tr>
<tr><td></td><td></td><td>3</td><td>Initialization error</td></tr>
<tr><td></td><td></td><td>4</td><td>Internal addressing error</td></tr>
<tr><td></td><td></td><td>5</td><td>Bus status initialization error</td></tr>
<tr><td></td><td></td><td>6</td><td>Driver initialization error</td></tr>
<tr><td>Error Removal</td><td colspan="3"></td></tr>
</table>

2614 'System diagnostics'

• PROFIBUS error bus configuration			
Device	**A4 / A5 / A6** **iSA**		
Description	Profibus error - Profibus / Profinet does not start (error slave (device) bus configuration)		
Class	Error		
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
	Info1	1	Error parsing XML bus configuration
		2	Error 'Receive' PDO definitions
		3	Error 'Transmit' PDO definitions
Error Removal	Check bus slave configuration		

2615 'System diagnostics'

• PROFIBUS error bus configuration				
Device	**A4 / A5 / A6** **iSA**			
Description	Profibus error - Profibus / Profinet does not start (error message from bus driver)			
Class	Error			
Drive Behaviour				
Device Behaviour	System run-up aborted			
Additional Error Information (AMK Service)				
	Info1	Slot		
		Info2	Modul	
			Info3	Submodul
				Info3 Alarm type
Error Removal	Check bus slave configuration			

3.12 No. 2620 ... 2629 ARCNET (ARC)

2620 'System diagnostics'

• Subscriber not connected with network			
Device			
Description			
Class	Warning		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
Error Removal			

2621 'System diagnostics'

• Network error			
Device			
Description			
Class	Warning		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
Error Removal			

2622 'System diagnostics'

• Transfer error/transmission error • Transmission process timeout			
Device			
Description			
Class	Warning		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
Error Removal			

2623 'System diagnostics'

• Adapter is constantly reconfigured			
Device			
Description			
Class	Warning		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
Error Removal	Check BUS connection		

2624 'System diagnostics'

• ID34023=0, BUS subscriber address must be unequal to 0 • ARCNET controller error • RAM test controller error			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
Error Removal			

2625 'System diagnostics'

• ARCNET telegram too long			
Device			
Description			
Class	Controlled braking		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
Error Removal			

2626 'System diagnostics'

• Node ID is already present			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
Error Removal	Recheck parameter: • ID34023 BUS address participant		

2628 'System diagnostics'

• Init. state error • Error in node ID check • No adapter present • RAM memory too small for ARCNET			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
Error Removal			

3.13 No. 2640 ... 2649 LON

2640 'LON failure'

• Interruption of the master → slave connection • Recognition only by heartbeat failure • Ramp down after BUS failure			
Device			
Description			
Class	Warning		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
Error Removal			

2641 'LON timeout IN'

• Device does not accept control block within T1 • T1 = low word after variable nvi_QhsTime • See LON network variables for more details			
Device			
Description			
Class	Warning		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
Error Removal			

2642 'LON timeout OUT'

• Device does not output status block within T1 • T1 = low word after variable nvi_Qhs Time • See LON network variables for more details			
Device			
Description			
Class	Warning		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
Error Removal			

2643 'LON timeout application'

• The application lasts (Q_CODE=1) longer than T2 • T2= high word after variable nvi_QhsTime • See LON network variables for more details			
Device			
Description			
Class	Warning		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
Error Removal			

2644 'System diagnostics'

• Device reports within 2 s in the ramp up • Handshake not with code “5678”			
Device			
Description			
Class	Warning		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
Error Removal			

2645 'System diagnostics'

• DPRAM writing error			
Device			
Description			
Class	Warning		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
Error Removal			

3.14 No. 2660 ... 2669 INTERBUS (IB)

2660 'System diagnostics'

• The required RAM memory for the system data is not present			
Device			
Description			
Class			
Drive Behaviour	Controlled braking		
Device Behaviour			
Additional Error Information (AMK Service)			
Error Removal			

2661 'System diagnostics'

• Unknown bus mode entry in "ID34025 BUS mode"			
Device			
Description			
Class			
Drive Behaviour	Controlled braking		
Device Behaviour			
Additional Error Information (AMK Service)			
Error Removal			

2663 'System diagnostics'

• Interbus is inactive			
Device			
Description			
Class	Warning		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
Error Removal	Cable is defective or not connected with master		

2664 'System diagnostics'

• Interbus reset			
Device			
Description			
Class	Warning		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
Error Removal			

2665 'System diagnostics'

• At least 20 invalid data cycles detected			
Device			
Description			
Class	Warning		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
Error Removal			

3.15 No. 2680 ... 2699 CAN

2680 'System diagnostics'

• CAN AFP error during initialization			
Device			
Description			
Class			
Drive Behaviour	Controlled braking		
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
	Info 1	1	Device does not answer during initialization longer as 2 sec.
		2	AFP timeout status
		3 - 23	Error by reading ID s
Error Removal			

2681 'System diagnostics'

• Object Dictionary error			
Device			
Description			
Class	Warning		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
	Info 1	1-13	Dictionary and variable problems
		14	Service Data Object (SDO) not found
		15	Service Data Object (SDO) not valid
Error Removal			

2682 'System diagnostics'

• Too much Receive PDOs and SDOs configured			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
	Info 1	0	Too many RPDOs and SDOs in default slave dictionary
		1	Too many TPDOs, no place for Global Status TPDO
Error Removal			

2683 'System diagnostics'

• Software error (Reason could be false configuration data)	
Device	
Description	
Class	Warning
Drive Behaviour	Controlled braking
Device Behaviour	

Additional Error Information (AMK Service)			
	Info 1	0	Invalid switch-operator value
		1-5	Internal software error
		11, 41, 51	Data pointer not adjusted
		12, 42, 52	Invalid variable type
		35	Invalid message type in the receive queue
		59	Dealloc memory error
		100	File system directory reading error
		102	Node List ID write error
Error Removal			

2684 'System diagnostics'

• Communication error			
Device			
Description			
Class	Warning		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
	Info 1	1	Transmit buffer full
		2	RTR to RPDO
		3	Unknown NMT command
		4	Invalid message type
		5	Exit from OPERATIONAL state
		6	CAN controller not ready to send new message
		7	SDO access is not allowed in this bus state (only in PREOPERATIONAL or OPERATIONAL)
Error Removal			

2685 'System diagnostics'

• Communication error • Hardware synchronisation error			
Device			
Description	• Communication error • Hardware synchronisation error		
Class	Error		
Drive Behaviour			
Device Behaviour	• System run-up aborted: • Adjustable, see ID34027 'BUS failure character'		
Additional Error Information (AMK Service)			
	Info1	1	CAN controller BUS off state
		2	Life guarding time-out, communication disturbed
		3	AMK hardware synchronisation not possible
		4	AMK hardware synchronisation lost
		5	Faulty cycle time of HW synchronisation
		10	Basic device synchronisation signal time-out
		11	Basic device synchronisation time-out
		12	Basic device synchronisation signal lost
		13	Basic device synchronisation lost
		14	External synchronisation signal lost
		15	External synchronisation lost
		16	External synchronisation signal time-out
		17	External synchronisation time-out
		20	Error in time system (250 µs level)
Error Removal	Info1 = 1 Info1 = 4 Info1 = 5 Info1 = 11	• Check cabling • Check configuration of hardware synchronisation ID34026 'BUS mode attribute' in all devices • Check ID 2 'SERCOS cycle time' in all devices • Check cabling and terminator • When using the AMK adaptor AP-CI4 (O778), the resistors R1 and R2 must be equipped • Check configuration of hardware synchronisation ID34026 'BUS mode attribute' in all devices. Only one sender of hardware synchronisation cycle may be active. • NMT 'OPERATIONAL' received but basic device synchronisation not finished. I. e. the switching to 'OPERATIONAL' must be delayed. On AMK CAN master devices, this can be done by means of ID34026 by activating a run-up delay.	

2686 'System diagnostics'

• AFP error			
Device			
Description			
Class	Warning		
Drive Behaviour			
Device Behaviour	Adjustable, see ID34027 'BUS failure character'		
Additional Error Information (AMK Service)			
	Info 1	1	No HS reading AFP output data
		2	No HS writing AFP input data
		3	Both 1 and 2
Error Removal			

2687 'System diagnostics'

• Invalid Node address • Invalid Baud Rate			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
	Info 1	0	Hardware switch Node address invalid
		1	"ID34023 BUS address participant": Node address invalid
		2	"ID34024 BUS transmit rate": Baud Rate invalid
		3	"ID34025 BUS mode" bit not set

Error Removal	• Check participant no. at rotary coding switch
	• Recheck parameters:
	  • ID34023 BUS address participant
	  • ID34024 BUS transmit rate
	  • ID34025 BUS mode		

2688 'System diagnostics'

• "ID34025 Bus mode":AFP bit not valid • AFP Error by reading ID s			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
Error Removal	Recheck parameter: • ID34025 BUS mode		

2689 'System diagnostics'

<table>
<tr><td colspan="4">• Errors on configuring</td></tr>
<tr><td>Device</td><td colspan="3"></td></tr>
<tr><td>Description</td><td colspan="3"></td></tr>
<tr><td>Class</td><td colspan="3"></td></tr>
<tr><td>Drive Behaviour</td><td colspan="3"></td></tr>
<tr><td>Device Behaviour</td><td colspan="3">System run-up aborted</td></tr>
<tr><td colspan="4">Additional Error Information (AMK Service)</td></tr>
<tr><td rowspan="28"></td><td rowspan="28">Info 1</td><td>1, 2
11, 12
35, 92</td><td>Internal error</td></tr>
<tr><td>13, 20, 81</td><td>Transmission channel busy</td></tr>
<tr><td>82</td><td>Bus error (BUS OFF status)</td></tr>
<tr><td>91</td><td>Client SDO missing in master object list<table><tr><td>Info 2</td><td>Subscriber address of the slave node</td></tr></table></td></tr>
<tr><td>93</td><td>Not successful SDO transmission</td></tr>
<tr><td>94</td><td>Data size of DCF entry too big</td></tr>
<tr><td>101</td><td>Resource problem (DCF too large)<table><tr><td rowspan="2">Info 2</td><td>0</td><td>save to CCB</td></tr><tr><td>1</td><td>Load from CCB</td></tr></table></td></tr>
<tr><td>102</td><td>Resource problem (memory)</td></tr>
<tr><td>103</td><td>Faulty PDO mapping in the DCF</td></tr>
<tr><td>112, 113</td><td>Resource problem (Heap initialization)</td></tr>
<tr><td>114, 115</td><td>Resource problem (memory)</td></tr>
<tr><td>116</td><td>DCF not available</td></tr>
<tr><td>117</td><td>Error on reading DCF</td></tr>
<tr><td>118</td><td>Invalid DCF element (incorrect index or size)</td></tr>
<tr><td>119</td><td>Resource problem (memory)</td></tr>
<tr><td>120</td><td>Internal error</td></tr>
<tr><td>121 - 145</td><td>Error on reading ID</td></tr>
<tr><td>135</td><td>Error on writing from ID 34023</td></tr>
<tr><td>151 - 194</td><td>Error on reading ID</td></tr>
<tr><td>203</td><td>CAN Bus failed, DCF present and mandatory slave(s) configured</td></tr>
<tr><td>211</td><td>Hardware synchronization not successful</td></tr>
<tr><td>212</td><td>No bus node available</td></tr>
<tr><td>218</td><td>EndOfFile mark wrong</td></tr>
<tr><td>Error Removal</td><td colspan="3"></td></tr>
</table>

2690 'System diagnostics'

• Error in Slave configuration (Data size in CCF element too big)			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
			Node ID of Slave node Info 2: Index Info 3: Sub index
Error Removal			

2691 'System diagnostics'

Device	Devices with ACC-Bus connection		
Description	Bus overload		
Class	Warning		
Drive Behaviour			
Device Behaviour	Adjustable, see ID34027 'BUS failure character'		
Additional Error Information (AMK Service)			
	Info 1	13, 20, 43, 48 - 50, 53, 65, 101	Send queue full
		33, 38	Heap overflow
		45 - 47	AFP handshake failed
		57, 58	Heap overflow
		62	CAN Controller not ready to send a message
		80	Data exchange utilisation ration too high
		82	Extraction from Send Queue late
		90	Extraction from Receive Queue late
		91	Send: Too many TPDOs Receive: Sync RPDO received too late
		92	Receive: Buffer for Asynchronous Receive PDOs full
		93	Sync TPDO cant´t be sent; too many PDOs in network
		201	Receive queue full
		202	Last CAN message lost
		203	Previous CAN message lost
		210	SDO Receive channel fulll
		211	SDO Transmission channel full
		212	Too many SDO sessions started
		214	DSDO multiple started
		214	DSDO Error
Error Removal	• Info 1 = 91: Switch on hardware synchronisation in "ID34026 BUS mode attribut" Master: sender of signal Slave: receiver of signal • Check if "ID2 SERCOS cycle time" is the same cycle time for all nodes • Synchronous PDOs (with synchronous mapping variables) from external device must be received as EVENT PDO.		

2692 'System diagnostics'

• Software warning			
Device			
Description			
Class	Warning		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
	Info 1	1	DCF not available
		2	Oscilloscope PDO not available
		3	CAN BUS not active
		31, 36	Invalid NMT command received
		32, 37	Exit from OPERATIONAL state
		40	Wrong / not supported DSP 402 mode of operation
		41	Wrong DSP 402 Profile Position command
		101	ID write not possible
		103	Read “ERROR FIFO” not possible
		104	Mapping conflict (copy direction)
		105	Hardware synchronization configuration error
Error Removal			

2693 'System diagnostics'

• Slave Node State error			
Device			
Description			
Class	Warning		
Drive Behaviour			
Device Behaviour	Adjustable, see ID34027 'BUS failure character'		
Additional Error Information (AMK Service)			
	Info 1		Node ID of slave node
Error Removal			

2694 'System diagnostics'

• Slave Node Guarding error					
Device					
Description					
Class	Warning				
Drive Behaviour					
Device Behaviour	Adjustable, see ID34027 'BUS failure character'				
Additional Error Information (AMK Service)					
	Info 1		Node ID of slave node		
			Info 2	1	Timeout
				2	Toggle Bit error
Error Removal					

2695 'System diagnostics'

• Emergency received			
Device			
Description			
Class	Warning		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
	Info 1		Node ID of slave node
Error Removal			

2696 'System diagnostics'

• DSDO Router error			
Device			
Description			
Class	Warning		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
	Info 1		Router error code
Error Removal			

2697 'System diagnostics'

• Mandatory slave node missing			
Device			
Description			
Class	Warning		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
	Info 1		Node ID of slave node

Info 2	1	Network configuration
	2	Single node configuration

Error Removal		

2698 'System diagnostics'

<table>
<tr><td colspan="4">• SDO error during network configuration</td></tr>
<tr><td>Device</td><td colspan="3"></td></tr>
<tr><td>Description</td><td colspan="3"></td></tr>
<tr><td>Class</td><td colspan="3">Warning</td></tr>
<tr><td>Drive Behaviour</td><td colspan="3"></td></tr>
<tr><td>Device Behaviour</td><td colspan="3"></td></tr>
<tr><td colspan="4">Additional Error Information (AMK Service)</td></tr>
<tr><td rowspan="2"></td><td rowspan="2">Info 1</td><td></td><td>Node ID of slave node
<table><tr><td>Info 2</td><td>Index</td></tr><tr><td>Info 3</td><td>Sub Index</td></tr></table></td></tr>
<tr><td>40</td><td>Meaning for A4 / A6 /
CAN configuration error in connection with a CAN Wago coupler 750-337</td></tr>
<tr><td>Error Removal</td><td colspan="3">Info 1 = 40: Set ID34026 'BUS mode attribute' instance 1 bit 7 =1</td></tr>
</table>

2699 'System diagnostics'

<table>
<tr><td colspan="4">• System error</td></tr>
<tr><td>Device</td><td colspan="3"></td></tr>
<tr><td>Description</td><td colspan="3"></td></tr>
<tr><td>Class</td><td colspan="3"></td></tr>
<tr><td>Drive Behaviour</td><td colspan="3">Controlled braking</td></tr>
<tr><td>Device Behaviour</td><td colspan="3">System run-up aborted</td></tr>
<tr><td colspan="4">Additional Error Information (AMK Service)</td></tr>
<tr><td rowspan="20"></td><td rowspan="20">Info 1</td><td>4</td><td>RAM-check error</td></tr>
<tr><td>10</td><td>Watchdog or time level error</td></tr>
<tr><td>12</td><td>User stack error</td></tr>
<tr><td>13</td><td>System stack overflow</td></tr>
<tr><td>14</td><td>System stack underflow</td></tr>
<tr><td>15</td><td>Controller error</td></tr>
<tr><td>20</td><td>Fast function overflow</td></tr>
<tr><td>30</td><td>Initialization - Software error</td></tr>
<tr><td>31</td><td>Initialization - error while data read</td></tr>
<tr><td>32</td><td>Initialization - too much FCT instances</td></tr>
<tr><td>33</td><td>Initialization - no FCT instance</td></tr>
<tr><td>34</td><td>Initialization - error while data write "ID30 Softwareversion"</td></tr>
<tr><td>35</td><td>Initialization - invalid bus use "ID34143 Usage port"</td></tr>
<tr><td>36</td><td>Error while clock initialization</td></tr>
<tr><td>37</td><td>FCT initialization – invalid CPLD version (2 FCT)</td></tr>
<tr><td>38</td><td>FCT initialization – writing error Routing "ID32944 SYADR"</td></tr>
<tr><td>39</td><td>FCT initialization – more than one synchronization source</td></tr>
<tr><td>Error Removal</td><td colspan="3"></td></tr>
</table>

3.16 No. 2720 ... 2739 EtherCAT

2721 'System diagnostics'

<table>
<tr><td colspan="4">• Slave defective or no longer on the bus
• Cable defective
• Slave leaves the “operational” status (resulting error in case of cable break)</td></tr>
<tr><td>Device</td><td colspan="3">AS-PL15
AS-Cxx-1
A4 / A5 / A6
iSA</td></tr>
<tr><td>Description</td><td colspan="3"></td></tr>
<tr><td>Class</td><td colspan="3">Error</td></tr>
<tr><td>Drive Behaviour</td><td colspan="3"></td></tr>
<tr><td>Device Behaviour</td><td colspan="3">Controller: Switch back to status SAFE-OPERATIONAL</td></tr>
<tr><td colspan="4">Additional Error Information (AMK Service)</td></tr>
<tr><td rowspan="10"></td><td rowspan="10">Info 1</td><td>1</td><td>Broadcast AL status not received</td></tr>
<tr><td>2</td><td>Broadcast working counter error</td></tr>
<tr><td>3</td><td>Slave offline<table><tr><td>Info 4</td><td>Slave address</td></tr></table></td></tr>
<tr><td>4</td><td>Slave offline<table><tr><td>Info 4</td><td>Slave address</td></tr></table></td></tr>
<tr><td>5</td><td>Slave not in “Operational” status<table><tr><td>Info 2</td><td>Status</td></tr><tr><td>Info 4</td><td>Slave address</td></tr></table></td></tr>
<tr><td>10</td><td>No Ethernet link available</td></tr>
<tr><td>20</td><td>DL status change<table><tr><td>Info 2</td><td>Current status</td></tr><tr><td>Info 4</td><td>Previous status</td></tr></table></td></tr>
<tr><td>30</td><td>EtherCAT input (AMK devices X86) and EtherCAT output (AMK devices X85) mixed</td></tr>
<tr><td>Error Removal</td><td colspan="3">• Check slave with the address from “Info 4”
• Replace slave
• Info 1 = 10: Exchange Ethernet cable
• Innfo 1 = 30: Check EtherCAT cabling</td></tr>
</table>

2722 'System diagnostics'

• Cable breakage • Error exchanging real-time data • Synchronisation error			
Device	**AS-PL15** **AS-Cxx-1** **A4 / A5 / A6** **iSA**		
Description			
Class	Error		
Drive Behaviour			
Device Behaviour	Controller: Switch back to status SAFE-OPERATIONAL		
Additional Error Information (AMK Service)			
	Info 1	1	Real-time telegram not received
		2	Real-time telegram working counter error Info 2: Working counter
		10	Error in synchronisation with host
Error Removal	• Check Ethernet cable and replace if necessary		

2723 'System Diagnostics'

• Configuration too large			
Device	**A4 / A5 / A6** **iSA**		
Description			
Class	Error		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
	Info 1	520	Runtime error
		550	Configuration too large
Error Removal			

2724 'System diagnostics'

• Error during the initialisation for the EtherCAT option • Device for the operation of the optional component AS-FEC1 not released. The option card cannot be installed subsequently. • Configuration faulty			
Device	**AS-PL15** **AS-Cxx-1** **A4 / A5 / A6** **iSA**		
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted Controller: EtherCAT does not boot		
Additional Error Information (AMK Service)			
	Info 1	1	EtherCAT not parameterised in any instance of "ID34140 AS BUS protocol"
		2	Error while reading the bus parameters
		3	Registration at the router faulty
		4	Setting up the cyclic functions faulty
		5	Driver interface not initialised properly
		6	Device not released for the operation of the optional component AS-FEC1 (dongle code)
		7	Option not configured as master
		8	Option ACC active (Instance 1 or 5) EtherCAT and ACC-BUS can not be active both
		10	Access error to cyclic driver interface (The version of the EC driver is not compatible to the AMK library)
		11	Initialisation error
		21	Invalid task
		22	Error during bus restart
Error Removal	• Check configuration • Order controller with the AS-FEC1 option from AMK		

2725 'System diagnostics'

Device	**AS-PL15** **AS-Cxx-1** **A4 / A5 / A6** **iSA**		
Description			
Class			
Drive Behaviour			
Device Behaviour	Controller: Depends on additional information		
Additional Error Information (AMK Service)			
	Info 1	0	EtherCAT booting process cancelled. This error is a subsequent error to the errors 2726 or 2727
Error Removal			

2726 'System diagnostics'

<table>
<tr><td colspan="4">• Error in the EtherCAT master booting process</td></tr>
<tr><td>Device</td><td colspan="3">AS-PL15
AS-Cxx-1
A4 / A5 / A6
iSA</td></tr>
<tr><td>Description</td><td colspan="3"></td></tr>
<tr><td>Class</td><td colspan="3"></td></tr>
<tr><td>Drive Behaviour</td><td colspan="3"></td></tr>
<tr><td>Device Behaviour</td><td colspan="3">System run-up aborted
Controller: EtherCAT does not boot</td></tr>
<tr><td colspan="4">Additional Error Information (AMK Service)</td></tr>
<tr><td></td><td>Info 1</td><td>1</td><td>Error while starting the master driver
<table><tr><td>Info 2</td><td>1, 2, 3</td><td>Internal Error (AMK Service)</td></tr><tr><td></td><td>5</td><td>No connection to slaves</td></tr></table></td></tr>
<tr><td></td><td></td><td>2</td><td>Error during the stop of the master driver
<table><tr><td>Info 2</td><td>1</td><td>No configured slave was not found
<table><tr><td>Info 4</td><td>Slave network position</td></tr></table></td></tr><tr><td></td><td>2</td><td>More slaves found than configured
<table><tr><td>Info 4</td><td>Slave network position</td></tr></table></td></tr><tr><td></td><td>3</td><td>Slave has wrong revision
<table><tr><td>Info 3</td><td>Actual revision</td></tr><tr><td>Info 4</td><td>Slave network position</td></tr></table></td></tr></table></td></tr>
<tr><td></td><td></td><td>3</td><td>Error while activating the master function (subsequent error of 2731 process slave configuration)
<table><tr><td>Info 2</td><td>Internal Error (AMK Service)</td></tr></table></td></tr>
<tr><td></td><td></td><td>4</td><td>Error reading the slave information
<table><tr><td>Info 2</td><td>Internal Error (AMK Service)</td></tr></table></td></tr>
<tr><td></td><td></td><td>5</td><td>Error writing the slave addresses
<table><tr><td>Info 2</td><td>1</td><td>Access error to the bus configuration</td></tr><tr><td></td><td>2</td><td>Data length of the ID is not valid
<table><tr><td>Info 3</td><td>ID</td></tr><tr><td>Info 4</td><td>Slave address</td></tr></table></td></tr><tr><td></td><td>3</td><td>Write error at dictionary enries, seriation of the slaves wrong for this configuration
<table><tr><td>Info 3</td><td>ID</td></tr><tr><td>Info 4</td><td>Slave address</td></tr></table></td></tr></table></td></tr>
<tr><td></td><td></td><td>6</td><td>Error writing the PDO configuration
<table><tr><td>Info 2</td><td>2</td><td>“Category” information not in EEPROM of the slaves
<table><tr><td>Info 4</td><td>Slave address</td></tr></table></td></tr></table></td></tr>
<tr><td></td><td></td><td>7</td><td>Error during registering the PDOs
<table><tr><td>Info 2</td><td>Internal Error (AMK Service)</td></tr></table></td></tr>
<tr><td></td><td></td><td>8</td><td>Error during writing the RT data</td></tr>
<tr><td></td><td></td><td>9</td><td>Error during reading the RT data</td></tr>
<tr><td></td><td></td><td>10</td><td>Error during writing the DC configuration</td></tr>
</table>

<table>
<tr><td></td><td></td><td>11</td><td>Error DC configuration, Subsequent error of error 2730 datagram error</td></tr>
<tr><td></td><td></td><td>12</td><td>Error during switchover AL status, Subsequent error of error 2731 process slave configuration</td></tr>
<tr><td></td><td></td><td>14</td><td>Write error during PDO mapping<table><tr><td>Info 2</td><td>1</td><td>Slave not available</td></tr><tr><td></td><td>2</td><td>Slave does not support COE protocoll</td></tr><tr><td></td><td>3</td><td>Slave does not support PDO</td></tr><tr><td></td><td>4</td><td>direction of the PDO is not valid</td></tr><tr><td></td><td>5</td><td>error during start of the sync-manager</td></tr><tr><td></td><td>6</td><td>PDO already mapped</td></tr><tr><td></td><td>7</td><td>error during creating the PDO</td></tr><tr><td></td><td>8</td><td>PDO could not be copied</td></tr></table></td></tr>
<tr><td></td><td></td><td>15</td><td>Command driver reset failed</td></tr>
<tr><td></td><td></td><td>16</td><td>Error while reading PDO mapping</td></tr>
<tr><td></td><td></td><td>17</td><td>Error while reading slave names</td></tr>
<tr><td></td><td></td><td>20</td><td>Driver command timeout</td></tr>
<tr><td></td><td></td><td>40, 41, 45</td><td>Error during bus start</td></tr>
<tr><td></td><td></td><td>42 - 44</td><td>Error while accessing slave parameter<table><tr><td>Info 2</td><td>ID-no / index</td></tr><tr><td>Info 4</td><td>Slave address</td></tr></table></td></tr>
<tr><td></td><td></td><td>46</td><td>Error configuring cyclical data. Additional nodes are found See ID34026 instance 5 bit 5 = 1<table><tr><td>Info 2</td><td>1, 2, 3</td><td>Internal Error (AMK Service)</td></tr></table></td></tr>
<tr><td></td><td></td><td>50</td><td>Return message while writing slave parameters</td></tr>
<tr><td></td><td></td><td>51</td><td>Return message error while reading slave parameters</td></tr>
<tr><td></td><td></td><td>60</td><td>Service channel protocol but number of SYNC managers too low.
Possibly EEPROM content incorrect.</td></tr>
<tr><td></td><td></td><td>203, 205, 206, 208, 209</td><td>Internal errors (AMK Service)</td></tr>
<tr><td>Error Removal</td><td colspan="3">• No EtherCAT master option card available
• No bus connection, no link
• Check optional component AS-FEC1
• Check Ethernet cable and replace if necessary</td></tr>
</table>

2727 'System diagnostics'

<table>
<tr><td colspan="2">• Error EtherCAT configuration</td></tr>
<tr><td>Device</td><td>AS-PL15
AS-Cxx-1
A4 / A5 / A6
iSA</td></tr>
<tr><td>Description</td><td></td></tr>
<tr><td>Class</td><td>Error</td></tr>
<tr><td>Drive Behaviour</td><td></td></tr>
<tr><td>Device Behaviour</td><td>System run-up aborted
Controller: EtherCAT booting process cancelled</td></tr>
</table>

Additional Error Information (AMK Service)			
	Info 1	1	Too much cyclic data
		2	The configured slaves are different from the existing slaves

Info 2		
	1	A configured slave was not found
		Info 3: Slave with fixed address not found Info 4: Slave network position
	2	More slave exist as configured
		Info 4: Slave network position
	3	Slave has wrong revision
		Info 3: Current revision Info 4: Slave network position
	4	Not configured slave
		Info 4: Slave position
	5	Slave found without "category information" in EEPROM
	6	Device address already exists (twice assigned)
		Info 3: Slave address Info 4: Position 2nd slave
	7	Slave with "vendor id" egual zero
		Info 4: Slave position
	8	Slave found with fixed address, but not in configuration
		Info 3: Fixed address Info 4: Slave position
	9	Link present but no slaves found, e.g., connected to switch or KW-R05 with VARAN interface
	10	Error in composition of real time telegram
	11	Configuration file XML format error

3	Access to the account list ("ID34142 Node list") failed	
4	Initialisation SoE failed	
5	Error during writing the initial dictionary entries (e.g. "ID 2 SERCOS cycle time")	

Info 2		
	1	Error during access to the bus configuration
	2	Invalid data length of an ID
		Info 3: ID Info 4: Slave address
	3	Error during writing the dictionary entries, order of the slaves in configuration is invalid Subsequent error of 2728 or 2729
		Info 3: ID Info 4: Slave address

6	Error during writing the PDO dictionary entries	

Info 2		
	1	Error during access to the bus configuration
	3	Error during writing the dictionary entries Subsequent error of 2728 or 2729
		Info 3: ID Info 4: Slave address

7	Timeout master synchronisation	

		8	Error in PDO configuration
			Info 2: 1 — AT is empty, has to contain at least the "ID135 Drive status word"
			Info 2: 2 — ID135 is not the first entry in the AT
			Info 2: 3 — MDT is empty, has to contain at least the "ID134 Master control word"
			Info 2: 4 — ID134 is not the first entry in the MDT
			Info 2: 5 — Data size of the PLC variable is not equal to the mapped value
		9	Error during access to the bus configuration "ID1204 XML-File", "ID1205 XML-File"
			Info 2: 1 — Error during access to XML file
			Info 2: 2 — Error during access to the bus configuration ID
			Info 2: 4 — XML format error; Info 3: Internal Error (AMK Service)
		10	Addresses in configuration faulty
			Info 2: 1 — Network position not found; Info 3: Position
			Info 2: 2 — Network position exists multiple times; Info 3: Position
			Info 2: 3 — Address invalid, > 225; Info 3: Address
			Info 2: 4 — Address issued multiple times; Info 3: Address
			Info 2: 5 — Optional device without fixed address; Info 3: Position
		11	PDO structure in configuration with error
			Info 2: 1 — Address does not exist; Info 4: Address
			Info 2: 2 — Number of entries incorrect; Info 4: Address
			Info 2: 3 — Structure detail incorrect; Info 4: Address
		12	Error PDO context
			Info 2: 1 — Internal error
			Info 2: 2 — XML format error
			Info 2: 3, 4 — Configuration faulty; Info 3: Index; Info 4: Address
			Info 2: 5 — Chosen PDO selection not supported; Info 3: Index; Info 4: Address

Error Removal	• Check EtherCAT configuration • Check slave (Info 4) • Check fixed addresses in address assignment • Check order of slaves (slaves without fixed addresses) • Info 1 = 7: Check cabling Correct the EtherCAT input (AMK devices X86) and output (AMK devices X85) • The revision level check can be switched off via parameter ID34026 Bit 3 = 1. If the revision check is switched off, slaves with an older revision level than those entered in the existing configuration can also be used. If the revision levels in the master and slave are different, compatibility problems may occur when functions are used that are not supported by both revision stands.

2728 'System diagnostics'

• Error EtherCAT protocol during ID access			
Device	AS-PL15 AS-Cxx-1		
Description			
Class	Error		
Drive Behaviour			
Device Behaviour	Controller: ID access by service channel is cancelled		
Additional Error Information (AMK Service)			
	Info 1	1	Service channel error
		3	Router reports error Info 2: Return value router
		4	Attribute of the ID in the controller unknown (current ADB file necessary)
		5	Service channel not yet ready, e.g. boot process still active
		6	Slave not found
		7	Slave not initialised
		8	Type of protocol not supported Info 2: 4 COE is not supported 16 SOE is not supported
		> 20	access error to driver
Error Removal	• Check PLC program (application) • Info 1 = 4: Install current ADB file • Info 1 = 5: Before ID access, check bus status using FuiGetNetStatus function block		

2729 'System diagnostics'

• Error EtherCAT service channel / mailbox	
Device	**AS-PL15** **AS-Cxx-1** **A4 / A5 / A6** **iSA**
Description	
Class	Error
Drive Behaviour	
Device Behaviour	Controller: ID access by service channel is cancelled

Additional Error Information (AMK Service)			
	Info 1	1	Slave does not support the service channel Info 4: Slave address
		2	Data length too long for the mailbox Info 2: Length Info 4: Slave address
		3	Faulty service channel feedback Info 4: Slave address
		4	Mailbox datagram not received Info 4: Slave address
		5	Mailbox datagram working counter error Info 4: Slave address
		6	Timeout receiving mailbox Info 4: Slave address
		7, 8	Service channel invalid answer Info 2: ID Info 4: Slave address
		9	Transmission mailbox occupied Info 4: Slave address
		10	Timeout transmission mailbox Info 4: Slave address
		11	Length of the list is incorrect (ADB file in controller is not current) Info 2: ID Info 4: Slave address
		12 - 18	SoE Service channel invalid answer Info 2: ID Info 4: Slave address
		20	Error send mailbox
		21	Mailbox error message Info 2: Error Info 4: Slave address
		22	Internal error
		23	Mailbox error, too many requests
		24	Unknown protocol type received
		25	Send-mailbox timeout on retry Info 4: Slave address
		26	Send-mailbox counter incorrect Info 4: Slave address
		40 - 44	CoE service channel error Info 2: Index Info 3: Sub index Info 4: Slave address
		45	CoE emergency Info 2: Error code Info 3: Error register Info 4: Slave address

<table>
<tr><td></td><td></td><td>46, 47</td><td>CoE service channel error<table><tr><td>Info 2</td><td>Index</td></tr><tr><td>Info 3</td><td>Sub index</td></tr><tr><td>Info 4</td><td>Slave address</td></tr></table></td></tr>
<tr><td></td><td></td><td>48</td><td>CoE 'Toggle' error<table><tr><td>Info 2</td><td>Index</td></tr><tr><td>Info 3</td><td>Sub index</td></tr><tr><td>Info 4</td><td>Slave address</td></tr></table></td></tr>
<tr><td></td><td></td><td>49</td><td>CoE Number of receive data> Number of requested data<table><tr><td>Info 2</td><td>Index</td></tr><tr><td>Info 3</td><td>Sub index</td></tr><tr><td>Info 4</td><td>Slave address</td></tr></table></td></tr>
<tr><td></td><td></td><td>50</td><td>CoE received not enough data<table><tr><td>Info 2</td><td>Index</td></tr><tr><td>Info 3</td><td>Sub index</td></tr><tr><td>Info 4</td><td>Slave address</td></tr></table></td></tr>
<tr><td></td><td></td><td>84</td><td>FoE Mailbox error</td></tr>
<tr><td></td><td></td><td>90</td><td>FoE Mailbox error message from the slave<table><tr><td>Info 3</td><td>Packet number</td></tr><tr><td>Info 4</td><td>Slave address</td></tr></table></td></tr>
<tr><td></td><td></td><td>91</td><td>FoE Busy on first packet<table><tr><td>Info 4</td><td>Slave address</td></tr></table></td></tr>
<tr><td></td><td></td><td>102</td><td>Incorrect task</td></tr>
<tr><td></td><td></td><td>103</td><td>Mailbox protocol initialization</td></tr>
<tr><td></td><td></td><td>105, 106</td><td>Incorrect address</td></tr>
<tr><td></td><td></td><td>107 - 109</td><td>Incorrect protocol type</td></tr>
<tr><td></td><td></td><td>111 - 150</td><td>Mailbox error</td></tr>
<tr><td></td><td></td><td></td><td>Protocol error<table><tr><td>Info 4</td><td>Slave address</td></tr></table>possible causes:
Device not online
Device does not support the protocol
Current bus status is not> = PREOP, BOOTSTRAP</td></tr>
<tr><td></td><td></td><td>111 - 150</td><td>Mailbox error</td></tr>
<tr><td></td><td></td><td>200 - 399</td><td>Internal Error</td></tr>
<tr><td></td><td></td><td>401</td><td>FoE undefined AppHeader.slCmd</td></tr>
<tr><td></td><td></td><td>440</td><td>Unknown opcode returned after OPCODE_WR_RQ</td></tr>
<tr><td></td><td></td><td>441</td><td>Unknown opcode returned after OPCODE_DATA_RQ</td></tr>
<tr><td>Error Removal</td><td colspan="3">Check PLC program
Check slave with address from “I4”
Info 1 = 4 while booting:
Check whether ACPI enable has been configured in BIOS Power Management
ADB File update in Controller</td></tr>
</table>

2730 'System diagnostics'

<table>
<tr><td colspan="4">• Error EtherCAT datagram sending procedure, communication error</td></tr>
<tr><td>Device</td><td colspan="3">AS-PL15
AS-Cxx-1
A4 / A5 / A6
iSA</td></tr>
<tr><td>Description</td><td colspan="3"></td></tr>
<tr><td>Class</td><td colspan="3">Error</td></tr>
<tr><td>Drive Behaviour</td><td colspan="3"></td></tr>
<tr><td>Device Behaviour</td><td colspan="3">Controller: Further behaviour depends on the subsequent error</td></tr>
<tr><td colspan="4">Additional Error Information (AMK Service)</td></tr>
<tr><td rowspan="10"></td><td rowspan="10">Info 1</td><td>1</td><td>Datagram memory error<table><tr><td>Info 2</td><td>Size</td></tr></table></td></tr>
<tr><td>2</td><td>Datagram not received<table><tr><td>Info 2</td><td>Offset [1)]</td></tr><tr><td>Info 4</td><td>Slave address</td></tr></table></td></tr>
<tr><td>3</td><td>Datagram working counter (WKC) error<table><tr><td>Info 2</td><td>Offset [1)]</td></tr><tr><td>Info 3</td><td>WKC</td></tr><tr><td>Info 4</td><td>Slave address</td></tr></table></td></tr>
<tr><td>4</td><td>Datagram timeout send<table><tr><td>Info 2</td><td>Offset [1)]</td></tr><tr><td>Info 4</td><td>Slave position</td></tr></table></td></tr>
<tr><td>5, 6</td><td>Datagramm error<table><tr><td>Info 2</td><td>Offset [1)]</td></tr><tr><td>Info 4</td><td>Slave address</td></tr></table></td></tr>
<tr><td>7</td><td>Frame timeout error</td></tr>
<tr><td>10</td><td>Error read EEPROM<table><tr><td>Info 2</td><td>Offset [1)]</td></tr><tr><td>Info 4</td><td>Slave address</td></tr></table></td></tr>
<tr><td>11</td><td>Timeout read EEPROM<table><tr><td>Info 2</td><td>Offset [1)]</td></tr><tr><td>Info 4</td><td>Slave address</td></tr></table></td></tr>
<tr><td colspan="3">[1)] Offset: Address in the EtherCAT slave controller</td></tr>
<tr><td>Error Removal</td><td colspan="3">• Communication error
• Address in the EtherCAT slave controller not accessible or not existing</td></tr>
</table>

2731 'System diagnostics'

<table>
<tr><td colspan="4">• Error EtherCAT sequence slave configuration</td></tr>
<tr><td>Device</td><td colspan="3">AS-PL15
AS-Cxx-1
A4 / A5 / A6
iSA</td></tr>
<tr><td>Description</td><td colspan="3"></td></tr>
<tr><td>Class</td><td colspan="3"></td></tr>
<tr><td>Drive Behaviour</td><td colspan="3"></td></tr>
<tr><td>Device Behaviour</td><td colspan="3">System run-up aborted
Controller: EtherCAT does not boot</td></tr>
<tr><td colspan="4">Additional Error Information (AMK Service)</td></tr>
<tr><td></td><td>Info 1</td><td>1</td><td>Error during AL status change<table><tr><td>Info 2</td><td>AL status code (Internal error (AMK service))</td></tr><tr><td>Info 4</td><td>Slave address</td></tr></table></td></tr>
<tr><td></td><td></td><td>2</td><td>Timeout AL status change<table><tr><td>Info 4</td><td>Slave address</td></tr></table></td></tr>
<tr><td></td><td></td><td>3</td><td>Status error could not be deleted<table><tr><td>Info 2</td><td>AL status (Internal error (AMK service))</td></tr><tr><td>Info 4</td><td>Slave address</td></tr></table></td></tr>
<tr><td></td><td></td><td>4</td><td>Error during the slave configuration (frequent subsequent error of 2730)<table><tr><td>Info 4</td><td>Slave address</td></tr></table></td></tr>
<tr><td></td><td></td><td>5</td><td>Error during the configuration of the slave address<table><tr><td>Info 4</td><td>Slave address</td></tr></table></td></tr>
<tr><td></td><td></td><td>6</td><td>Error in the configuration DL access<table><tr><td>Info 4</td><td>Slave address</td></tr></table></td></tr>
<tr><td></td><td></td><td>7</td><td>Incorrect module address</td></tr>
<tr><td></td><td></td><td>8</td><td>Constant status change in slave<table><tr><td>Info 4</td><td>Slave address</td></tr></table></td></tr>
<tr><td></td><td></td><td>10</td><td>Invalid status requested at status change</td></tr>
<tr><td></td><td></td><td>11</td><td>Error at status request</td></tr>
<tr><td></td><td></td><td>12</td><td>Internal communication error<table><tr><td>Info 4</td><td>Slave address</td></tr></table></td></tr>
<tr><td></td><td></td><td>20</td><td>Slave to slave / configuration too large</td></tr>
<tr><td>Error Removal</td><td colspan="3"></td></tr>
<tr><td></td><td>Info 1</td><td>all</td><td>• Configuration error in a slave (see error in a slave)
• "ID32786 Message 32" in the AT configured as data type "INT". Needs to be changed to "DINT".</td></tr>
<tr><td></td><td></td><td>1</td><td>• Check ID2 'SERCOS cycle time' in instance 0 or 2 and adapt in ID2 from EtherCAT Master. Is the EtherCAT Slave a Ax Controller, then must be entered ID2 in EtherCAT Slave manually on instance. This entry is not made in Ax controller as EtherCAT slaves trough the master. Instance 2 is the master not known.</td></tr>
</table>

2732 'System diagnostics'

Device	**AS-PL15** **AS-Cxx-1**		
Description			
Class	Error		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
	Info 1	18	Error while writing permanent address to EEPROM Info 4 | Address
Error Removal	• No slave exists at this address • The slave with this address is offline. • Error while writing		

3.17 No. 2740 ... 2749 MODBUS

2741 'Modbus configuration'

• Error during the configuration of the MODBUS parameters			
Device	**IDT**		
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
	Info 1	1	Slave number in "ID34023 BUS address participant" is incorrect
		2	Baud rate in "ID34028 BUS output rate" is wrong
		3	Protocol type in "ID34025 BUS mode" is unknown
		4	Number of data bits in "ID34025 BUS mode" is incorrect
Error Removal	• Inspection / correction of the ID described in the additional info		

2742 'MODBUS communication'

• Error with the MODBUS Communication			
Device	**IDT**		
Description			
Class			
Drive Behaviour	Coast to stop		
Device Behaviour			
Additional Error Information (AMK Service)			
	Info 1	6	Parity error
		7	Framing error
		8	Overrun error
		9	Receiving buffer full
Error Removal	• Check the correct setting of the communication parameters • Replacing the MODBUS cables • Change the connecting plug		

2743 'MODBUS protocol'

• Error in the MODBUS protocol			
Device	IDT		
Description			
Class	Warning		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
	Info 1	5	CRC Check
		7	Wrong data length during the function “Read n words”
		8	Wrong data length during the function “Write n words”
		9	Wrong data length during the function “Read n bits”
		10	Wrong data length during the function “Write 1 bit”
		11	Wrong address during the function “Read n words”
		12	Wrong address during the function “Write n words”
		13	Wrong address during the function “Read n bits”
		14	Wrong address during the function “Write n bits”
		15	Unknown function code
Error Removal	• Check the settings of the MODBUS master		

2744 'MODBUS command'

• Error in the MODBUS command			
Device	IDT		
Description			
Class			
Drive Behaviour	Coast to stop		
Device Behaviour			
Additional Error Information (AMK Service)			
	Info 1	1	Unknown application mode
		3	Error detected in the control function
		4	Error detected in the status function
Error Removal	• Check the specifications of the MODBUS master		

3.18 No. 2760 ... 2764 CoE

2760 'System diagnostics'

• Missing DC bus voltage at state 'SWITCHED ON' or when switching to the state 'SWITCHED ON'			
Device	**iX, ihX, R2x**		
Description			
Class	Error		
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
	Info 1	1	DC bus voltage missing at state 'SWITCHED ON'
		2	DC bus voltage missing when switching to the state 'SWITCHED ON'
Error Removal	• DC bus switching on • Check cabling		

2761 'System diagnostics'

• Error when changing the operating mode			
Device	**iX, ihX, R2x**		
Description			
Class	Error		
Drive Behaviour	Coast to stop		
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
	Info 1	1	Function 'Modes of operation' Info 2: New operating mode Info 3: Old operating mode
Error Removal	• Check specification of the operating mode (0x6060 'Modes of operation')		

2762 'System diagnostics'

• Error in function 'Touch Probe'			
Device	**iX, ihX, R2x**		
Description			
Class	Error		
Drive Behaviour	Coast to stop		
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
	Info 1	0	Default condition Info 2: Measurement channel
		1	Measurement function not possible Info 2: Measurement channel
		2	Measurement source unknown Info 2: Measurement channel
		3	Measurement edge combination not permissible Info 2: Measurement channel
		4	System heap error Info 2: Measurement channel
		5	Measurement configuration wrong Info 2: Measurement channel
		6	Configuration of the measurement function zero pulse Info 2: Measurement channel
Error Removal	• Check indices for function 'Touch Probe'		

2763 'System diagnostics'

<table>
<tr><td colspan="4">• Error in scaling configuration</td></tr>
<tr><td>Device</td><td colspan="3">iX, ihX, R2x</td></tr>
<tr><td>Description</td><td colspan="3"></td></tr>
<tr><td>Class</td><td colspan="3">Error</td></tr>
<tr><td>Drive Behaviour</td><td colspan="3"></td></tr>
<tr><td>Device Behaviour</td><td colspan="3">System run-up aborted</td></tr>
<tr><td colspan="4">Additional Error Information (AMK Service)</td></tr>
<tr><td></td><td>Info 1</td><td>x</td><td>To be calculated index<table><tr><td>Info 2</td><td>To be calculated index</td></tr><tr><td>Info 3</td><td>To be calculated index</td></tr></table></td></tr>
<tr><td>Error Removal</td><td colspan="3">• Check indices for scaling settings</td></tr>
</table>

2764 'System diagnostics'

<table>
<tr><td colspan="4">• Error in Brake function</td></tr>
<tr><td>Device</td><td colspan="3">iX, ihX, R2x</td></tr>
<tr><td>Description</td><td colspan="3"></td></tr>
<tr><td>Class</td><td colspan="3">Error</td></tr>
<tr><td>Drive Behaviour</td><td colspan="3"></td></tr>
<tr><td>Device Behaviour</td><td colspan="3">System run-up aborted</td></tr>
<tr><td colspan="4">Additional Error Information (AMK Service)</td></tr>
<tr><td></td><td rowspan="8">Info 1</td><td>1</td><td>Default condition</td></tr>
<tr><td></td><td>2</td><td>System heap error</td></tr>
<tr><td></td><td>3</td><td>Internal order</td></tr>
<tr><td></td><td>4</td><td>Error internal service command</td></tr>
<tr><td></td><td>5</td><td>Configuration output port</td></tr>
<tr><td></td><td>6</td><td>Bit configuration port</td></tr>
<tr><td></td><td>7</td><td>Configured brake output as standard output</td></tr>
<tr><td>Error Removal</td><td colspan="3">• Check indices for brake function</td></tr>
</table>

3.19 No. 2816 ... 2819 AZ/Kx Option PS

2816 'PS option'

<table>
<tr><td colspan="4">• Refer to the separate description of the corresponding option card for the analyzed error</td></tr>
<tr><td>Device</td><td colspan="3">Option PS</td></tr>
<tr><td>Description</td><td colspan="3"></td></tr>
<tr><td>Class</td><td colspan="3">Warning</td></tr>
<tr><td>Drive Behaviour</td><td colspan="3"></td></tr>
<tr><td>Device Behaviour</td><td colspan="3"></td></tr>
<tr><td colspan="4">Additional Error Information (AMK Service)</td></tr>
<tr><td></td><td></td><td></td><td></td></tr>
<tr><td>Error Removal</td><td colspan="3">• Check PS user program</td></tr>
</table>

3.20 No. 3071 ... 3079 AZ Option SERCOS

3072 'Error option SERCOS'

• Refer to separate option card manual for error description			
Device			
Description			
Class	Warning		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
	Info 1	1	MST-failure in communication phase 3 or 4
		2	MDT-failure in communication phase 3 or 4
		3	Invalid communication phase
		4	Communication phase-incrementing (sequence)
		5	Communication phase-decrementing (not in phase 0)
		6	Communication phase-switching without ready message
		9	Memory error (allocated)
		10	Memory error (deallocated)
		11	No AZ-Handshake (AZR-failure?)
		12	AT/MDT configuration error (evaluation in command "ID127 Transition check phase 3")
		21	"ID 2 SERCOS Cycle time" is not 0.500
		23	"ID 2 SERCOS Cycle time" can not be divided by base time (ID 2 remanent)
		24	Main operating mode incorrectly
		26	Timeout in Interrupt: time level overflow
		27	Entry in ID 96 chained incorrectly
		28	Hardware failure AZ-SCx or 48 V-failure
Error Removal			

3.21 No. 3328 AZ Option NC

3328 'NC option error'

• Refer to the separate description of the corresponding option card for the analyzed error			
Device			
Description			
Class	Warning		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
Error Removal			

3.22 No. 3584 ... 3603 Special functions

3584 'System diagnostics: Special software message'

• Fault overload protection connectbox (n)			
Device	**ZWR**		
Description	Overload protection tripped		
Class	Error		
Device Behaviour	Automatic error reset and switch back on		
Additional Error Information (AMK Service)			
Error Removal	• Replace overload protection -F100 in connectbox		

3585 'System diagnostics: Special software message'

• CAN bus: Error during initialization							
Device	**FSE**						
Description							
Class	Error						
Drive behaviour	System run-up aborted / Coast to stop						
Device behaviour							
Additional information (Info AMK service)							
	Info1	1	Info2	3	Info3	1	Upper voltage limit ID32798-3 < Lower voltage limit ID32798-4
						2	Upper voltage limit ID32798-3 too large or lower voltage limit ID32798-4 too small
						8	Incorrect settings Voltage limiter ID32798-3 < ID32798-7 or ID32798-4 > ID32798-10
		2	Info2	1	Info3	2	Limits Torque reduction Temperature IGBT interchanged ID32798-8 > = ID32798-9
						3	Limits Torque reduction Temperature Motor interchanged ID32798-11> = ID32798-12
						4	Limits Torque reduction Temperature inverter interchanged ID32798-5> = ID32798-6
Error removal	• Restart device • AMK service						

• Error message Motor Controller	
Device	**MCE**
Description	
Class	Error
Drive behaviour	Coast to stop
Device behaviour	
Additional information (Info AMK service)	

<table>
<tr><td></td><td>Info1</td><td>1</td><td>
<table>
<tr><td>Info2</td><td>3</td><td>
<table>
<tr><td>Info3</td><td>1</td><td>Upper voltage limit < lower voltage limit</td></tr>
<tr><td></td><td>2</td><td>P(motor) < 0</td></tr>
<tr><td></td><td>3</td><td>P(generator) < 0</td></tr>
<tr><td></td><td>4</td><td>Sign error of torque limit from calculation</td></tr>
<tr><td></td><td>5</td><td>0 V > Uz > 1000 V</td></tr>
<tr><td></td><td>6</td><td>-300 kW > motor shaft power > 300 kW</td></tr>
<tr><td></td><td>7</td><td>Error in quadrant determination</td></tr>
<tr><td></td><td>8</td><td>Faulty settings of voltage limitation</td></tr>
</table>
</td></tr>
</table>
</td></tr>
<tr><td></td><td></td><td>2</td><td>Faulty parameterization
<table>
<tr><td>Info2</td><td>1</td><td>I^2t derating settings</td></tr>
</table>
</td></tr>
<tr><td></td><td></td><td>3</td><td>Error during operation
<table>
<tr><td>Info2</td><td>2</td><td>
<table>
<tr><td>Info3</td><td>2</td><td>Invalid system status automat</td></tr>
<tr><td></td><td>3</td><td>Monitoring output values</td></tr>
</table>
</td></tr>
</table>
</td></tr>
<tr><td></td><td></td><td>4</td><td>Faulty parameterization
<table>
<tr><td>Info2</td><td>4</td><td>
<table>
<tr><td>Info3</td><td>1</td><td>Number of pulses = 0</td></tr>
</table>
</td></tr>
</table>
</td></tr>
<tr><td></td><td></td><td>5</td><td>Error during operation
<table>
<tr><td>Info2</td><td>1</td><td>Error asynchronous data storage</td></tr>
</table>
</td></tr>
<tr><td></td><td></td><td>7</td><td>
<table>
<tr><td>Info2</td><td>1</td><td>
<table>
<tr><td>Info3</td><td>1</td><td>ID32798-10: 'MCE operation mode' not defined</td></tr>
<tr><td></td><td>2</td><td>ID32798-32: 'Direction forward' not defined</td></tr>
<tr><td></td><td>3</td><td>Plausibility accelerator</td></tr>
<tr><td></td><td>4</td><td>Parameter accelerator</td></tr>
</table>
</td></tr>
</table>
</td></tr>
<tr><td></td><td></td><td>9</td><td>Error during operation
<table>
<tr><td>Info2</td><td>1</td><td>Toggle bit error</td></tr>
</table>
</td></tr>
<tr><td></td><td></td><td>10</td><td>Error during system check of the inverter
<table>
<tr><td>Info2</td><td>1</td><td>Analog 1</td></tr>
<tr><td></td><td>2</td><td>Analog 2</td></tr>
<tr><td></td><td>3</td><td>BI1</td></tr>
<tr><td></td><td>4</td><td>BI2</td></tr>
<tr><td></td><td>5</td><td>BI3</td></tr>
<tr><td></td><td>6</td><td>Speed difference</td></tr>
<tr><td></td><td>7</td><td>Pulse encoder input</td></tr>
</table>
</td></tr>
<tr><td></td><td></td><td>11</td><td>Error on inactive switching off of terminal 15
<table>
<tr><td>Info2</td><td>1</td><td>No switching off after end of 'Switch-off time'</td></tr>
</table>
</td></tr>
<tr><td>Error removal</td><td colspan="3">

Check parameterization
Restart device
Info1 = 11: Software used with MCE hardware:
Internal hardware error; please contact AMK service
Software used with KW hardware:
External hardware error; please check wiring

</td></tr>
</table>

• Fault monitoring power supply			
Device	**ZWR**		
Description	NA protection device -A3 has tripped		
Class	Error		
Device Behaviour	Automatic error reset and switch back on		
Additional Error Information (AMK Service)			
Error Removal	• Check mains conditions • Check configuration NA device -A3		

3586 'System diagnostics: Special software message'

• CAN bus: Error during initialization			
Device	**FSE**		
Description			
Class	Error		
Drive behaviour	System run-up aborted		
Device behaviour			
Additional information (Info AMK service)			
	Info1	0	Invalid CAN configuration mode (ID34091-2)
		1	Configured index (ID) not found
		2	Invalid signal type
		3	Length of the configuration does not match the selected messages and signals
		4	Invalid transmission rate
		5	CAN module error
Error removal	• Restart device • AMK service		

• Error messages of CAN communication			
Device	**MCE**		
Description			
Class	Error		
Drive behaviour	Coast to stop		
Device behaviour			
Additional information (Info AMK service)			
	Info1	0	Memory error
		1	Module command error
		2	Invalid value in ID34028 'BUS output rate'
		3	Invalid value in ID34024 'BUS transmit rate'
		4	Error during access CAN
		5	Error in message configuration (ID34036 'CCB-File')
Error removal	• Check parameters • Restart device		

• Fault BUS			
Device	**ZWR**		
Description	Fieldbus interruption		
Class	Error		
Device Behaviour	Automatic error reset and switch back on		
Additional Error Information (AMK Service)			
Error Removal	• Check bus wiring • Check inverter -U1 • Check control unit -A1		

3587 'System diagnostics: Special software message'

• Error during operation			
Device	**FSE**		
Description			
Class	Error		
Drive behaviour	Coast to stop		
Device behaviour			
Additional information (Info AMK service)			
	Info1	0	Failure of setpoint message
		1	Checksum error
		2	Error in message counter
		3	Implausible signals (during inverted transmission)
		4	Unknown message received
		5	Message with wrong length received
		6	Error on transmission, possibly CAN not connected
Error removal	• Restart device • AMK service		

• Error during operation			
Device	**MCE**		
Description			
Class	Error		
Drive behaviour	Coast to stop		
Device behaviour			
Additional information (Info AMK service)			
	Info1	0	Failure of setpoint message
		1	Checksum error
		2	Error in message counter
		3	Implausible signals (during inverted transmission)
		4	Unknown message received
		5	Message with wrong length received
		6	Error on transmission, possibly CAN not connected
Error removal	• Restart device • AMK service		

• Temperature cabinet too high	
Device	**ZWR**
Description	Overtemperature in cabinet
Class	Error
Device Behaviour	Automatic error reset and switch back on
Additional Error Information (AMK Service)	
Error Removal	• Check cooling / fan in cabinet • Check fuse -F11 • Check thermostat -S1

3588 'System diagnostics: Special software message'

• Frequency too low	
Device	**ZWR**
Description	Mains frequency out of configured frequency range
Class	Error
Device Behaviour	Automatic error reset and switch back on
Additional Error Information (AMK Service)	
Error Removal	• Check mains frequency • Check configured values

3589 'System diagnostics: Special software message'

• Frequency too high	
Device	**ZWR**
Description	Mains frequency out of configured frequency range
Class	Error
Device Behaviour	Automatic error reset and switch back on
Additional Error Information (AMK Service)	
Error Removal	• Check mains frequency • Check configured values

3590 'System diagnostics: Special software message'

• Voltage too low	
Device	**ZWR**
Description	Mains voltage out of configured voltage range
Class	Error
Device Behaviour	Automatic error reset and switch back on
Additional Error Information (AMK Service)	
Error Removal	• Check mains voltage • Check configured values

3591 'System diagnostics: Special software message'

• Voltage too high	
Device	**ZWR**
Description	Mains voltage out of configured voltage range
Class	Error
Device Behaviour	Automatic error reset and switch back on
Additional Error Information (AMK Service)	
Error Removal	• Check mains voltage • Check configured values

3592 'System diagnostics: Special software message'

• Fault voltage (switch on)	
Device	**ZWR**
Description	Mains voltage below configured switch-on voltage
Class	Error
Device Behaviour	Automatic error reset and switch back on
Additional Error Information (AMK Service)	
Error Removal	• Check mains voltage • Check configured values

3593 'System diagnostics: Special software message'

• Fault frequency (switch on)	
Device	**ZWR**
Description	Mains frequency exceeds configured switch-on frequency
Class	Error
Device Behaviour	Automatic error reset and switch back on
Additional Error Information (AMK Service)	
Error Removal	• Check mains frequency • Check configured values

3594 'System diagnostics: Special software message'

• Warning string monitoring connectbox (n) string (m)	
Device	**ZWR**
Description	String current below configured permissible deviation
Class	Warning
Device Behaviour	Automatic error reset and switch back on
Additional Error Information (AMK Service)	
Error Removal	• Check string • Check configured values

3595 'System diagnostics: Special software message'

• Fault init bus			
Device	**ZWR**		
Description	Bus cannot be initialised		
Class	Error		
Device Behaviour	Automatic error reset and switch back on		
Additional Error Information (AMK Service)			
Error Removal	• Check bus wiring • Check inverter -U1		

3596 'System diagnostics: Special software message'

• Fault check DC			
Device	**ZWR**		
Description	DC bus voltage < 300 V		
Class	Error		
Device Behaviour	Automatic error reset and switch back on		
Additional Error Information (AMK Service)			
Error Removal	• Check DC bus		

3597 'System diagnostics: Special software message'

• Fault check AC / DC			
Device	**ZWR**		
Description	Switch-on condition $U_{AC} * \sqrt{2} + 100\ V \leq U_{DC}$ is violated		
Class	Error		
Device Behaviour	Automatic error reset and switch back on		
Additional Error Information (AMK Service)			
Error Removal	• Check AC voltage • Check DC voltage		

3598 'System diagnostics: Special software message'

• See special descriptions corresponding to special software documentation			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
Error Removal			

3599 'System diagnostics: Special software message'

• See special descriptions corresponding to special software documentation			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
Error Removal			

3600 'System diagnostics: Special software message'

• See special descriptions corresponding to special software documentation			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
Error Removal			

3601 'System diagnostics: Special software message'

• See special descriptions corresponding to special software documentation			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
Error Removal			

3602 'System diagnostics: Special software message'

• See special descriptions corresponding to special software documentation			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
Error Removal			

3603 'System diagnostics: AFP-PLC error'

• There is a program error in the KU control program (AFP-PLC) (user program is filed in "ID32798 User list 1")			
Device			
Description			
Class	Warning		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
	Info 1	1	AFP handshake timeout
		2	Wrong AFP command block
		3	Not allowed command
		4	Inadmissible state
		5	Loop number too high
		6	Loop end without loop start
		7	Jump to invalid block No. (>41)
		8	Invalid mark
		9	Inadmissible parameter in the RF macro
Error Removal			

3.23 No. 3605 ... 3610 Functional safety

3605 'Safety - Invalid parameterisation'

• Invalid parameterisation	
Device	Functional safety Controller cards KW-R07 / -R17 / -R27 Decentralized drives iCx-xx-**ES**x, iXx-xx-**ES**, iDT5-x-x-xxx-xxxx-xx-**ES**
Description	An invalid parameterisation was detected during the evaluation of the safety parameters, e.g. invalid values
Class	Error
Drive behaviour	The drive remains torque-free (STO)
Device behaviour	The safety monitoring does not switch to the operational state, i.e. the safety functions cannot be put into operation

3605	Info1	7	Encoder error, sine encoder evaluation, monitoring channel 1		
			Info2	1	Prm6 'Sine encoder period' Specification for the sine encoder period too small (Prm6 < 16)
				2	Prm6 'Sine encoder period' Specification for the sine encoder period too large (Prm6 > 65536)
Error rectification	• Parameter to be checked: • Prm6: 'Sine encoder period' • Generate a correct parameter set and load on the target device				

3605	Info1	13	Error message during cross-communication monitoring		
			Info2	9	Error during plausibility check: Fault tolerance in the cross-communication is out of range.
Error rectification	• Parameter to be checked: • Info2 = 9: Prm 9 'cc-factor'				

<table>
<tr><td>3605</td><td>Info1</td><td>16</td><td>Error message for the safe inputs,
monitoring channel 1
<table><tr><td>Info2</td><td>1</td><td>Dynamic sampling impulse duration is too small</td></tr><tr><td></td><td>3</td><td>Dynamic sampling impulse duration is too large</td></tr></table><table><tr><td>Info3</td><td>1</td><td>Input 1</td></tr><tr><td></td><td>2</td><td>Input 2</td></tr><tr><td></td><td>3</td><td>Input 3</td></tr></table></td></tr>
<tr><td>Error rectification</td><td colspan="3">• Parameter to be checked:
• Prm71: 'SE1.1 dynamic sampling impulse duration'
• Prm73: 'SE1.2 dynamic sampling impulse duration'
• Prm77: 'SE2.1 dynamic sampling impulse duration'
• Prm79: 'SE2.2 dynamic sampling impulse duration'
• Prm83: 'SE3.1 dynamic sampling impulse duration'
• Prm85: 'SE3.2 dynamic sampling impulse duration'
• Generate a correct parameter set and load on the target device</td></tr>
<tr><td>3605</td><td>Info1</td><td>17</td><td>Error message for the safe inputs,
monitoring channel 2
<table><tr><td>Info2</td><td>1</td><td>Dynamic sampling impulse duration is too small</td></tr><tr><td></td><td>3</td><td>Dynamic sampling impulse duration is too large</td></tr></table><table><tr><td>Info3</td><td>1</td><td>Input 1</td></tr><tr><td></td><td>2</td><td>Input 2</td></tr><tr><td></td><td>3</td><td>Input 3</td></tr></table></td></tr>
<tr><td>Error rectification</td><td colspan="3">• Parameter to be checked:
• Prm71: 'SE1.1 dynamic sampling impulse duration'
• Prm73: 'SE1.2 dynamic sampling impulse duration'
• Prm77: 'SE2.1 dynamic sampling impulse duration'
• Prm79: 'SE2.2 dynamic sampling impulse duration'
• Prm83: 'SE3.1 dynamic sampling impulse duration'
• Prm85: 'SE3.2 dynamic sampling impulse duration'
• Generate a correct parameter set and load on the target device</td></tr>
</table>

<table>
<tr><td>3605</td><td>Info1</td><td>18</td><td>Error message for the safe inputs,
monitoring channel 1
<table><tr><td>Info2</td><td>2</td><td>Dynamic sampling period is too large</td></tr><tr><td></td><td>3</td><td>Dynamic sampling period is too small</td></tr><tr><td></td><td>5</td><td>Ratio between dynamic sampling period and impulse duration is too small</td></tr></table><table><tr><td>Info3</td><td>1</td><td>Input 1</td></tr><tr><td></td><td>2</td><td>Input 2</td></tr><tr><td></td><td>3</td><td>Input 3</td></tr></table></td></tr>
<tr><td>Error rectification</td><td colspan="3">• Parameter to be checked:
• Prm71: 'SE1.1 dynamic sampling impulse duration'
• Prm72: 'SE1.1 dynamic sampling period'
• Prm73: 'SE1.2 dynamic sampling impulse duration'
• Prm74: 'SE1.2 dynamic sampling period'
• Prm77: 'SE2.1 dynamic sampling impulse duration'
• Prm78: 'SE2.1 dynamic sampling period'
• Prm79: 'SE2.2 dynamic sampling impulse duration'
• Prm80: 'SE2.2 dynamic sampling period'
• Prm83: 'SE3.1 dynamic sampling impulse duration'
• Prm84: 'SE3.1 dynamic sampling period'
• Prm85: 'SE3.2 dynamic sampling impulse duration'
• Prm86: 'SE3.2 dynamic sampling period'
• Generate a correct parameter set and load on the target device</td></tr>
<tr><td>3605</td><td>Info1</td><td>19</td><td>Error message for the safe inputs,
monitoring channel 2
<table><tr><td>Info2</td><td>2</td><td>Dynamic sampling period is too large</td></tr><tr><td></td><td>3</td><td>Dynamic sampling period is too small</td></tr><tr><td></td><td>5</td><td>Ratio between dynamic sampling period and impulse duration is too small</td></tr><tr><td></td><td>6</td><td>Invalid value of input level</td></tr></table><table><tr><td>Info3</td><td>1</td><td>Input 1</td></tr><tr><td></td><td>2</td><td>Input 2</td></tr><tr><td></td><td>3</td><td>Input 3</td></tr></table></td></tr>
<tr><td>Error rectification</td><td colspan="3">• Parameter to be checked:
• Prm70: 'SE1 input level'
• Prm71: 'SE1.1 dynamic sampling impulse duration'
• Prm72: 'SE1.1 dynamic sampling period'
• Prm73: 'SE1.2 dynamic sampling impulse duration'
• Prm74: 'SE1.2 dynamic sampling period'
• Prm76: 'SE2 input level'
• Prm77: 'SE2.1 dynamic sampling impulse duration'
• Prm78: 'SE2.1 dynamic sampling period'
• Prm79: 'SE2.2 dynamic sampling impulse duration'
• Prm80: 'SE2.2 dynamic sampling period'
• Prm82: 'SE3 input level'
• Prm83: 'SE3.1 dynamic sampling impulse duration'
• Prm84: 'SE3.1 dynamic sampling period'
• Prm85: 'SE3.2 dynamic sampling impulse duration'
• Prm86: 'SE3.2 dynamic sampling period'
• Generate a correct parameter set and load on the target device</td></tr>
</table>

<table>
<tr><td>3605</td><td>Info1</td><td>20</td><td>Error message for safe input selection,
monitoring channel 1
<table><tr><td>Info2</td><td>1</td><td>Prm17 'SE3 emergency stop function':
invalid value</td></tr><tr><td></td><td>2</td><td>Prm15 'SE1 safety function':
invalid value</td></tr><tr><td></td><td>3</td><td>Prm16 'SE2 safety function':
invalid value</td></tr><tr><td></td><td>4</td><td>Prm15 'SE1 safety function' and Prm17 'SE3 emergency stop function' same value</td></tr><tr><td></td><td>5</td><td>Prm16 'SE2 safety function' and Prm17 'SE3 emergency stop function' same value</td></tr><tr><td></td><td>6</td><td>Prm15 'SE1 safety function' and Prm16 'SE2 safety function' same value</td></tr></table></td></tr>
<tr><td>Error rectification</td><td colspan="3">Parameter to be checked:
Prm15: 'SE1 safety function'
Prm16: 'SE2 safety function'
Prm17: 'SE3 emergency stop function'</td></tr>
<tr><td>3605</td><td>Info1</td><td>22</td><td>Error message for safe input selection,
monitoring channel 2
<table><tr><td>Info2</td><td>1</td><td>Prm17 'SE3 emergency stop function':
invalid value</td></tr><tr><td></td><td>2</td><td>Prm15 'SE1 safety function':
invalid value</td></tr><tr><td></td><td>3</td><td>Prm16 'SE2 safety function':
invalid value</td></tr><tr><td></td><td>4</td><td>Prm15 'SE1 safety function' and Prm17 'SE3 emergency stop function' same value</td></tr><tr><td></td><td>5</td><td>Prm16 'SE2 safety function' and Prm17 'SE3 emergency stop function' same value</td></tr><tr><td></td><td>6</td><td>Prm15 'SE1 safety function' and Prm16 'SE2 safety function' same value</td></tr><tr><td></td><td>16</td><td>Prm70 'SE1 input level':
invalid value</td></tr><tr><td></td><td>17</td><td>Prm76 'SE2 input level':
invalid value</td></tr><tr><td></td><td>18</td><td>Prm82 'SE3 input level':
invalid value</td></tr></table></td></tr>
<tr><td>Error rectification</td><td colspan="3">Parameter to be checked:
Prm15: 'SE1 safety function'
Prm16: 'SE2 safety function'
Prm17: 'SE3 emergency stop function'
Prm70 'SE1 input level'
Prm76 'SE2 input level'
Prm82 'SE3 input level'</td></tr>
</table>

<table>
<tr><td>3605</td><td>Info1</td><td>23</td><td>Error message for safe output selection,
monitoring channel 1
<table><tr><td rowspan="3">Info2</td><td>2</td><td>Prm7 'Commanding' and Prm8 'Output control':
Invalid parameters Prm7 and Prm8</td></tr><tr><td>3</td><td>Prm7 'Commanding':
Invalid parameter Prm7</td></tr><tr><td>4</td><td>Prm8 'Output control':
Invalid parameter Prm8</td></tr></table></td></tr>
<tr><td>Error rectification</td><td colspan="3">• Parameter to be checked:
• Prm7: 'Commanding'
• Prm8: 'Output control'</td></tr>
<tr><td>3605</td><td>Info1</td><td>24</td><td>Error message for safe output selection,
monitoring channel 2
<table><tr><td rowspan="3">Info2</td><td>2</td><td>Prm7 'Commanding' and Prm8 'Output control':
Invalid parameters Prm7 and Prm8</td></tr><tr><td>3</td><td>Prm7 'Commanding':
Invalid parameter Prm7</td></tr><tr><td>4</td><td>Prm8 'Output control':
Invalid parameter Prm8</td></tr></table></td></tr>
<tr><td>Error rectification</td><td colspan="3">• Parameter to be checked:
• Prm7: 'Commanding'
• Prm8: 'Output control'</td></tr>
</table>

<table>
<tr><td>3605</td><td>Info1</td><td>25</td><td>Error messages of the dynamic sampling of the safe outputs, monitoring channel 1
<table>
<tr><td rowspan="7">Info2</td><td>1</td><td>Dynamic sampling period A1 exceeds maximum</td></tr>
<tr><td>2</td><td>Dynamic sampling period A1 drops below minimum</td></tr>
<tr><td>3</td><td>Dynamic sampling impulse duration A1 exceeds maximum</td></tr>
<tr><td>4</td><td>Dynamic sampling impulse duration A1 drops below minimum</td></tr>
<tr><td>5</td><td>Dynamic sampling impulse duration A1 does not fit the 125 µs pattern</td></tr>
<tr><td>6</td><td>Dynamic sampling period < 10 x Dynamic sampling impulse duration</td></tr>
<tr><td>7</td><td>Prm87 'SA1 dynamic sampling':
Invalid parameter Prm87</td></tr>
</table>
<table>
<tr><td rowspan="7">Info2</td><td>10</td><td>Dynamic sampling period A2 exceeds maximum</td></tr>
<tr><td>11</td><td>Dynamic sampling period A2 drops below minimum</td></tr>
<tr><td>12</td><td>Dynamic sampling impulse duration A2 exceeds maximum</td></tr>
<tr><td>13</td><td>Dynamic sampling impulse duration A2 drops below minimum</td></tr>
<tr><td>14</td><td>Dynamic sampling impulse duration A2 does not fit the 125 µs pattern</td></tr>
<tr><td>15</td><td>Dynamic sampling period < 10 x Dynamic sampling impulse duration</td></tr>
<tr><td>17</td><td>Prm93 'SA2 dynamic sampling':
Invalid parameter Prm93</td></tr>
</table>
<table>
<tr><td rowspan="7">Info2</td><td>20</td><td>Dynamic sampling period Dyn exceeds maximum</td></tr>
<tr><td>21</td><td>Dynamic sampling period Dyn drops below minimum</td></tr>
<tr><td>22</td><td>Dynamic sampling impulse duration Dyn exceeds maximum</td></tr>
<tr><td>23</td><td>Dynamic sampling impulse duration Dyn drops below minimum</td></tr>
<tr><td>24</td><td>Dynamic sampling impulse duration Dyn does not fit the 125 µs pattern</td></tr>
<tr><td>25</td><td>Dynamic sampling period < 10 x Dynamic sampling impulse duration</td></tr>
</table></td></tr>
<tr><td>Error rectification</td><td colspan="3">

Parameter to be checked:

Prm87: 'SA1 dynamic sampling'
Prm88: 'SA1.1 dynamic sampling impulse duration'
Prm89: 'SA1.1 dynamic sampling period'
Prm90: 'SA1.2 dynamic sampling impulse duration'
Prm91: 'SA1.2 dynamic sampling period'
Prm93: 'SA2 dynamic sampling'
Prm94: 'SA2.1 dynamic sampling impulse duration'
Prm95: 'SA2.1 dynamic sampling period'
Prm96: 'SA2.2 dynamic sampling impulse duration'
Prm97: 'SA2.2 dynamic sampling period'
Prm99: 'SDYN1 dynamic sampling impulse duration'
Prm100: 'SDYN1 dynamic sampling period'
Prm101: 'SDYN2 dynamic sampling impulse duration'
Prm102: 'SDYN2 dynamic sampling period'

Generate a correct parameter set and load on the target device
AMK service

</td></tr>
</table>

3605	Info1	26	Error messages of the dynamic sampling of the safe outputs, monitoring channel 2

Info2	1	Dynamic sampling period A1 exceeds maximum
	2	Dynamic sampling period A1 drops below minimum
	3	Dynamic sampling impulse duration A1 exceeds maximum
	4	Dynamic sampling impulse duration A1 drops below minimum
	5	Dynamic sampling impulse duration A1 does not fit the 125 µs pattern
	6	Dynamic sampling period < 10 x Dynamic sampling impulse duration
	7	Prm87 'SA1 dynamic sampling': Invalid parameter Prm87
	8	Prm92 'SA1 output level': Invalid parameter Prm92

Info2	10	Dynamic sampling period A2 exceeds maximum
	11	Dynamic sampling period A2 drops below minimum
	12	Dynamic sampling impulse duration A2 exceeds maximum
	13	Dynamic sampling impulse duration A2 drops below minimum
	14	Dynamic sampling impulse duration A2 does not fit the 125 µs pattern
	15	Dynamic sampling period < 10 x Dynamic sampling impulse duration
	17	Prm93 'SA2 dynamic sampling': Invalid parameter Prm93
	18	Prm98 'SA2 output level': Invalid parameter Prm98

Info2	20	Dynamic sampling period Dyn exceeds maximum
	21	Dynamic sampling period Dyn drops below minimum
	22	Dynamic sampling impulse duration Dyn exceeds maximum
	23	Dynamic sampling impulse duration Dyn drops below minimum
	24	Dynamic sampling impulse duration Dyn does not fit the 125 µs pattern
	25	Dynamic sampling period < 10 x Dynamic sampling impulse duration
	28	Prm104 'SA1.2 output type': Invalid parameter Prm104

Error rectification	• Parameter to be checked:
	  • Prm87: 'SA1 dynamic sampling'
	  • Prm88: 'SA1.1 dynamic sampling impulse duration'
	  • Prm89: 'SA1.1 dynamic sampling period'
	  • Prm90: 'SA1.2 dynamic sampling impulse duration'
	  • Prm91: 'SA1.2 dynamic sampling period'
	  • Prm92: 'SA1 output level'
	  • Prm93: 'SA2 dynamic sampling'
	  • Prm94: 'SA2.1 dynamic sampling impulse duration'
	  • Prm95: 'SA2.1 dynamic sampling period'
	  • Prm96: 'SA2.2 dynamic sampling impulse duration'
	  • Prm97: 'SA2.2 dynamic sampling period'
	  • Prm98: 'SA2 output level'
	  • Prm99: 'SDYN1 dynamic sampling impulse duration'
	  • Prm100: 'SDYN1 dynamic sampling period'
	  • Prm101: 'SDYN2 dynamic sampling impulse duration'
	  • Prm102: 'SDYN2 dynamic sampling period'
	  • Prm104: 'SA1.2 output type'
	• Generate a correct parameter set and load on the target device
	• AMK service

3605	Info1	38	Error message of 'Safe encoder monitoring (SEM)', monitoring channel 1
			Info2 / 1: Prm9 'Transition time in case of standstill' Prm9 > 60000 min Info2 / 2: Prm10 'Reaction time in case of standstill' Prm10 > 60000 min

Error rectification	• Parameter to be checked:
	  • Prm9: 'Transition time in case of standstill'
	  • Prm10: 'Reaction time in case of standstill'		

3605	Info1	39	Error message of 'Safe encoder monitoring (SEM)', monitoring channel 2
			Info2 / 1: Prm9 'Transition time in case of standstill' Prm9 > 60000 min Info2 / 2: Prm10 'Reaction time in case of standstill' Prm10 > 60000 min

Error rectification	• Parameter to be checked:
	  • Prm9: 'Transition time in case of standstill'
	  • Prm10: 'Reaction time in case of standstill'		

<table>
<tr><td>3605</td><td>Info1</td><td>101</td><td>Error message for the stop function 'Safe stop 1 (SS1)'
Movement monitoring
<table><tr><td>Info2</td><td>0</td><td>Not to be evaluated</td></tr><tr><td></td><td>7</td><td>Prm21 'SS1 safe speed standstill window'
Prm21 exceeds the maximum permissible value
(Prm21 > 60000 1/min)</td></tr><tr><td></td><td>8</td><td>Prm21 'SS1 safe speed standstill window'
Prm21 drops below the minimum permissible value
(Prm21 < -60000 1/min)</td></tr></table>Ramp monitoring
<table><tr><td>Info3</td><td>1</td><td>Actual value exceeds maximum permissible value
(60000 1/min)</td></tr><tr><td></td><td>2</td><td>Prm21 'SS1 safe speed standstill window':
Prm21 drops below the minimum permissible value
(Prm21 < -60000 1/min)</td></tr><tr><td></td><td>3</td><td>Prm21 'SS1 safe speed standstill window':
Prm21 exceeds the maximum permissible value
(Prm21 > 60000 1/min)</td></tr><tr><td></td><td>4</td><td>Prm21 'SS1 safe speed standstill window':
Limits of the speed standstill window have the same value
(Prm21 = 0)</td></tr><tr><td></td><td>5</td><td>Prm67 'SMS safe maximum speed':
Prm67 exceeds maximum permissible value
(Prm67 > 60000 1/min)</td></tr><tr><td></td><td>6</td><td>Prm20 'SS1 brake ramp time':
Prm20 = 0</td></tr><tr><td></td><td>7</td><td>Prm 67/Prm 20:
Relation of maximum speed to deceleration ramp n/t too small. (Ramp too flat)
(only monitoring channel 1)</td></tr><tr><td></td><td>10</td><td>Prm20 'SS1 brake ramp time':
Ramp time too long (only monitoring channel 2)</td></tr><tr><td></td><td>11</td><td>Current deceleration ramp violates the permissible range
(only monitoring channel 2)</td></tr><tr><td></td><td>13</td><td>Prm 67/Prm 20:
Relation of maximum speed to ramp time wrong
(only monitoring channel 2)</td></tr></table></td></tr>
<tr><td>Error rectification</td><td colspan="3">• Parameter to be checked:
  • Prm20: 'SS1 brake ramp time'
  • Prm21: 'SS1 safe speed standstill window'
  • Prm67: 'SMS safe maximum speed'
• Generate a correct parameter set and load on the target device</td></tr>
</table>

<table>
<tr><td>3605</td><td>Info1</td><td>102</td><td>Error message for the stop function 'Safe stop 2 (SS2)'
Movement monitoring
<table>
<tr><td>Info2</td><td>0</td><td>Not to be evaluated</td></tr>
<tr><td></td><td>1</td><td>Prm26 'SS2 safe speed standstill window'
Speed limits are identical (Prm26 = 0)</td></tr>
<tr><td></td><td>2</td><td>Prm27 'SS2 safe position standstill window'
Position limits are identical (Prm27 = 0)</td></tr>
<tr><td></td><td>7</td><td>Prm26 'SS2 safe speed standstill window'
Prm26 exceeds the maximum permissible value
(Prm26 > 60000 1/min)</td></tr>
<tr><td></td><td>8</td><td>Prm26 'SS2 safe speed standstill window'
Prm26 drops below the minimum permissible value
(Prm26 < -60000 1/min)</td></tr>
</table>
Ramp monitoring
<table>
<tr><td>Info3</td><td>1</td><td>Actual value exceeds maximum permissible value
(60000 1/min)</td></tr>
<tr><td></td><td>2</td><td>Prm26 'SS2 safe speed standstill window':
Prm26 drops below the minimum permissible value
(Prm21 < -60000 1/min)</td></tr>
<tr><td></td><td>3</td><td>Prm26 'SS2 safe speed standstill window':
Prm26 exceeds the maximum permissible value
(Prm21 > 60000 1/min)</td></tr>
<tr><td></td><td>4</td><td>Prm26 'SS2 safe speed standstill window':
Limits of the speed standstill window have the same value
(Prm26 = 0)</td></tr>
<tr><td></td><td>5</td><td>Prm67 'SMS safe maximum speed':
Prm67 exceeds maximum permissible value
(Prm67 > 60000 1/min)</td></tr>
<tr><td></td><td>6</td><td>Prm25 'SS2 brake ramp time':
Prm25 = 0</td></tr>
<tr><td></td><td>7</td><td>Prm 67/Prm 25:
Relation of maximum speed to deceleration ramp n/t too small. (Ramp too flat)
(only monitoring channel 1)</td></tr>
<tr><td></td><td>10</td><td>Prm25 'SS2 brake ramp time':
Ramp time too long (only monitoring channel 2)</td></tr>
<tr><td></td><td>11</td><td>Current deceleration ramp violates the permissible range
(only monitoring channel 2)</td></tr>
<tr><td></td><td>13</td><td>Prm67/Prm25: Relation of maximum speed to ramp time wrong
(only monitoring channel 2)</td></tr>
</table></td></tr>
<tr><td>Error rectification</td><td colspan="3">• Parameter to be checked:
  • Prm 25: 'SS2 brake ramp time'
  • Prm 26: 'SS2 safe speed standstill window'
  • Prm 27: 'SS2 safe position standstill window'
  • Prm 67: 'SMS safe maximum speed'
• Generate a correct parameter set and load on the target device</td></tr>
</table>

<table>
<tr><td>3605</td><td>Info1</td><td>103</td><td>Error message for the safety function 'Safe operating stop (SOS)'
Movement monitoring
<table>
<tr><td>Info2</td><td>1</td><td>Prm28 'SOS safe speed standstill window'
Speed limits are identical (Prm 28 = 0)</td></tr>
<tr><td></td><td>2</td><td>Prm 29 'SOS safe position standstill window'
Position limits are identical (Prm 29 = 0)</td></tr>
<tr><td></td><td>7</td><td>Prm28 'SOS safe speed standstill window'
Prm28 exceeds the maximum permissible value
(Prm28 > 60000 1/min)</td></tr>
<tr><td></td><td>8</td><td>Prm28 'SOS safe speed standstill window'
Prm28 drops below the minimum permissible value
(Prm28 < -60000 1/min)</td></tr>
</table></td></tr>
<tr><td>Error rectification</td><td colspan="3">• Parameter to be checked:
  • Prm 28: 'SOS safe speed standstill window'
  • Prm 29: 'SOS safe position standstill window'
• Generate a correct parameter set and load on the target device</td></tr>
</table>

<table>
<tr><td>3605</td><td>Info1</td><td>104</td><td>Error message for the safety function 'Safe speed range 1 (SSR1)'
Movement monitoring
<table>
<tr><td>Info2</td><td>1</td><td>Prm33 'SSR1 safe limit speed 1';
Prm34 'SSR1 safe limit speed 2':
Speed limits are identical (Prm33 = Prm34)</td></tr>
<tr><td></td><td>7</td><td>Prm33 'SSR1 safe limit speed 1'
Prm33 exceeds the maximum permissible value
(|Prm33| > 60000 1/min)</td></tr>
<tr><td></td><td>8</td><td>Prm34 'SSR1 safe limit speed 2'
Prm34 exceeds the maximum permissible value
(|Prm34| > 60000 1/min)</td></tr>
</table>
Ramp monitoring
<table>
<tr><td>Info3</td><td>1</td><td>Actual value exceeds maximum permissible value
(60000 1/min)</td></tr>
<tr><td></td><td>2</td><td>Prm33 'SSR1 safe limit speed 1':
Prm33 exceeds the maximum permissible value
(|Prm33| > 60000 1/min)</td></tr>
<tr><td></td><td>3</td><td>Prm34 'SSR1 safe limit speed 2':
Prm34 exceeds the maximum permissible value
(|Prm34| > 60000 1/min)</td></tr>
<tr><td></td><td>4</td><td>Prm33 'SSR1 safe limit speed 1';
Prm34 'SSR1 safe limit speed 2':
Limits of the speed standstill window have the same value
(Prm33 = Prm34)</td></tr>
<tr><td></td><td>5</td><td>Prm67 'SMS safe maximum speed':
Prm67 exceeds maximum permissible value
(Prm67 > 60000 1/min)</td></tr>
<tr><td></td><td>6</td><td>Prm32 'SSR1 brake ramp time'
Prm32 = 0</td></tr>
<tr><td></td><td>7</td><td>Prm67/Prm32:
Relation of maximum speed to deceleration ramp n/t too small. (Ramp too flat)
(only monitoring channel 1)</td></tr>
<tr><td></td><td>10</td><td>Prm32 'SSR1 brake ramp time':
Ramp time too long (only monitoring channel 2)</td></tr>
<tr><td></td><td>11</td><td>Current deceleration ramp violates the permissible range
(only monitoring channel 2)</td></tr>
<tr><td></td><td>13</td><td>Prm67/Prm32:
Relation of maximum speed to ramp time
(only monitoring channel 2)</td></tr>
</table></td></tr>
<tr><td>Error rectification</td><td colspan="3">• Parameter to be checked:
  • Prm32: 'SSR1 brake ramp time'
  • Prm33: 'SSR1 safe limit speed 1'
  • Prm34: 'SSR1 safe limit speed 2'
  • Prm67: 'SMS safe maximum speed'
• Generate a correct parameter set and load on the target device</td></tr>
</table>

<table>
<tr><td>3605</td><td>Info1</td><td>105</td><td>Error message for the safety function 'Safe direction positive (SDIp)'
Movement monitoring
<table><tr><td>Info2</td><td>1</td><td>Prm64 'SDI safe speed standstill window';
Prm67 'SMS safe maximum speed':
Speed limits are identical (Prm67 = Prm64)</td></tr><tr><td></td><td>7</td><td>Prm64 'SDI safe speed standstill window':
Prm64 exceeds the maximum permissible value
(|Prm64| > 60000 1/min)</td></tr><tr><td></td><td>8</td><td>Prm67 'SMS safe maximum speed':
Prm67 exceeds the maximum permissible value
(|Prm67| > 60000 1/min)</td></tr></table>Ramp monitoring
<table><tr><td>Info3</td><td>0</td><td>Not to be evaluated</td></tr><tr><td></td><td>5</td><td>Prm67 'SMS safe maximum speed':
Prm67 exceeds maximum permissible value
(Prm67 > 60000 1/min)</td></tr></table></td></tr>
<tr><td>Error rectification</td><td colspan="3">• Parameter to be checked:
• Prm 64: 'SDI safe speed standstill window'
• Prm 67: 'SMS safe maximum speed'
• Generate a correct parameter set and load on the target device</td></tr>
<tr><td>3605</td><td>Info1</td><td>106</td><td>Error message for the safety function 'Safe direction negative (SDIn)'
Movement monitoring
<table><tr><td>Info2</td><td>1</td><td>Prm64 'SDI safe speed standstill window';
Prm67 'SMS safe maximum speed':
Speed limits are identical (Prm67 = Prm64)</td></tr><tr><td></td><td>7</td><td>Prm67 'SMS safe maximum speed':
Prm67 exceeds the maximum permissible value
(|Prm67| > 60000 1/min)</td></tr><tr><td></td><td>8</td><td>Prm64 'SDI safe speed standstill window':
Prm64 exceeds the maximum permissible value
(|Prm64| > 60000 1/min)</td></tr></table>Ramp monitoring
<table><tr><td>Info3</td><td>0</td><td>Not to be evaluated</td></tr><tr><td></td><td>5</td><td>Prm67 'SMS safe maximum speed':
Prm67 exceeds maximum permissible value
(Prm67 > 60000 1/min)</td></tr></table></td></tr>
<tr><td>Error rectification</td><td colspan="3">• Parameter to be checked:
• Prm 64: 'SDI safe speed standstill window'
• Prm 67: 'SMS safe maximum speed'
• Generate a correct parameter set and load on the target device</td></tr>
</table>

<table>
<tr><td>3605</td><td>Info1</td><td>108</td><td>Error message for the safety function 'Safe maximum speed (SMS)'
Movement monitoring<table><tr><td>Info2</td><td>1</td><td>Prm67 'SMS safe maximum speed':
Speed limits are identical (Prm67 = 0)</td></tr><tr><td></td><td>7</td><td>Prm67 'SMS safe maximum speed':
Prm67 exceeds the maximum permissible value
(Prm67 > 60000 1/min)</td></tr><tr><td></td><td>8</td><td>Prm67 'SMS safe maximum speed':
Prm67 drops below the minimum permissible value
(Prm67 < -60000 1/min)</td></tr></table></td></tr>
<tr><td>Error rectification</td><td colspan="3">Parameter to be checked:
Prm 67: 'SMS safe maximum speed'
Generate a correct parameter set and load on the target device</td></tr>
</table>

<table>
<tr><td>3605</td><td>Info1</td><td>109</td><td>Error message for the safety function 'Safe speed range 2 (SSR2)'
Movement monitoring
<table>
<tr><td>Info2</td><td>1</td><td>Prm39 'SSR2 safe limit speed 1';
Prm40 'SSR2 safe limit speed 2':
Speed limits are identical (Prm39 = Prm40)</td></tr>
<tr><td></td><td>7</td><td>Prm39 'SSR2 safe limit speed 1':
Prm39 exceeds the maximum permissible value
(|Prm39| > 60000 1/min)</td></tr>
<tr><td></td><td>8</td><td>Prm40 'SSR2 safe limit speed 2':
Prm40 exceeds the maximum permissible value
(|Prm40| > 60000 1/min)</td></tr>
</table>
Ramp monitoring
<table>
<tr><td>Info3</td><td>1</td><td>Actual value exceeds maximum permissible value
(60000 1/min)</td></tr>
<tr><td></td><td>2</td><td>Prm39 'SSR2 safe limit speed 1':
Prm39 exceeds the maximum permissible value
(|Prm39| > 60000 1/min)</td></tr>
<tr><td></td><td>3</td><td>Prm40 'SSR2 safe limit speed 2':
Prm40 exceeds the maximum permissible value
(|Prm40| > 60000 1/min)</td></tr>
<tr><td></td><td>4</td><td>Prm39 'SSR2 safe limit speed 1';
Prm40 'SSR2 safe limit speed 2':
Limits of the speed standstill window have the same value
(Prm39 = Prm40)</td></tr>
<tr><td></td><td>5</td><td>Prm67 'SMS safe maximum speed':
Prm67 exceeds the maximum permissible value
(Prm67 > 60000 1/min)</td></tr>
<tr><td></td><td>6</td><td>Prm38 'SSR2 brake ramp time':
Prm38 = 0</td></tr>
<tr><td></td><td>7</td><td>Prm38 'SSR2 brake ramp time';
Prm67 'SMS safe maximum speed':
Relation of maximum speed to deceleration ramp n/t too small. (Ramp too flat)
(only monitoring channel 1)</td></tr>
<tr><td></td><td>10</td><td>Prm38 'SSR2 brake ramp time':
Ramp time too long (only monitoring channel 2)</td></tr>
<tr><td></td><td>11</td><td>Current deceleration ramp violates the permissible range
(only monitoring channel 2)</td></tr>
<tr><td></td><td>13</td><td>Prm38 'SSR2 brake ramp time';
Prm67 'SMS safe maximum speed':
Relation of maximum speed to ramp time wrong (Prm67/Prm38)
(only monitoring channel 2)</td></tr>
</table></td></tr>
<tr><td>Error rectification</td><td colspan="3">• Parameter to be checked:
  • Prm 38: 'SSR2 brake ramp time'
  • Prm 39: 'SSR2 safe limit speed 1'
  • Prm 40: 'SSR2 safe limit speed 2'
  • Prm 67: 'SMS safe maximum speed'
• Generate a correct parameter set and load on the target device</td></tr>
</table>

<table>
<tr><td>3605</td><td>Info1</td><td>110</td><td>Error message for the safety function 'Safe speed range 3 (SSR3)'
Movement monitoring
<table>
<tr><td>Info2</td><td>1</td><td>Prm45 'SSR3 safe limit speed 1';
Prm46 'SSR3 safe limit speed 2':
Speed limits are identical (Prm45 = Prm46)</td></tr>
<tr><td></td><td>7</td><td>Prm45 'SSR3 safe limit speed 1':
Prm45 exceeds the maximum permissible value
(|Prm45| > 60000 1/min)</td></tr>
<tr><td></td><td>8</td><td>Prm46 'SSR3 safe limit speed 2':
Prm46 exceeds the maximum permissible value
(|Prm46| > 60000 1/min)</td></tr>
</table>
Ramp monitoring
<table>
<tr><td>Info3</td><td>1</td><td>Actual value exceeds maximum permissible value
(60000 1/min)</td></tr>
<tr><td></td><td>2</td><td>Prm45 'SSR3 safe limit speed 1':
Prm45 exceeds the maximum permissible value
(|Prm45| > 60000 1/min)</td></tr>
<tr><td></td><td>3</td><td>Prm46 'SSR3 safe limit speed 2':
Prm46 exceeds the maximum permissible value
(|Prm46| > 60000 1/min)</td></tr>
<tr><td></td><td>4</td><td>Prm45 'SSR3 safe limit speed 1';
Prm46 'SSR3 safe limit speed 2':
Prm45 = Prm46</td></tr>
<tr><td></td><td>5</td><td>Prm67 'SMS safe maximum speed':
Prm67 exceeds the maximum permissible value
(Prm67 > 60000 1/min)</td></tr>
<tr><td></td><td>6</td><td>Prm44 'SSR3 brake ramp time':
(Prm44 = 0)</td></tr>
<tr><td></td><td>7</td><td>Prm44 'SSR3 brake ramp time';
Prm67 'SMS safe maximum speed':
Relation of maximum speed to deceleration ramp n/t too small. (Ramp too flat)
(only monitoring channel 1)</td></tr>
<tr><td></td><td>10</td><td>Prm44 'SSR3 brake ramp time':
Ramp time too long (only monitoring channel 2)</td></tr>
<tr><td></td><td>11</td><td>Current deceleration ramp violates the permissible range
(only monitoring channel 2)</td></tr>
<tr><td></td><td>13</td><td>Prm44 'SSR3 brake ramp time';
Prm67 'SMS safe maximum speed':
Relation of maximum speed to ramp time wrong (Prm67/Prm44)
(only monitoring channel 2)</td></tr>
</table></td></tr>
<tr><td>Error rectification</td><td colspan="3">• Parameter to be checked:
  • Prm 44: 'SSR3 brake ramp time'
  • Prm 45: 'SSR3 safe limit speed 1'
  • Prm 46: 'SSR3 safe limit speed 2'
  • Prm 67: 'SMS safe maximum speed'
• Generate a correct parameter set and load on the target device</td></tr>
</table>

<table>
<tr><td>3605</td><td>Info1</td><td>111</td><td>Error message for the safety function 'Safe speed range 4 (SSR4)'
Movement monitoring
<table>
<tr><td>Info2</td><td>1</td><td>Prm51 'SSR4 safe limit speed 1';
Prm52 'SSR4 safe limit speed 2':
Speed limits are identical (Prm51 = Prm52)</td></tr>
<tr><td></td><td>7</td><td>Prm51 'SSR4 safe limit speed 1':
Prm51 exceeds the maximum permissible value
(|Prm51| > 60000 1/min)</td></tr>
<tr><td></td><td>8</td><td>Prm52 'SSR4 safe limit speed 2':
Prm52 exceeds the maximum permissible value
(|Prm52| > 60000 1/min)</td></tr>
</table>
Ramp monitoring
<table>
<tr><td>Info3</td><td>1</td><td>Actual value exceeds maximum permissible value
(60000 1/min)</td></tr>
<tr><td></td><td>2</td><td>Prm51 'SSR4 safe limit speed 1':
Prm51 exceeds the maximum permissible value
(|Prm51| > 60000 1/min)</td></tr>
<tr><td></td><td>3</td><td>Prm52 'SSR4 safe limit speed 2':
Prm52 exceeds the maximum permissible value
(|Prm52| > 60000 1/min)</td></tr>
<tr><td></td><td>4</td><td>Prm51 'SSR4 safe limit speed 1';
Prm52 'SSR4 safe limit speed 2':
Prm51 = Prm52</td></tr>
<tr><td></td><td>5</td><td>Prm67 'SMS safe maximum speed':
Prm67 exceeds the maximum permissible value
(Prm67 > 60000 1/min)</td></tr>
<tr><td></td><td>6</td><td>Prm50 'SSR4 brake ramp time':
Prm50 = 0</td></tr>
<tr><td></td><td>7</td><td>Prm50 'SSR4 brake ramp time';
Prm67 'SMS safe maximum speed':
Relation of maximum speed to deceleration ramp n/t too small. (Ramp too flat)
(only monitoring channel 1)</td></tr>
<tr><td></td><td>10</td><td>Prm50 'SSR4 brake ramp time':
Ramp time too long (only monitoring channel 2)</td></tr>
<tr><td></td><td>11</td><td>Current deceleration ramp violates the permissible range
(only monitoring channel 2)</td></tr>
<tr><td></td><td>13</td><td>Prm50 'SSR4 brake ramp time';
Prm67 'SMS safe maximum speed':
Relation of maximum speed to ramp time wrong (Prm67/Prm50)
(only monitoring channel 2)</td></tr>
</table></td></tr>
<tr><td>Error rectification</td><td colspan="3">• Parameter to be checked:
  • Prm 50: 'SSR4 brake ramp time'
  • Prm 51: 'SSR4 safe limit speed 1'
  • Prm 52: 'SSR4 safe limit speed 2'
  • Prm 67: 'SMS safe maximum speed'
• Generate a correct parameter set and load on the target device</td></tr>
</table>

<table>
<tr><td>3605</td><td>Info1</td><td>112</td><td>Error message for the safety function 'Safely-limited speed 1 (SLS1)'
Movement monitoring
<table><tr><td>Info2</td><td>1</td><td>Prm57 'SLS1 safe limit speed':
Speed limits are identical (Prm51 = Prm52)</td></tr><tr><td></td><td>7</td><td>Prm57 'SLS1 safe limit speed':
Prm57 exceeds the maximum permissible value
(Prm57 > 60000 1/min)</td></tr><tr><td></td><td>8</td><td>Prm57 'SLS1 safe limit speed':
Prm57 drops below the minimum permissible value
(Prm57 < -60000 1/min)</td></tr></table>Ramp monitoring
<table><tr><td>Info3</td><td>1</td><td>Actual value exceeds maximum permissible value
(60000 1/min)</td></tr><tr><td></td><td>2</td><td>Prm57 'SLS1 safe limit speed':
Prm57 exceeds the maximum permissible value
(Prm57 > 60000 1/min)</td></tr><tr><td></td><td>3</td><td>Prm57 'SLS1 safe limit speed':
Prm57 drops below the minimum permissible value
(Prm57 < -60000 1/min)</td></tr><tr><td></td><td>4</td><td>Prm57 'SLS1 safe limit speed':
Limits of the speed window have the same value
(Prm57 = 0)</td></tr><tr><td></td><td>5</td><td>Prm67 'SMS safe maximum speed':
Prm67 exceeds the maximum permissible value
(Prm67 > 60000 1/min)</td></tr><tr><td></td><td>6</td><td>Prm56 'SLS1 brake ramp time':
Prm56 = 0</td></tr><tr><td></td><td>7</td><td>Prm56 'SLS1 brake ramp time';
Prm67 'SMS safe maximum speed':
Relation of maximum speed to deceleration ramp n/t too small. (Ramp too flat)
(only monitoring channel 1)</td></tr><tr><td></td><td>10</td><td>Prm56 'SLS1 brake ramp time':
Ramp time too long (only monitoring channel 2)</td></tr><tr><td></td><td>11</td><td>Current deceleration ramp violates the permissible range
(only monitoring channel 2)</td></tr><tr><td></td><td>13</td><td>Prm56 'SLS1 brake ramp time';
Prm67 'SMS safe maximum speed':
Relation of maximum speed to ramp time wrong (Prm67/Prm56)
(only monitoring channel 2)</td></tr></table></td></tr>
<tr><td>Error rectification</td><td colspan="3">Parameter to be checked:
Prm 56: 'SLS1 brake ramp time'
Prm 57: 'SLS1 safe limit speed'
Prm 67: 'SMS safe maximum speed'
Generate a correct parameter set and load on the target device</td></tr>
</table>

<table>
<tr><td>3605</td><td>Info1</td><td>113</td><td>Error message for the safety function 'Safely-limited speed 2 (SLS2)'
Movement monitoring
<table>
<tr><td>Info2</td><td>1</td><td>Prm62 'SLS2 safe limit speed':
Speed limits are identical (Prm62 = 0)</td></tr>
<tr><td></td><td>7</td><td>Prm62 'SLS2 safe limit speed':
Prm62 exceeds the maximum permissible value
(Prm62 > 60000 1/min)</td></tr>
<tr><td></td><td>8</td><td>Prm62 'SLS2 safe limit speed':
Prm62 drops below the minimum permissible value
(Prm62 < -60000 1/min)</td></tr>
</table>
Ramp monitoring
<table>
<tr><td>Info3</td><td>1</td><td>Actual value exceeds maximum permissible value
(60000 1/min)</td></tr>
<tr><td></td><td>2</td><td>Prm62 'SLS2 safe limit speed':
Prm62 exceeds the maximum permissible value
(Prm62 > 60000 1/min)</td></tr>
<tr><td></td><td>3</td><td>Prm62 'SLS2 safe limit speed':
Prm62 drops below the minimum permissible value
(Prm62 < -60000 1/min)</td></tr>
<tr><td></td><td>4</td><td>Prm62 'SLS2 safe limit speed':
Limits of the speed window have the same value
(Prm62 = 0)</td></tr>
<tr><td></td><td>5</td><td>Prm67 'SMS safe maximum speed':
Prm67 exceeds the maximum permissible value
(Prm67 > 60000 1/min)</td></tr>
<tr><td></td><td>6</td><td>Prm61 'SLS2 brake ramp time':
Prm61 = 0</td></tr>
<tr><td></td><td>7</td><td>Prm61 'SLS2 brake ramp time';
Prm67 'SMS safe maximum speed':
Relation of maximum speed to deceleration ramp n/t too small. (Ramp too flat)
(only monitoring channel 1)</td></tr>
<tr><td></td><td>10</td><td>Prm61 'SLS2 brake ramp time':
Ramp time too long (only monitoring channel 2)</td></tr>
<tr><td></td><td>11</td><td>Current deceleration ramp violates the permissible range
(only monitoring channel 2)</td></tr>
<tr><td></td><td>13</td><td>Prm61 'SLS2 brake ramp time';
Prm67 'SMS safe maximum speed':
Relation of maximum speed to ramp time wrong
(Prm 67/Prm 61)
(only monitoring channel 2)</td></tr>
</table></td></tr>
<tr><td>Error rectification</td><td colspan="3">• Parameter to be checked:
  • Prm 61: 'SLS2 brake ramp time'
  • Prm 62: 'SLS2 safe limit speed'
  • Prm 67: 'SMS safe maximum speed'
• Generate a correct parameter set and load on the target device</td></tr>
</table>

3605	Info1	114	Error message for the safety function 'Safely-limited increment (SLI)' Movement monitoring

Info2	1	Prm67 'SMS safe maximum speed': Speed limits are identical (Prm67 = 0)
	2	Prm65 'SLI Safely limited position change 1'; Prm66 'SLI Safely limited position change 2' Position limits are identical (Prm65 = Prm66)
	7	Prm67 'SMS safe maximum speed': Prm67 exceeds the maximum permissible value (Prm67 > 60000 1/min)
	8	Prm67 'SMS safe maximum speed': Prm67 drops below the minimum permissible value (Prm67 < -60000 1/min)

Error rectification	• Parameter to be checked:
	  • Prm 65: 'SLI Safely limited position change 1'
	  • Prm 66: 'SLI Safely limited position change 2'
	  • Prm 67: 'SMS safe maximum speed'
	• Generate a correct parameter set and load on the target device

3605	Info1	200	faulty sine encoder period

Info2		value of the sine period from ID32776 (parameter in the drive controller)
Info3		value of the sine period from Prm6 (safe parameter)

Error rectification	• Parameter to be checked:
	  • Prm4: 'Channel 1 encoder type'
	  • Prm5: 'Channel 2 encoder type'
	  • Prm6 : 'Sine encoder period'
	  • ID32776 'Sine encoder period'
	• The sine encoder period must be set to the same value for ID32776 and Prm6.

3606 'Safety - Error during operation'

• Error in a monitoring during operation	
Device	Functional safety Controller cards KW-R07 / -R17 / -R27 Decentralized drives iCx-xx-**ES**x, iXx-xx-**ES**, iDT5-x-x-xxx-xxxx-xx-**ES**
Description	A monitoring has detected a deviation from a limit value during operations
Class	Error
Drive behaviour	See 'Error reaction' towards the individual additional information Info1
Device behaviour	

Additional information (Info AMK customer service)			
3606	Info1	3	Error messages of the encoder- / resolver monitorings, monitoring channel 1

Info2	1	Circle radius of the resolver traces too small (resolver evaluation)
	2	Circle radius of the resolver traces too great (resolver evaluation)

Error reaction	In case of an error in the encoder / resolver monitorings, 'Save torque off (STO)' follows as error reaction

Error rectification	• Check parameterisation if correct encoder type was set
	  • Prm4 'Channel 1 encoder type'
	  • Prm5 'Channel 2 encoder type'
	• Check encoder / resolver signals and wiring

<table>
<tr><td>3606</td><td>Info1</td><td>4</td><td>Error messages of the encoder- / resolver monitorings,
monitoring channel 2<table><tr><td>Info2</td><td>1</td><td>Circle radius of the resolver traces too small
(resolver evaluation)</td></tr><tr><td></td><td>2</td><td>Circle radius of the resolver traces too great
(resolver evaluation)</td></tr></table></td></tr>
<tr><td>Error reaction</td><td colspan="3">In case of an error in the encoder / resolver monitorings, 'Save torque off (STO)' follows as error reaction</td></tr>
<tr><td>Error rectification</td><td colspan="3">• Check parameterisation if correct encoder type was set
  • Prm4 'Channel 1 encoder type'
  • Prm5 'Channel 2 encoder type'
• Check encoder / resolver signals and wiring</td></tr>
<tr><td>3606</td><td>Info1</td><td>5</td><td>Error messages of the encoder- / resolver monitorings,
monitoring channel 1<table><tr><td>Info2</td><td>1</td><td>Circle radius of the sine traces too great
(sine encoder detection)</td></tr><tr><td></td><td>2</td><td>Circle radius of the sine traces too small
(sine encoder detection)</td></tr><tr><td></td><td>3</td><td>Difference of the quadrants between traces and counter value greater than 1
(sine encoder detection)</td></tr></table></td></tr>
<tr><td>Error reaction</td><td colspan="3">In case of an error in the encoder / resolver monitorings, 'Save torque off (STO)' follows as error reaction</td></tr>
<tr><td>Error rectification</td><td colspan="3">• Check parameterisation if correct encoder type was set
  • Prm4 'Channel 1 encoder type'
  • Prm5 'Channel 2 encoder type'
• Check encoder / resolver signals and wiring
• AMK service</td></tr>
<tr><td>3606</td><td>Info1</td><td>6</td><td>Error messages of the encoder- / resolver monitorings,
monitoring channel 2<table><tr><td>Info2</td><td>1</td><td>Circle radius of the sine traces too great
(sine encoder detection)</td></tr><tr><td></td><td>2</td><td>Circle radius of the sine traces too small
(sine encoder detection)</td></tr><tr><td></td><td>3</td><td>Difference of the quadrants between traces and counter value greater than 1
(sine encoder detection)</td></tr></table></td></tr>
<tr><td>Error reaction</td><td colspan="3">In case of an error in the encoder / resolver monitorings, 'Save torque off (STO)' follows as error reaction</td></tr>
<tr><td>Error rectification</td><td colspan="3">• Check parameterisation if correct encoder type was set
  • Prm4 'Channel 1 encoder type'
  • Prm5 'Channel 2 encoder type'
• Check encoder / resolver signals and wiring
• AMK service</td></tr>
<tr><td>3606</td><td>Info1</td><td>7</td><td>Error messages of the encoder- / resolver monitorings<table><tr><td>Info2</td><td>3</td><td>Difference between 2 position values too great
(sine encoder evaluation)</td></tr></table></td></tr>
<tr><td>Error reaction</td><td colspan="3">In case of an error in the encoder / resolver monitorings, 'Save torque off (STO)' follows as error reaction</td></tr>
<tr><td>Error rectification</td><td colspan="3">• Check parameterisation if correct encoder type was set
  • Prm4 'Channel 1 encoder type'
  • Prm5 'Channel 2 encoder type'
• Check encoder / resolver signals and wiring</td></tr>
</table>

<table>
<tr><td>3606</td><td>Info1</td><td>13</td><td>Error messages monitoring cross-communication<table>
<tr><td>Info2</td><td>1</td><td>monitoring of the other monitoring channel failed</td></tr>
<tr><td></td><td>2</td><td>Status difference between 2 monitoring channels detected => STO</td></tr>
<tr><td></td><td>3</td><td>Status difference between 2 monitoring channels detected => SS1</td></tr>
<tr><td></td><td>4</td><td>Status difference between 2 monitoring channels detected => SS2</td></tr>
<tr><td></td><td>5</td><td>Position switch-off threshold has been exceeded.
Position difference between monitoring channels is too great</td></tr>
<tr><td></td><td>6</td><td>Speed switch-off threshold has been exceeded.
Speed difference between monitoring channels is too great</td></tr>
<tr><td></td><td>7</td><td>Invalid specification of emergency stop bit</td></tr>
<tr><td></td><td>8</td><td>The status of 2 monitoring chnannels is different</td></tr>
</table></td></tr>
<tr><td>Error reaction</td><td colspan="3">In case of an error in the cross communication, 'Save torque off (STO)' follows as error reaction</td></tr>
<tr><td>Error rectification</td><td colspan="3">• Info2 = 1, 2, 3, 4, 8: resulting error
• Parameter to be checked:
  • Info2 = 5: Prm2 'Switch-off threshold position'
  • Info2 = 6: Prm3 'Switch-off threshold velocity'
• Check signals of safety inputs</td></tr>
</table>

<table>
<tr><td>3606</td><td>Info1</td><td>18</td><td>Error messages of the input monitorings,
monitoring channel 1<table>
<tr><td>Info2</td><td>1</td><td>No dynamic sampling pulse detected at input</td></tr>
<tr><td></td><td>4</td><td>Measured dynamic sampling period is too small</td></tr>
</table><table>
<tr><td>Info3</td><td>1</td><td>Input 1</td></tr>
<tr><td></td><td>2</td><td>Input 2</td></tr>
<tr><td></td><td>3</td><td>Input 3</td></tr>
</table></td></tr>
<tr><td>Error reaction</td><td colspan="3">In case of an error in the input monitorings, 'Save torque off (STO)' follows as error reaction</td></tr>
<tr><td>Error rectification</td><td colspan="3">• Check wiring of the inputs
• Check correctness of dynamic sampling
• Check parameterisation of dynamic sampling
• Hardware possibly faulty (e.g. bouncing switches) / check
• AMK service</td></tr>
</table>

<table>
<tr><td>3606</td><td>Info1</td><td>19</td><td>Error messages of the input monitorings,
monitoring channel 2<table>
<tr><td>Info2</td><td>1</td><td>No dynamic sampling pulse detected at input</td></tr>
<tr><td></td><td>4</td><td>Measured dynamic sampling period is too small</td></tr>
</table><table>
<tr><td>Info3</td><td>1</td><td>Input 1</td></tr>
<tr><td></td><td>2</td><td>Input 2</td></tr>
<tr><td></td><td>3</td><td>Input 3</td></tr>
</table></td></tr>
<tr><td>Error reaction</td><td colspan="3">In case of an error in the input monitorings, 'Save torque off (STO)' follows as error reaction</td></tr>
<tr><td>Error rectification</td><td colspan="3">• Check wiring of the inputs
• Check correctness of dynamic sampling
• Check parameterisation of dynamic sampling
• Hardware possibly faulty (e.g. bouncing switches) / check
• AMK service</td></tr>
</table>

<table>
<tr><td>3606</td><td>Info1</td><td>27</td><td>Error messages of the output monitorings,
monitoring channel 1
<table><tr><td>Info2</td><td>1</td><td>Value of a safe output that has been read back not equal to the specification
Internal plausibility monitoring; possibly short circuit of the outputs.</td></tr></table><table><tr><td rowspan="2">Info2</td><td>1</td><td>Error safe output 1:
Signal that has been read back does not match the specification</td></tr><tr><td>2</td><td>Error safe output 2:
Signal that has been read back does not match the specification</td></tr></table></td></tr>
<tr><td>Error reaction</td><td colspan="3">In case of an error in the output monitorings, 'Save torque off (STO)' follows as error reaction</td></tr>
<tr><td>Error rectification</td><td colspan="3">• Check wiring of the outputs
• Check correctness of dynamic sampling
• Check parameterisation of dynamic sampling
• Hardware possibly faulty / check</td></tr>
<tr><td>3606</td><td>Info1</td><td>28</td><td>Error messages of the output monitorings,
monitoring channel 2
<table><tr><td>Info2</td><td>1</td><td>Value of a safe output that has been read back not equal to the specification
Internal plausibility monitoring; possibly short circuit of the outputs.</td></tr></table><table><tr><td rowspan="2">Info2</td><td>1</td><td>Error safe output 1:
Signal that has been read back does not match the specification</td></tr><tr><td>2</td><td>Error safe output 2:
Signal that has been read back does not match the specification</td></tr></table></td></tr>
<tr><td>Error reaction</td><td colspan="3">In case of an error in the output monitorings, 'Save torque off (STO)' follows as error reaction</td></tr>
<tr><td>Error rectification</td><td colspan="3">• Check wiring of the outputs
• Check correctness of dynamic sampling
• Check parameterisation of dynamic sampling
• Hardware possibly faulty / check</td></tr>
<tr><td>3606</td><td>Info1</td><td>38</td><td>Error messages of the 'Safe encoder monitoring (SEM)',
monitoring channel 1
<table><tr><td>Info2</td><td>4</td><td>Prm10 'Reaction time in case of standstill' was exceeded</td></tr></table></td></tr>
<tr><td>Error reaction</td><td colspan="3">In case of an error in the encoder standstill monitoring, 'Safe stop 1 (SS1)' follows as error reaction</td></tr>
<tr><td>Error rectification</td><td colspan="3">• See Safety manual; functional safety (203446), 'Safe Encoder Monitoring (SEM)'
• Move drive
• Restart device</td></tr>
<tr><td>3606</td><td>Info1</td><td>39</td><td>Error messages of the 'Safe encoder monitoring (SEM)',
monitoring channel 2
<table><tr><td>Info2</td><td>4</td><td>Prm10 'Reaction time in case of standstill' was exceeded</td></tr></table></td></tr>
<tr><td>Error reaction</td><td colspan="3">In case of an error in the encoder standstill monitoring, 'Safe stop 1 (SS1)' follows as error reaction</td></tr>
<tr><td>Error rectification</td><td colspan="3">• See Safety manual; functional safety (203446), 'Safe Encoder Monitoring (SEM)'
• Move drive
• Restart device</td></tr>
</table>

<table>
<tr><td>3606</td><td>Info1</td><td>52</td><td>Error messages of the hardware monitorings<table>
<tr><td rowspan="6">Info2</td><td>1</td><td>Overvoltage in the 1.8 V supply voltage</td></tr>
<tr><td>2</td><td>Undervoltage in the 1.8 V supply voltage</td></tr>
<tr><td>3</td><td>Overvoltage in the 3.3 V supply voltage</td></tr>
<tr><td>4</td><td>Undervoltage in the 3.3 V supply voltage</td></tr>
<tr><td>5</td><td>Overvoltage in the 1.5 V reference voltage</td></tr>
<tr><td>6</td><td>Undervoltage in the 1.5 V reference voltage</td></tr>
</table></td></tr>
<tr><td>Error reaction</td><td colspan="3">In case of an error in the hardware monitorings, 'Save torque off (STO)' follows as error reaction</td></tr>
<tr><td>Error rectification</td><td colspan="3">• Hardware possibly faulty -> check
• AMK service</td></tr>
</table>

<table>
<tr><td>3606</td><td>Info1</td><td>70</td><td>Error messages of the FSoE handling<table>
<tr><td rowspan="2">Info2</td><td>3</td><td>monitoring channel 1<table>
<tr><td rowspan="5">Info3</td><td>1</td><td>Internal system error, pointer error</td></tr>
<tr><td>2</td><td>Internal system error, access in non-permissible area</td></tr>
<tr><td>3</td><td>Resulting error that occurs when the transmission telegram of the complementary channel differs from the own transmission telegram</td></tr>
<tr><td>4</td><td>Internal system error occurred while generating the CRC values (resulting error)</td></tr>
<tr><td>5</td><td>Faulty status in FSoE state machine</td></tr>
</table></td></tr>
<tr><td>4</td><td>monitoring channel 2<table>
<tr><td rowspan="5">Info3</td><td>1</td><td>Internal system error, pointer error</td></tr>
<tr><td>2</td><td>Internal system error, access in non-permissible area</td></tr>
<tr><td>3</td><td>Resulting error that occurs when the transmission telegram of the complementary channel differs from the own transmission telegram</td></tr>
<tr><td>4</td><td>Internal system error occurred while generating the CRC values (resulting error)</td></tr>
<tr><td>5</td><td>Faulty status in FSoE state machine</td></tr>
</table></td></tr>
<tr><td>Info2</td><td>6</td><td>The FSoE watchdog has expired, i.e. no new FSoE frame was received within the watchdog time<table>
<tr><td rowspan="2">Info3</td><td>3</td><td>Monitoring channel 1</td></tr>
<tr><td>4</td><td>Monitoring channel 2</td></tr>
</table></td></tr>
</table></td></tr>
<tr><td>Error reaction</td><td colspan="3">In case of an error in the FSoE monitorings, 'Save torque off (STO)' follows as error reaction</td></tr>
<tr><td>Error rectification</td><td colspan="3">• Check FSoE communication
• Info2 = 3, 4: Info3 = 1, 2, 4, 5: AMK service
• Info2 = 3, 4; Info3 = 3: check FSoE communication and check safety configuration
• Info2 = 6: check FSoE communication and check safety configuration
• FSoE master: error analysis, error message</td></tr>
</table>

<table>
<tr><td>3606</td><td>Info1</td><td>75</td><td>Error messages of the hardware monitorings, switch-off path monitoring channel 1<table>
<tr><td rowspan="8">Info2</td><td>1</td><td>Malfunction of the line driver L</td></tr>
<tr><td>2</td><td>Malfunction of the line driver H</td></tr>
<tr><td>3</td><td>Error line driver status
status of the drivers not identical</td></tr>
<tr><td>4</td><td>Error line driver control
checking short circuit control line to supply</td></tr>
<tr><td>5</td><td>Error line drivers' control
checking short circuit control line to GND</td></tr>
<tr><td>7</td><td>Error internal data handling
plausibility check of control data</td></tr>
<tr><td>8</td><td>Error internal data handling
plausibility check of test data</td></tr>
</table></td></tr>
<tr><td>Error reaction</td><td colspan="3">In case of an error in the hardware monitorings, 'Save torque off (STO)' follows as error reaction</td></tr>
<tr><td>Error rectification</td><td colspan="3">• Hardware possibly faulty -> check
• AMK service</td></tr>
</table>

<table>
<tr><td>3606</td><td>Info1</td><td>76</td><td>Error messages of the hardware monitorings, switch-off path monitoring channel 2<table>
<tr><td rowspan="8">Info2</td><td>1</td><td>Malfunction of the line driver L</td></tr>
<tr><td>2</td><td>Malfunction of the line driver H</td></tr>
<tr><td>3</td><td>Error line driver status
status of the drivers not identical</td></tr>
<tr><td>4</td><td>Error line driver control
checking short circuit control line to supply</td></tr>
<tr><td>5</td><td>Error line drivers' control
checking short circuit control line to GND</td></tr>
<tr><td>7</td><td>Error internal data handling
plausibility check of control data</td></tr>
<tr><td>8</td><td>Error internal data handling
plausibility check of test data</td></tr>
</table></td></tr>
<tr><td>Error reaction</td><td colspan="3">In case of an error in the hardware monitorings, 'Save torque off (STO)' follows as error reaction</td></tr>
<tr><td>Error rectification</td><td colspan="3">• Hardware possibly faulty -> check
• AMK service</td></tr>
</table>

<table>
<tr><td>3606</td><td>Info1</td><td>101</td><td>Error message of the stop function 'Safe stop 1 (SS1)'
<table>
<tr><td>Info2</td><td>0</td><td>Not to be evaluated</td></tr>
</table>
Ramp monitoring
<table>
<tr><td rowspan="8">Info3</td><td>0</td><td>Not to be evaluated</td></tr>
<tr><td>1</td><td>Actual value exceeds maximum permissible value
(60000 1/min)</td></tr>
<tr><td>8</td><td>Permitted speed range was exceeded
(only monitoring channel 1)</td></tr>
<tr><td>9</td><td>Permitted speed range was dropped below
(only monitoring channel 1)</td></tr>
<tr><td>11</td><td>Prm20 'SS1 brake ramp time':
Current deceleration ramp deviates from the permissible range (only monitoring channel 2)</td></tr>
<tr><td>14</td><td>Permissible speed range was violated
(only monitoring channel 2)</td></tr>
<tr><td>15</td><td>Standstill window following end of ramp violated
(only monitoring channel 2)</td></tr>
</table></td></tr>
<tr><td>Error reaction</td><td colspan="3">In case of an error in the monitoring of the SS1 stop function, 'Save torque off (STO)' follows as error reaction</td></tr>
<tr><td>Error rectification</td><td colspan="3">• Check why SS1 ramp was violated by the movement of the drive
• Adjust parameterisation to physical conditions</td></tr>
</table>

<table>
<tr><td>3606</td><td>Info1</td><td>102</td><td>Error message of the stop function 'Safe stop 2 (SS2)'
Movement monitoring
<table>
<tr><td rowspan="5">Info2</td><td>0</td><td>Not to be evaluated</td></tr>
<tr><td>3</td><td>Upper speed limit in standstill was violated</td></tr>
<tr><td>4</td><td>Lower speed limit in standstill was violated</td></tr>
<tr><td>5</td><td>Upper position limit in standstill was violated</td></tr>
<tr><td>6</td><td>Lower position limit in standstill was violated</td></tr>
</table>
Ramp monitoring
<table>
<tr><td rowspan="8">Info3</td><td>0</td><td>Not to be evaluated</td></tr>
<tr><td>1</td><td>Actual speed value exceeds maximum permissible value
(60000 1/min)</td></tr>
<tr><td>8</td><td>Permissible speed range was exceeded
(only monitoring channel 1)</td></tr>
<tr><td>9</td><td>Permissible speed range was dropped below
(only monitoring channel 1)</td></tr>
<tr><td>11</td><td>Prm25 'SS2 brake ramp time':
Current deceleration ramp deviates from the permissible range
(only monitoring channel 2)</td></tr>
<tr><td>14</td><td>Permissible speed range was violated
(only monitoring channel 2)</td></tr>
<tr><td>15</td><td>Standstill window following end of ramp violated
(only monitoring channel 2)</td></tr>
</table></td></tr>
<tr><td>Error reaction</td><td colspan="3">In case of an error in the monitoring of the SS2 stop function, 'Save torque off (STO)' follows as error reaction</td></tr>
<tr><td>Error rectification</td><td colspan="3">• Check why SS2 ramp was violated by the movement of the drive
• Adjust parameterisation to physical conditions</td></tr>
</table>

<table>
<tr><td>3606</td><td>Info1</td><td>103</td><td>Error message of the safety function 'Safe operating stop (SOS)'
Movement monitoring<table><tr><td>Info2</td><td>0</td><td>Not to be evaluated</td></tr><tr><td></td><td>3</td><td>Upper speed limit in standstill was violated</td></tr><tr><td></td><td>4</td><td>Lower speed limit in standstill was violated</td></tr><tr><td></td><td>5</td><td>Upper position limit in standstill was violated</td></tr><tr><td></td><td>6</td><td>Lower position limit in standstill was violated</td></tr></table>Ramp monitoring<table><tr><td>Info3</td><td>0</td><td>Not to be evaluated</td></tr><tr><td></td><td>1</td><td>Actual value exceeds maximum permissible value
(60000 1/min)</td></tr></table></td></tr>
<tr><td>Error reaction</td><td colspan="3">In case of an error in the monitoring of the SOS safety function, 'Save torque off (STO)' follows as error reaction</td></tr>
<tr><td>Error rectification</td><td colspan="3">• Check by what the invalid movement of the drive was triggered</td></tr>
</table>

<table>
<tr><td>3606</td><td>Info1</td><td>104</td><td>Error message of the safety function 'Safe speed range 1 (SSR1)'
Movement monitoring<table><tr><td>Info2</td><td>0</td><td>Not to be evaluated</td></tr><tr><td></td><td>3</td><td>Upper speed limit of the monitoring range was violated</td></tr><tr><td></td><td>4</td><td>Lower speed limit of the monitoring range was violated</td></tr></table>Ramp monitoring<table><tr><td>Info3</td><td>0</td><td>Not to be evaluated</td></tr><tr><td></td><td>1</td><td>Actual speed value exceeds maximum permissible value
(60000 1/min)</td></tr><tr><td></td><td>8</td><td>Permissible speed range was exceeded
(only monitoring channel 1)</td></tr><tr><td></td><td>9</td><td>Permissible speed range was dropped below
(only monitoring channel 1)</td></tr><tr><td></td><td>11</td><td>Prm32 'SSR1 brake ramp time':
Current deceleration ramp deviates from the permissible range
(only monitoring channel 2)</td></tr><tr><td></td><td>14</td><td>Permissible speed range was violated
(only monitoring channel 2)</td></tr><tr><td></td><td>15</td><td>Monitoring window following end of ramp violated
(only monitoring channel 2)</td></tr></table></td></tr>
<tr><td>Error reaction</td><td colspan="3">In case of an error in the monitoring of the SSR1 safety function, the parameterised error reaction follows (STO, SS1 or SS2)</td></tr>
<tr><td>Error rectification</td><td colspan="3">• Check why the movement of the drive has violated the limits
• Adjust parameterisation to physical conditions</td></tr>
</table>

<table>
<tr><td>3606</td><td>Info1</td><td>105</td><td>Error message for the safety function 'Safe direction positive (SDIp)'
Movement monitoring<table><tr><td>Info2</td><td>0</td><td>Not to be evaluated</td></tr><tr><td></td><td>3</td><td>Upper speed limit of the monitoring range was violated</td></tr><tr><td></td><td>4</td><td>Lower speed limit of the monitoring range was violated</td></tr></table>Ramp monitoring<table><tr><td>Info3</td><td>0</td><td>Not to be evaluated</td></tr><tr><td></td><td>1</td><td>Actual value exceeds maximum permissible value
(60000 1/min)</td></tr></table></td></tr>
<tr><td>Error reaction</td><td colspan="3">In case of an error in the monitoring of the SDIp safety function, 'Save torque off (STO)' follows as error reaction</td></tr>
<tr><td>Error rectification</td><td colspan="3">• Check by what the invalid movement of the drive was triggered</td></tr>
</table>

<table>
<tr><td>3606</td><td>Info1</td><td>106</td><td>Error message of the safety function 'Safe direction negative (SDIn)'
Movement monitoring
<table><tr><td>Info2</td><td>0</td><td>Not to be evaluated</td></tr><tr><td></td><td>3</td><td>Upper speed limit of the monitoring range was violated</td></tr><tr><td></td><td>4</td><td>Lower speed limit of the monitoring range was violated</td></tr></table>Ramp monitoring
<table><tr><td>Info3</td><td>0</td><td>Not to be evaluated</td></tr><tr><td></td><td>1</td><td>Actual value exceeds maximum permissible value (60000 1/min)</td></tr></table></td></tr>
<tr><td>Error reaction</td><td colspan="3">In case of an error in the monitoring of the SDIn safety function, 'Save torque off (STO)' follows as error reaction</td></tr>
<tr><td>Error rectification</td><td colspan="3">• Check by what the invalid movement of the drive was triggered</td></tr>
</table>

<table>
<tr><td>3606</td><td>Info1</td><td>108</td><td>Error message for the safety function 'Safe maximum speed (SMS)'
Movement monitoring
<table><tr><td>Info2</td><td>3</td><td>Upper speed limit of the monitoring range was violated</td></tr><tr><td></td><td>4</td><td>Lower speed limit of the monitoring range was violated</td></tr></table></td></tr>
<tr><td>Error reaction</td><td colspan="3">In case of an error in the monitoring of the SMS safety function, the parameterised error reaction follows (STO, SS1 or SS2)</td></tr>
<tr><td>Error rectification</td><td colspan="3">• Check why the movement of the drive has violated the limits
• Adjust parameterisation to physical conditions</td></tr>
</table>

<table>
<tr><td>3606</td><td>Info1</td><td>109</td><td>Error message of the safety function 'Safe speed range 2 (SSR2)'
Movement monitoring
<table><tr><td>Info2</td><td>0</td><td>Not to be evaluated</td></tr><tr><td></td><td>3</td><td>Upper speed limit of the monitoring range was violated</td></tr><tr><td></td><td>4</td><td>Lower speed limit of the monitoring range was violated</td></tr></table>Ramp monitoring
<table><tr><td>Info3</td><td>0</td><td>Not to be evaluated</td></tr><tr><td></td><td>1</td><td>Actual speed value exceeds the maximum permissible value
(60000 1/min)</td></tr><tr><td></td><td>8</td><td>Permissible speed range was exceeded
(only monitoring channel 1)</td></tr><tr><td></td><td>9</td><td>Permissible speed range was dropped below
(only monitoring channel 1)</td></tr><tr><td></td><td>11</td><td>Prm38 'SSR2 brake ramp time':
Current deceleration ramp deviates from the permissible range
(only monitoring channel 2)</td></tr><tr><td></td><td>14</td><td>Permissible speed range was violated
(only monitoring channel 2)</td></tr><tr><td></td><td>15</td><td>Monitoring window following end of ramp violated
(only monitoring channel 2)</td></tr></table></td></tr>
<tr><td>Error reaction</td><td colspan="3">In case of an error in the monitoring of the SSR2 safety function, the parameterised error reaction follows (STO, SS1 or SS2)</td></tr>
<tr><td>Error rectification</td><td colspan="3">• Check why the movement of the drive has violated the limits
• Adjust parameterisation to physical conditions</td></tr>
</table>

<table>
<tr><td>3606</td><td>Info1</td><td>110</td><td>Error message of the safety function 'Safe speed range 3 (SSR3)'
Movement monitoring
<table><tr><td>Info2</td><td>0</td><td>Not to be evaluated</td></tr><tr><td></td><td>3</td><td>Upper speed limit of the monitoring range was violated</td></tr><tr><td></td><td>4</td><td>Lower speed limit of the monitoring range was violated</td></tr></table>Ramp monitoring
<table><tr><td>Info3</td><td>0</td><td>Not to be evaluated</td></tr><tr><td></td><td>1</td><td>Actual speed value exceeds maximum permissible value
(60000 1/min)</td></tr><tr><td></td><td>8</td><td>Permissible speed range was exceeded
(only monitoring channel 1)</td></tr><tr><td></td><td>9</td><td>Permissible speed range was dropped below
(only monitoring channel 1)</td></tr><tr><td></td><td>11</td><td>Prm44 'SSR3 brake ramp time':
Current deceleration ramp deviates from the permissible range
(only monitoring channel 2)</td></tr><tr><td></td><td>14</td><td>Permissible speed range was violated
(only monitoring channel 2)</td></tr><tr><td></td><td>15</td><td>Monitoring window following end of ramp violated
(only monitoring channel 2)</td></tr></table></td></tr>
<tr><td>Error reaction</td><td colspan="3">In case of an error in the monitoring of the SSR3 safety function, the parameterised error reaction follows (STO, SS1 or SS2)</td></tr>
<tr><td>Error rectification</td><td colspan="3">• Check why the movement of the drive has violated the limits
• Adjust parameterisation to physical conditions</td></tr>
</table>

<table>
<tr><td>3606</td><td>Info1</td><td>111</td><td>Error message of the safety function 'Safe speed range 4 (SSR4)'
Movement monitoring
<table><tr><td>Info2</td><td>0</td><td>Not to be evaluated</td></tr><tr><td></td><td>3</td><td>Upper speed limit of the monitoring range was violated</td></tr><tr><td></td><td>4</td><td>Lower speed limit of the monitoring range was violated</td></tr></table>Ramp monitoring
<table><tr><td>Info3</td><td>0</td><td>Not to be evaluated</td></tr><tr><td></td><td>1</td><td>Actual speed value exceeds maximum permissible value
(60000 1/min)</td></tr><tr><td></td><td>8</td><td>Permissible speed range was exceeded
(only monitoring channel 1)</td></tr><tr><td></td><td>9</td><td>Permissible speed range was dropped below
(only monitoring channel 1)</td></tr><tr><td></td><td>11</td><td>Prm50 'SSR4 brake ramp time':
Current deceleration ramp deviates from the permissible range
(only monitoring channel 2)</td></tr><tr><td></td><td>14</td><td>Permissible speed range was violated
(only monitoring channel 2)</td></tr><tr><td></td><td>15</td><td>Monitoring window following end of ramp violated
(only monitoring channel 2)</td></tr></table></td></tr>
<tr><td>Error reaction</td><td colspan="3">In case of an error in the monitoring of the SSR4 safety function, the parameterised error reaction follows (STO, SS1 or SS2)</td></tr>
<tr><td>Error rectification</td><td colspan="3">• Check why the movement of the drive has violated the limits
• Adjust parameterisation to physical conditions</td></tr>
</table>

<table>
<tr><td>3606</td><td>Info1</td><td>112</td><td>Error message of the safety function 'Safely-limited speed 1 (SLS1)'
Movement monitoring
<table><tr><td>Info2</td><td>0</td><td>Not to be evaluated</td></tr><tr><td></td><td>3</td><td>Upper speed limit of the monitoring range was violated</td></tr><tr><td></td><td>4</td><td>Lower speed limit of the monitoring range was violated</td></tr></table>Ramp monitoring
<table><tr><td>Info3</td><td>0</td><td>Not to be evaluated</td></tr><tr><td></td><td>1</td><td>Actual speed value exceeds maximum permissible value
(60000 1/min)</td></tr><tr><td></td><td>8</td><td>Permissible speed range was exceeded
(only monitoring channel 1)</td></tr><tr><td></td><td>9</td><td>Permissible speed range was dropped below
(only monitoring channel 1)</td></tr><tr><td></td><td>11</td><td>Prm56 'SLS1 brake ramp time':
Current deceleration ramp deviates from the permissible range
(only monitoring channel 2)</td></tr><tr><td></td><td>14</td><td>Permissible speed range was violated
(only monitoring channel 2)</td></tr><tr><td></td><td>15</td><td>Monitoring window following end of ramp violated
(only monitoring channel 2)</td></tr></table></td></tr>
<tr><td>Error reaction</td><td colspan="3">In case of an error in the monitoring of the SLS1 safety function, the parameterised error reaction follows (STO, SS1 or SS2)</td></tr>
<tr><td>Error rectification</td><td colspan="3">• Check why the movement of the drive has violated the limits
• Adjust parameterisation to physical conditions</td></tr>
<tr><td>3606</td><td>Info1</td><td>113</td><td>Error message of the safety function 'Safely-limited speed 2 (SLS2)'
Movement monitoring
<table><tr><td>Info2</td><td>0</td><td>Not to be evaluated</td></tr><tr><td></td><td>3</td><td>Upper speed limit of the monitoring range was violated</td></tr><tr><td></td><td>4</td><td>Lower speed limit of the monitoring range was violated</td></tr></table>Ramp monitoring
<table><tr><td>Info3</td><td>0</td><td>Not to be evaluated</td></tr><tr><td></td><td>1</td><td>Actual speed value exceeds maximum permissible value
(60000 1/min)</td></tr><tr><td></td><td>8</td><td>Permissible speed range was exceeded
(only monitoring channel 1)</td></tr><tr><td></td><td>9</td><td>Permissible speed range was dropped below
(only monitoring channel 1)</td></tr><tr><td></td><td>11</td><td>Prm61 'SLS2 brake ramp time':
Current deceleration ramp deviates from the permissible range
(only monitoring channel 2)</td></tr><tr><td></td><td>14</td><td>Permissible speed range was violated
(only monitoring channel 2)</td></tr><tr><td></td><td>15</td><td>Monitoring window following end of ramp violated
(only monitoring channel 2)</td></tr></table></td></tr>
<tr><td>Error reaction</td><td colspan="3">In case of an error in the monitoring of the SLS2 safety function, the parameterised error reaction follows (STO, SS1 or SS2)</td></tr>
<tr><td>Error rectification</td><td colspan="3">• Check why the movement of the drive has violated the limits
• Adjust parameterisation to physical conditions</td></tr>
</table>

3606	Info1	114	Error message for the safety function 'Safely-limited increment (SLI)' Movement monitoring Info2: 5 – Upper position limit of the monitoring range was violated Info2: 6 – Lower position limit of the monitoring range was violated
Error reaction	In case of an error in the monitoring of the SLI safety function, the parameterised error reaction follows (STO, SS1 or SS2)		
Error rectification	• Check why the movement of the drive has violated the limits • Adjust parameterisation to physical conditions		

3607 'Safety - Internal system error'

• Internal system error			
Device	Functional safety Controller cards KW-R07 / -R17 / -R27 Decentralized drives iCx-xx-**ES**x, iXx-xx-**ES**, iDT5-x-x-xxx-xxxx-xx-**ES**		
Description	Internal error of a process monitoring or a self-test		
Class	Error		
Drive behaviour	The drive remains torque-free		
Device behaviour	The safety monitoring does not switch to the operational state, i.e. the safety functions cannot be put into operation		

Additional information (Info AMK customer service)			
3607	Info1	5	Encoder error, sine encoder detection, monitoring channel 1 Info2: 4 – No stable state of the counter in the determination of the offset Info2: 5 – Default branch run through
Error reaction	In case of an error in the encoder monitoring, 'Save torque off (STO)' follows as error reaction		
Error rectification	• AMK service		

3607	Info1	6	Encoder error, sine encoder detection, monitoring channel 2 Info2: 4 – Counter value cannot be read Info2: 5 – Default branch run through Info2: 6 – No stable state of the counter
Error reaction	In case of an error in the encoder monitoring, 'Save torque off (STO)' follows as error reaction		
Error rectification	• AMK service		

3607	Info1	16	Error messages of the input monitorings, monitoring channel 1 Info2: 2 – Faulty input value Info3: 1 – Input 1 Info3: 2 – Input 2 Info3: 3 – Input 3
Error reaction	In case of an error in the input / output monitorings, 'Save torque off (STO)' follows as error reaction		
Error rectification	• Check wiring of the inputs • Check correctness of dynamic sampling • Check parameterisation of dynamic sampling • Hardware possibly faulty / check • AMK service		

<table>
<tr><td>3607</td><td>Info1</td><td>17</td><td>Error messages of the input monitorings,
monitoring channel 2
<table><tr><td>Info2</td><td>2</td><td>Faulty input value</td></tr></table><table><tr><td rowspan="3">Info3</td><td>1</td><td>Input 1</td></tr><tr><td>2</td><td>Input 2</td></tr><tr><td>3</td><td>Input 3</td></tr></table></td></tr>
<tr><td>Error reaction</td><td colspan="3">In case of an error in the input / output monitorings, 'Save torque off (STO)' follows as error reaction</td></tr>
<tr><td>Error rectification</td><td colspan="3">• Check wiring of the inputs
• Check correctness of dynamic sampling
• Check parameterisation of dynamic sampling
• Hardware possibly faulty / check
• AMK service</td></tr>
</table>

<table>
<tr><td>3607</td><td>Info1</td><td>20</td><td>Error messages of the input monitorings,
monitoring channel 1
<table><tr><td rowspan="10">Info2</td><td>7</td><td>Invalid specification for the allocation of the input 1 in the status</td></tr><tr><td>8</td><td>Invalid specification for the allocation of the input 2 in the status</td></tr><tr><td>9</td><td>Invalid specification for the allocation of the input 3 in the status</td></tr><tr><td>10</td><td>Bit number for input 1 and input 2 in the status value identical</td></tr><tr><td>11</td><td>Bit number for input 1 and input 3 in the status value identical</td></tr><tr><td>12</td><td>Bit number for input 2 and input 3 in the status value identical</td></tr><tr><td>13</td><td>Value of input 1 is too large</td></tr><tr><td>14</td><td>Value of input 2 is too large</td></tr><tr><td>15</td><td>Value of input 3 is too large</td></tr></table></td></tr>
<tr><td>Error reaction</td><td colspan="3">In case of an error in the input / output monitorings, 'Save torque off (STO)' follows as error reaction</td></tr>
<tr><td>Error rectification</td><td colspan="3">• Check wiring of the inputs
• Check correctness of dynamic sampling
• Check parameterisation of dynamic sampling
• Hardware possibly faulty / check
• Info2 = 7 ... 12: AMK service</td></tr>
</table>

3607	Info1	22	Error messages of the input monitorings, monitoring channel 2

Info2		
	7	Invalid specification for the allocation of the input 1 in the status
	8	Invalid specification for the allocation of the input 2 in the status
	9	Invalid specification for the allocation of the input 3 in the status
	10	Bit number for input 1 and input 2 in the status value identical
	11	Bit number for input 1 and input 3 in the status value identical
	12	Bit number for input 2 and input 3 in the status value identical
	13	Value of input 1 is too large
	14	Value of input 2 is too large
	15	Value of input 3 is too large

Error reaction	In case of an error in the input / output monitorings, 'Save torque off (STO)' follows as error reaction
Error rectification	• Check wiring of the inputs • Check correctness of dynamic sampling • Check parameterisation of dynamic sampling • Hardware possibly faulty / check • Info2 = 7 ... 12: AMK service

3607	Info1	23	Error messages of the safe outputs monitoring channel 1

Info2		
	1	A safety function is reported as active although the function is not selected
	5	Internal error
	6	Internal error
	7	Internal error
	8	Internal error

Error reaction	In case of an error in the input / output monitorings, 'Save torque off (STO)' follows as error reaction
Error rectification	• AMK service

3607	Info1	24	Error messages of the safe outputs monitoring channel 2

Info2		
	1	A safety function is reported as active although the function is not selected
	5	Internal error
	6	Internal error
	7	Internal error
	8	Internal error

Error reaction	In case of an error in the input / output monitorings, 'Save torque off (STO)' follows as error reaction
Error rectification	• AMK service

3607	Info1	25	Error messages of the output monitorings, monitoring channel 1

Info2		
	26	Setpoint A1 > 1
	27	Setpoint A2 > 1
	28	Feed forward A1 > limit
	29	Feed forward A2 > limit
	30	Feed forward Dyn > limit

Error reaction	In case of an error in the input / output monitorings, 'Save torque off (STO)' follows as error reaction
Error rectification	• AMK service

3607	Info1	26	Error messages of the output monitorings, monitoring channel 2

Info2	26	Setpoint A1 > 1
	27	Setpoint A2 > 1
	28	Prm104 'SA1.2 output type' > maximum value
	29	Feed forward A2 > limit
	30	Feed forward Dyn > limit

Error reaction	In case of an error in the input / output monitorings, 'Save torque off (STO)' follows as error reaction
Error rectification	• AMK service

3607	Info1	27	Error messages of the output test, monitoring channel 1

Info2	1	

Info3	3	Read-back signal > 1
	4	Setpoint > 1
	5	Instance > 1
	6	Output no. > 1
	7	Test cycle > limit
	8	Signal changing without error monitoring > limit
	9	More than 4 signal changes per ms

Error reaction	In case of an error in the input / output monitorings, 'Save torque off (STO)' follows as error reaction
Error rectification	• AMK service

3607	Info1	28	Error messages of the output test, monitoring channel 2

Info2	1	

Info3	3	Read-back signal > 1
	4	Setpoint > 1
	5	Instance > 1
	6	Output no. > 1
	7	Test cycle > limit
	8	Signal changing without error monitoring > limit
	9	More than 4 signal changes per ms

Error reaction	In case of an error in the input / output monitorings, 'Save torque off (STO)' follows as error reaction
Error rectification	• AMK service

<table>
<tr><td>3607</td><td>Info1</td><td>29</td><td>Module sequence monitoring
<table>
<tr><td>Info2</td><td>1</td><td>me pointer is faulty
<table>
<tr><td>Info3</td><td>1</td><td>Reset</td></tr>
<tr><td></td><td>2</td><td>Do step</td></tr>
</table></td></tr>
<tr><td></td><td>2</td><td>PAU pointer is faulty
<table>
<tr><td>Info3</td><td>n</td><td>Software module no.</td></tr>
</table></td></tr>
<tr><td></td><td>3</td><td>Index exceeds limit
<table>
<tr><td>Info3</td><td>n</td><td>Software module no.</td></tr>
</table></td></tr>
<tr><td></td><td>4</td><td>Identifier is faulty
<table>
<tr><td>Info3</td><td>n</td><td>Software module no.</td></tr>
</table></td></tr>
<tr><td></td><td>5</td><td>Cycle time exceeds tolerance (< minimum)
<table>
<tr><td>Info3</td><td>n</td><td>Time level no.</td></tr>
</table></td></tr>
<tr><td></td><td>6</td><td>Cycle time exceeds tolerance (> maximum)
<table>
<tr><td>Info3</td><td>n</td><td>Time level no.</td></tr>
</table></td></tr>
</table></td></tr>
<tr><td>Error reaction</td><td colspan="3">In case of an error in the module sequence monitoring, 'Save torque off (STO)' follows as error reaction</td></tr>
<tr><td>Error rectification</td><td colspan="3">• Hardware possibly faulty / check
• AMK service</td></tr>
</table>

<table>
<tr><td>3607</td><td>Info1</td><td>30</td><td>Error during reading of a parameter from the safe parameter set
Wrong parameter number or internal system error
<table>
<tr><td>Info2</td><td>nn</td><td>Parameter arrangement, position of the faulty parameter</td></tr>
</table>
<table>
<tr><td>Info3</td><td>0</td><td>Read unsigned integer 16-Bit parameter from the safe parameter set</td></tr>
<tr><td></td><td>1</td><td>Read unsigned integer 32-Bit parameter from the safe parameter set</td></tr>
<tr><td></td><td>2</td><td>Read signed integer 16-Bit parameter from the safe parameter set</td></tr>
<tr><td></td><td>3</td><td>Read signed integer 32-Bit parameter from the safe parameter set</td></tr>
</table></td></tr>
<tr><td>Error reaction</td><td colspan="3">In case of an error while reading the parameters, 'Save torque off (STO)' follows as error reaction</td></tr>
<tr><td>Error rectification</td><td colspan="3">• AMK service</td></tr>
</table>

<table>
<tr><td>3607</td><td>Info1</td><td>38</td><td>Error message of 'Safe encoder monitoring (SEM)'
monitoring channel 1
<table>
<tr><td>Info2</td><td>5</td><td>Wrong state selected</td></tr>
</table></td></tr>
<tr><td>Error reaction</td><td colspan="3">In case of an error in the safe encoder monitoring, 'Save torque off (STO)' follows as error reaction</td></tr>
<tr><td>Error rectification</td><td colspan="3">• AMK service</td></tr>
</table>

<table>
<tr><td>3607</td><td>Info1</td><td>39</td><td>Error message of 'Safe encoder monitoring (SEM)'
monitoring channel 2
<table>
<tr><td>Info2</td><td>5</td><td>Wrong state selected</td></tr>
</table></td></tr>
<tr><td>Error reaction</td><td colspan="3">In case of an error in the safe encoder monitoring, 'Save torque off (STO)' follows as error reaction</td></tr>
<tr><td>Error rectification</td><td colspan="3">• AMK service</td></tr>
</table>

<table>
<tr><td>3607</td><td>Info1</td><td>40</td><td>Error messages communication to P1 system processor
monitoring channel 1 / 2
<table><tr><td>Info2</td><td>1</td><td>Data length is invalid</td></tr><tr><td></td><td>2</td><td>Index for list invalid</td></tr><tr><td></td><td>3</td><td>State in system booting false</td></tr><tr><td></td><td>4</td><td>State in error deletion false</td></tr><tr><td></td><td>5</td><td>Service -> SEEP data is read
(only monitoring channel 2)
<table><tr><td>Info3</td><td>0</td><td>No error</td></tr><tr><td></td><td>1</td><td>Reading SEEP is not possible because of system run-up</td></tr><tr><td></td><td>2</td><td>Reading SEEP is not possible because of data transmission</td></tr><tr><td></td><td>3</td><td>Maximum address exceeded</td></tr></table></td></tr></table></td></tr>
<tr><td>Error reaction</td><td colspan="3">In case of an error in the communication to the system processor, 'Save torque off (STO)' follows as error reaction</td></tr>
<tr><td>Error rectification</td><td colspan="3">• AMK service</td></tr>
<tr><td>3607</td><td>Info1</td><td>70</td><td>Error message FSoE handling
<table><tr><td>Info2</td><td>7</td><td>FSoE error while reading status</td></tr><tr><td></td><td>8</td><td>FSoE error while reading process data</td></tr></table></td></tr>
<tr><td>Error reaction</td><td colspan="3">In case of an error in the FSoE handling, 'Save torque off (STO)' follows as error reaction</td></tr>
<tr><td>Error rectification</td><td colspan="3">• AMK service</td></tr>
<tr><td>3607</td><td>Info1</td><td>71</td><td>Error messages clock monitoring
monitoring channel 1
<table><tr><td>Info2</td><td>1</td><td>State monitoring</td></tr><tr><td></td><td>2</td><td>Clock monitoring is faulty</td></tr><tr><td></td><td>3</td><td>Faulty state</td></tr></table></td></tr>
<tr><td>Error reaction</td><td colspan="3">In case of an error in the clock monitoring, 'Save torque off (STO)' follows as error reaction</td></tr>
<tr><td>Error rectification</td><td colspan="3">• AMK service</td></tr>
<tr><td>3607</td><td>Info1</td><td>72</td><td>Error messages clock monitoring
monitoring channel 2
<table><tr><td>Info2</td><td>1</td><td>State monitoring</td></tr><tr><td></td><td>2</td><td>Clock monitoring is faulty</td></tr><tr><td></td><td>3</td><td>Faulty state</td></tr></table></td></tr>
<tr><td>Error reaction</td><td colspan="3">In case of an error in the clock monitoring, 'Save torque off (STO)' follows as error reaction</td></tr>
<tr><td>Error rectification</td><td colspan="3">• AMK service</td></tr>
<tr><td>3607</td><td>Info1</td><td>73</td><td>Error message system
monitoring channel 1
<table><tr><td>Info2</td><td>1</td><td>FSoE stack / cross communication / clock monitoring were not activated for 3 cycles successively</td></tr><tr><td></td><td>2</td><td>Life counter FSoE is activated</td></tr><tr><td></td><td>3</td><td>Outputs cannot be set</td></tr></table><table><tr><td>Info3</td><td>3</td><td>Monitoring channel 1</td></tr></table></td></tr>
<tr><td>Error reaction</td><td colspan="3">In case of a system error, 'Save torque off (STO)' follows as error reaction</td></tr>
<tr><td>Error rectification</td><td colspan="3">• AMK service</td></tr>
</table>

<table>
<tr><td>3607</td><td>Info1</td><td>74</td><td>Error message system
monitoring channel 2
<table><tr><td>Info2</td><td>1</td><td>FSoE stack / cross communication / clock monitoring were not activated for 3 cycles successively</td></tr><tr><td></td><td>2</td><td>Life counter FSoE is activated</td></tr><tr><td></td><td>3</td><td>Outputs cannot be set</td></tr><tr><td></td><td>4</td><td>Writing history is failed during data transmission</td></tr></table><table><tr><td>Info3</td><td>4</td><td>Monitoring channel 2</td></tr></table></td></tr>
<tr><td>Error reaction</td><td colspan="3">In case of a system error, 'Save torque off (STO)' follows as error reaction</td></tr>
<tr><td>Error rectification</td><td colspan="3">• AMK service</td></tr>
</table>

3607	Info1	100	Error message of the stop and safety functions		
			Info2	100	Start bit allocation > maximum value
				101	Reset bit allocation > maximum value
				102	Reset bit allocation = start bit allocation
				103	Active bit allocation > maximum value
				104	Status bit allocation > maximum value
				105	Error bit allocation > maximum value
				106	Active bit allocation = status bit allocation
				107	Active bit allocation = error bit allocation
				108	Error bit allocation = status bit allocation
				109	Wrong state selected
				114	Monitoring channel 1: SS1 Error reaction > maximum value
				115	Monitoring channel 2: SS1 Error reaction > maximum value
				116	Monitoring channel 1: SS2 Error reaction > maximum value
				117	Monitoring channel 2: SS2 Error reaction > maximum value
				118	Monitoring channel 1: Safety function Pointer not initialised
				119	Monitoring channel 1: Safety function Faulty state
				120	Monitoring channel 2: Safety function Pointer not initialised
				121	Monitoring channel 2: Safety function Faulty state
				122	Monitoring channel 1: SS1 Pointer not initialised
				123	Monitoring channel 1: SS1 Faulty state
				124	Monitoring channel 2: SS1 Pointer not initialised
				125	Monitoring channel 2: SS1 Faulty state
				126	Monitoring channel 1: SS2 Pointer not initialised
				127	Monitoring channel 1: SS2 Faulty state
				128	Monitoring channel 2: SS2 Pointer not initialised
				129	Monitoring channel 2: SS2 Faulty state

			Info3	100	Error message of stop function 'Save torque off (STO)'
				101	Error message of stop function 'Safe stop 1 (SS1)'
				102	Error message of stop function 'Safe stop 2 (SS2)'
				103	Error message of safety function 'Safe operating stop (SOS)'
				104	Error message of safety function 'Safe speed range 1 (SSR1)'
				105	Error message of safety function 'Safe direction positive (SDIp)'
				106	Error message of safety function 'Safe direction negative (SDIn)'
				108	Error message of safety function 'Safe maximum speed (SMS)'
				109	Error message of safety function 'Safe speed range 2 (SSR2)'
				110	Error message of safety function 'Safe speed range 3 (SSR3)'
				111	Error message of safety function 'Safe speed range 4 (SSR4)'
				112	Error message of safety function 'Safely-limited speed 1 (SLS1)'
				113	Error message of safety function 'Safely-limited speed 2 (SLS2)'
				114	Error message of safety function 'Safely-limited increment (SLI)'
Error reaction	In case of an error, 'Save torque off (STO)' follows as error reaction				
Error rectification	• AMK service				

3609 'Safety - Faulty parameter transfer'

• Faulty parameter transfer	
Device	Functional safety Controller cards KW-R07 / -R17 / -R27 Decentralized drives iCx-xx-**ES**x, iXx-xx-**ES**, iDT5-x-x-xxx-xxxx-xx-**ES**
Description	Parameterisation error during system booting or during parameter set transfer • During system booting, the safe parameter set is checked for validity • During parameter set transfer, the safe parameter set is checked for validity and the validation is also monitored during the transfer
Class	Error
Drive behaviour	The drive remains torque-free
Device behaviour	The safety monitoring does not switch to the operational state, i.e. the safety functions cannot be put into operation

<table>
<tr><td colspan="4">Additional information (Info AMK customer service)</td></tr>
<tr><td>3609</td><td>Info1</td><td>3</td><td>Error during sending of the status from monitoring channel 2 to monitoring channel 1
Status: Confirmation of the adoption of the transmitted safe parameter set is requested
<table><tr><td>Info2</td><td>11</td><td>Internal system error
Error during sending of the status from monitoring channel 2 to monitoring channel 1</td></tr><tr><td></td><td>15</td><td>Internal system error
Timeout during sending of the status from monitoring channel 2 to monitoring channel 1</td></tr></table><table><tr><td>Info3</td><td>58</td><td>Transfer of the safe parameter set is started (monitoring channel 2)</td></tr></table></td></tr>
<tr><td>Error rectification</td><td colspan="3">• Transmit the safe parameter set to the device once more
• If the error occurs again, contact AMK service</td></tr>
<tr><td>3609</td><td>Info1</td><td>5</td><td>Error during the importing of the safe parameter set into the SEEP
<table><tr><td>Info2</td><td>5</td><td>Internal system error:
Timeout import parameter set into the SEEP</td></tr><tr><td></td><td>7</td><td>Internal system error: Procedural error</td></tr><tr><td></td><td>8</td><td>Internal system error: Input parameter</td></tr></table><table><tr><td>Info3</td><td>57</td><td>Transfer of the safe parameter set is started (monitoring channel 1)</td></tr><tr><td></td><td>58</td><td>Transfer of the safe parameter set is started (monitoring channel 2)</td></tr></table></td></tr>
<tr><td>Error rectification</td><td colspan="3">• Transmit the safe parameter set to the device once more
• If the error occurs again, contact AMK service</td></tr>
<tr><td>3609</td><td>Info1</td><td>6</td><td>The error occurs if certain functions are not completed during the transfer of the safe parameter set to the device.
<table><tr><td>Info2</td><td></td><td>Not to be evaluated</td></tr></table><table><tr><td>Info3</td><td>55</td><td>Testing of the safe parameter set is started during system booting (monitoring channel 1)</td></tr><tr><td></td><td>56</td><td>Testing of the safe parameter set is started during system booting (monitoring channel 2)</td></tr><tr><td></td><td>57</td><td>Transfer of the safe parameter set is started (monitoring channel 1)</td></tr><tr><td></td><td>58</td><td>Transfer of the safe parameter set is started (monitoring channel 2)</td></tr></table></td></tr>
<tr><td>Error rectification</td><td colspan="3">• Switch the device off/on
• Possibly transmit the safe parameter set to the device once more</td></tr>
</table>

3609	Info1	7	Resulting error: Within a certain time, the expected status from monitoring channel 2 does not arrive
			Info2 / 7: Internal system error: Procedural error Info2 / 8: Internal system error: Input parameter Info2 / 12: Timeout during reading of the status from monitoring channel 2 Info3 / 55: Testing of the safe parameter set is started during system booting (monitoring channel 1) Info3 / 57: Transfer of the safe parameter set is started (monitoring channel 1)
Error rectification	• Switch the device off/on • Possibly transmit the safe parameter set to the device once more		

3609	Info1	8	Internal system error
			Info2 / : Not to be evaluated Info3 / 55: Testing of the safe parameter set is started during system booting (monitoring channel 1) Info3 / 56: Testing of the safe parameter set is started during system booting (monitoring channel 2) Info3 / 57: Transfer of the safe parameter set is started (monitoring channel 1) Info3 / 58: Transfer of the safe parameter set is started (monitoring channel 2) Info3 / 59: Testing of the safe parameter set is completed during system booting (monitoring channel 1) Info3 / 60: Testing of the safe parameter set is completed during system booting (monitoring channel 2) Info3 / 61: Transfer of the safe parameter set is completed (monitoring channel 1) Info3 / 62: Transfer of the safe parameter set is completed (monitoring channel 2)
Error rectification	• AMK service		

3609	Info1	9	Transfer of the safe parameter set is successfully completed
			Info2 / 0: "The transfer of the safe parameter set has been successfully completed, please restart." (This information is always displayed when the safe parameter set has been successfully transmitted to the device!) Info2 / 11: Internal system error: Error during sending of the status from monitoring channel 2 to monitoring channel 1 Info2 / 15: Internal system error: Timeout during sending of the status from monitoring channel 2 to monitoring channel 1 Info3 / 61: Transfer of the safe parameter set is completed (monitoring channel 1) Info3 / 62: Transfer of the safe parameter set is completed (monitoring channel 2)
Error rectification	• Switch the device off/on • Possibly transmit the safe parameter set to the device once more • If an internal system error occurs, contact AMK service		

<table>
<tr><td>3609</td><td>Info1</td><td>10</td><td>Internal system error
Error during reading of the verification number from the SEEP in monitoring channel 2
<table><tr><td>Info2</td><td>7</td><td>Internal system error: Procedural error</td></tr><tr><td></td><td>11</td><td>Internal system error:
Error during sending of the status from monitoring channel 2 to monitoring channel 1</td></tr><tr><td></td><td>13</td><td>Internal system error:
Reading of the check sum from the SEEP monitoring channel 2 has been completed incorrectly</td></tr><tr><td></td><td>14</td><td>Internal system error:
Timeout in the reading function of the check sum from the SEEP monitoring channel 2</td></tr><tr><td></td><td>15</td><td>Internal system error:
Timeout during sending of the status from monitoring channel 2 to monitoring channel 1</td></tr></table><table><tr><td>Info3</td><td>56</td><td>Testing of the safe parameter set is started during system booting
(monitoring channel 2)</td></tr></table></td></tr>
<tr><td>Error rectification</td><td colspan="3">• Switch the device off/on
• Possibly transmit the safe parameter set to the device once more
• If an internal system error occurs, contact AMK service</td></tr>
</table>

<table>
<tr><td>3609</td><td>Info1</td><td>11</td><td>Internal system error
<table><tr><td>Info2</td><td>16</td><td>Secure the timeout in the check sum function in SEEP monitoring channel 2</td></tr></table><table><tr><td>Info3</td><td>58</td><td>Transfer of the safe parameter set is started
(monitoring channel 2)</td></tr></table></td></tr>
<tr><td>Error rectification</td><td colspan="3">• Switch the device off/on
• Possibly transmit the safe parameter set to the device once more
• If an internal system error occurs, contact AMK service</td></tr>
</table>

<table>
<tr><td>3609</td><td>Info1</td><td>73</td><td>Internal system error
<table><tr><td>Info2</td><td>0</td><td>During system run-up, an error in checksum 2 was detected within CRC examination
<table><tr><td>Info3</td><td>3</td><td>Monitoring channel 1</td></tr></table></td></tr></table></td></tr>
<tr><td>Error reaction</td><td colspan="3">In case of a system internal error, 'Save torque off (STO)' follows as error reaction</td></tr>
<tr><td>Error rectification</td><td colspan="3">• Transmit the safe parameter set to the device once more
• Following error of 3605 'Safety - Invalid parameterisation' or 3609 'Safety - Faulty parameter transfer' at system startup. The initiating error was deleted by the controller.
  • Switch the device off/on
  • Check ID32840 'Diagnostic list'
  • Check parametrization
• AMK service</td></tr>
</table>

<table>
<tr><td>3609</td><td>Info1</td><td>74</td><td>Internal system error<table>
<tr><td>Info2</td><td>0</td><td>During system run-up, an error in checksum 2 was detected within CRC examination<table><tr><td>Info3</td><td>4</td><td>Monitoring channel 2</td></tr></table></td></tr>
<tr><td></td><td>5</td><td>New parameter set is transmitted</td></tr>
</table></td></tr>
<tr><td>Error reaction</td><td colspan="3">In case of a system internal error, 'Save torque off (STO)' follows as error reaction</td></tr>
<tr><td>Error rectification</td><td colspan="3">• Transmit the safe parameter set to the device once more
• Info 2 = 0, Info 3 = 4: Following error of 3605 'Safety - Invalid parameterisation' or 3609 'Safety - Faulty parameter transfer' at system startup. The initiating error was deleted by the controller.
  • Switch the device off/on
  • Check ID32840 'Diagnostic list'
  • Check parametrization
• AMK service</td></tr>
</table>

<table>
<tr><td>3609</td><td>Info1</td><td>128</td><td>The current parameter set is invalid<table>
<tr><td>Info2</td><td>4</td><td>Failed to calculate and compare the checksums. The checksum of the safe parameter set and the calculated checksum differ.</td></tr>
<tr><td></td><td>6</td><td>This version of the checked parameter set is not compatible with the device version or the safe parameter set is not available on the device</td></tr>
<tr><td></td><td>9</td><td>Error during comparison of test sums
Check sum from the current safe parameter set and check sum from the SEEP, monitoring channel 2, are different
Hardware was replaced</td></tr>
<tr><td></td><td>10</td><td>The check sum read from the SEEP, monitoring channel 2 is 0</td></tr>
<tr><td>Info3</td><td>55</td><td>Testing of the safe parameter set is started during system booting
(monitoring channel 1)</td></tr>
<tr><td></td><td>56</td><td>Testing of the safe parameter set is started during system booting
(monitoring channel 2)</td></tr>
<tr><td></td><td>57</td><td>Transfer of the safe parameter set is started
(monitoring channel 1)</td></tr>
<tr><td></td><td>58</td><td>Transfer of the safe parameter set is started
(monitoring channel 2)</td></tr>
</table></td></tr>
<tr><td>Error rectification</td><td colspan="3">• Transmit the valid safe parameter set to the device once more</td></tr>
</table>

<table>
<tr><td>3609</td><td>Info1</td><td>131</td><td>Error during sending of the status from monitoring channel 2 to monitoring channel 1
Status: Confirmation of the adoption of the transmitted safe parameter set is requested
The current parameter set is invalid<table>
<tr><td>Info2</td><td>11</td><td>Internal system error
Error during sending of the status from monitoring channel 2 to monitoring channel 1</td></tr>
<tr><td></td><td>15</td><td>Internal system error
Timeout during sending of the status from monitoring channel 2 to monitoring channel 1</td></tr>
<tr><td>Info3</td><td>58</td><td>Transfer of the safe parameter set is started
(monitoring channel 2)</td></tr>
</table></td></tr>
<tr><td>Error rectification</td><td colspan="3">• Transmit the safe parameter set to the device once more
• If the error occurs again, contact AMK service</td></tr>
</table>

3609	Info1	133	Error during the importing of the safe parameter set into the SEEP The current parameter set is invalid

Info2	5	Internal system error: Timeout import parameter set into the SEEP
	7	Internal system error: Procedural error
	8	Internal system error: Input parameter

Info3	57	Transfer of the safe parameter set is started (monitoring channel 1)
	58	Transfer of the safe parameter set is started (monitoring channel 2)

Error rectification	• Transmit the safe parameter set to the device once more • If the error occurs again, contact AMK service

3609	Info1	135	Resulting error: Within a certain time, the expected status from monitoring channel 2 does not arrive The current parameter set is invalid

Info2	7	Internal system error: Procedural error
	8	Internal system error: Input parameter
	12	Timeout during reading of the status from monitoring channel 2.

Info3	55	Testing of the safe parameter set is started during system booting (monitoring channel 1)
	57	Transfer of the safe parameter set is started (monitoring channel 1)

Error rectification	• Switch the device off/on • Possibly transmit the safe parameter set to the device once more

3609	Info1	136	Internal system error

Info2		Not to be evaluated

Info3	55	Testing of the safe parameter set is started during system booting (monitoring channel 1)
	56	Testing of the safe parameter set is started during system booting (monitoring channel 2)
	57	Transfer of the safe parameter set is started (monitoring channel 1)
	58	Transfer of the safe parameter set is started (monitoring channel 2)
	59	Testing of the safe parameter set is completed during system booting (monitoring channel 1)
	60	Testing of the safe parameter set is completed during system booting (monitoring channel 2)
	61	Transfer of the safe parameter set is completed (monitoring channel 1)
	62	Transfer of the safe parameter set is completed (monitoring channel 2)

Error rectification	• AMK service

<table>
<tr><td>3609</td><td>Info1</td><td>137</td><td>Transfer of the safe parameter set is successfully completed
The current parameter set is invalid
<table><tr><td>Info2</td><td>0</td><td>"The transfer of the safe parameter set has been successfully completed, please restart."
(This information is always displayed when the safe parameter set has been successfully transmitted to the device!)</td></tr><tr><td></td><td>11</td><td>Internal system error:
Error during sending of the status from monitoring channel 2 to monitoring channel 1</td></tr><tr><td></td><td>15</td><td>Internal system error:
Timeout during sending of the status from monitoring channel 2 to monitoring channel 1</td></tr></table><table><tr><td>Info3</td><td>61</td><td>Transfer of the safe parameter set is completed (monitoring channel 1)</td></tr><tr><td></td><td>62</td><td>Transfer of the safe parameter set is completed (monitoring channel 2)</td></tr></table></td></tr>
<tr><td>Error rectification</td><td colspan="3">• Switch the device off/on
• Possibly transmit the safe parameter set to the device once more
• If an internal system error occurs, contact AMK service</td></tr>
<tr><td>3609</td><td>Info1</td><td>138</td><td>Internal system error
The current parameter set is invalid
<table><tr><td>Info2</td><td>13</td><td>Error in function 'Read checksum from SEEP monitoring channel 2'</td></tr><tr><td></td><td>14</td><td>Timeout in function 'Read checksum from SEEP monitoring channel 2'</td></tr><tr><td></td><td>15</td><td>Timeout during sending of the checksum to monitoring channel 1</td></tr></table><table><tr><td>Info3</td><td>56</td><td>Testing of the safe parameter set is started during system booting
(monitoring channel 2)</td></tr></table></td></tr>
<tr><td>Error rectification</td><td colspan="3">• Switch the device off/on
• If the error occurs again, contact AMK service</td></tr>
<tr><td>3609</td><td>Info1</td><td>139</td><td>Internal system error
The current parameter set is invalid
<table><tr><td>Info2</td><td>0</td><td>Not to be evaluated</td></tr><tr><td></td><td>16</td><td>Timeout in function 'Secure checksum to SEEP monitoring channel 2'</td></tr></table><table><tr><td>Info3</td><td>58</td><td>Transfer of the safe parameter set is started (monitoring channel 2)</td></tr></table></td></tr>
<tr><td>Error rectification</td><td colspan="3">• Switch the device off/on
• Possibly transmit the safe parameter set to the device once more
• If an internal system error occurs, contact AMK service</td></tr>
</table>

3610 'Safety - Warning during operation'

• Warning in a monitoring during operation	
Device	Functional safety Controller cards KW-R07 / -R17 / -R27 Decentralized drives iCx-xx-**ES**x, iXx-xx-**ES**, iDT5-x-x-xxx-xxxx-xx-**ES**
Description	A monitoring has detected a deviation from a limit value during operations
Class	Warning
Drive behaviour	See error reaction towards the individual additional information Info1
Device behaviour	

3610	Info1	13	Warning message monitoring cross communication

Info2	3	Status difference between 2 monitoring channels detected: SS1
	4	Status difference between 2 monitoring channels detected: SS2

Info3	3	Monitoring channel 1
	4	Monitoring channel 2

Error reaction	In case of a warning in the monitoring of the cross communication, SS1 or SS2 follows
Error rectification	• Info2 = 3, 4: resulting error

3610	Info1	38	Warning messages of the 'Safe encoder monitoring (SEM)' Monitoring channel 1

Info2	3	Warning: Prm9 'Transition time in case of standstill' was exceeded

Error reaction	After the expiration of Prm10 'Reaction time in case of standstill' an error is generated and 'Safe stop 1 (SS1)' follows as error reaction
Error rectification	• See 'PDK_203446_Sicherheitshandbuch_KW-R07, Safe Encoder Monitoring (SEM)' • Move device

3610	Info1	39	Warning messages of the 'Safe encoder monitoring (SEM)' Monitoring channel 2

Info2	3	Warning: Prm9 'Transition time in case of standstill' was exceeded

Error reaction	After the expiration of Prm10 'Reaction time in case of standstill' an error is generated and 'Safe stop 1 (SS1)' follows as error reaction
Error rectification	• See 'PDK_203446_Sicherheitshandbuch_KW-R07, Safe Encoder Monitoring (SEM)' • Move device

3610	Info1	40	Warning message of communication to P1

Info2	0	Flashing process is started

Info3	0	RF is active
	1	Start identifier for flashing not found
	2	Identifier 'SPImon' not found
	3	Faulty state
	10	SEEP reading invalid if RF is active
	11	Parameter set transmission invalid if RF is active
	15	Parameter set transmission invalid if RF is active

Error reaction	A warning of communication to P1 can be cleared
Error rectification	• Withdraw RF • Start flash process again • AMK service

3610	Info1	75	Warning message of the hardware monitoring, switch-off path Monitoring channel 1

Info2	6	For more than 1 hour, no dynamic check of the line drivers could be carried out. Possible cause: • Power output stage enable (EF) of the device is inactive • STO is active

Error reaction	A warning of hardware monitoring can be cleared
Error rectification	• Probably hardware defect / check • AMK service • This warning message cannot be reset until a new dynamic check of the line drivers is done

3610	Info1	76	Warning message of the hardware monitoring, switch-off path Monitoring channel 2

Info2	6	For more than 1 hour, no dynamic check of the line drivers could be carried out. Possible cause: • Power output stage enable (EF) of the device is inactive • STO is active

Error reaction	A warning of hardware monitoring can be cleared
Error rectification	• Probably hardware defect / check • AMK service • This warning message cannot be reset until a new dynamic check of the line drivers is done

3610	Info1	104	Warning message for the safety function 'Safe speed range 1 (SSR1)'

Movement monitoring

Info2	0	Not to be evaluated
	3	Upper speed limit of the monitoring range was violated
	4	Lower speed limit of the monitoring range was violated

Ramp monitoring

Info3	0	Not to be evaluated
	1	Actual speed value exceeds maximum permissible value (60000 1/min)
	8	Permitted speed range was exceeded
	9	Permitted speed range was fallen short of
	14	Permitted speed range was violated
	15	Monitoring window following end of ramp violated

Error reaction	In case of a warning in the monitoring of the safety function SSR1, the parameterised error reaction follows (STO, SS1 or SS2)
Error rectification	• Check why the movement of the drive has violated the limits • Adjust parameterisation to physical conditions

3610	Info1	108	Warning message for the safety function 'Safe maximum speed (SMS)'

Movement monitoring

Info2	3	Upper speed limit of the monitoring range was violated
	4	Lower speed limit of the monitoring range was violated

Error reaction	In case of a warning in the monitoring of the safety function SMS, the parameterised error reaction follows (STO, SS1 or SS2)
Error rectification	• Check why the movement of the drive has violated the limits • Adjust parameterisation to physical conditions

3610	Info1	109	Warning message for the safety function 'Safe speed range 2 (SSR2)'
			Movement monitoring
			Info2: 0 – Not to be evaluated 3 – Upper speed limit of the monitoring range was violated 4 – Lower speed limit of the monitoring range was violated
			Ramp monitoring
			Info3: 0 – Not to be evaluated 1 – Actual speed value exceeds maximum permitted value (60000 1/min) 8 – Permitted speed range was exceeded 9 – Permitted speed range was fallen short of 14 – Permitted speed range was violated 15 – Monitoring window following end of ramp violated
Error reaction	In case of a warning in the monitoring of the safety function SSR2, the parameterised error reaction follows (STO, SS1 or SS2)		
Error rectification	• Check why the movement of the drive has violated the limits • Adjust parameterisation to physical conditions		

3610	Info1	110	Warning message for the safety function 'Safe speed range 3 (SSR3)'
			Movement monitoring
			Info2: 0 – Not to be evaluated 3 – Upper speed limit of the monitoring range was violated 4 – Lower speed limit of the monitoring range was violated
			Ramp monitoring
			Info3: 0 – Not to be evaluated 1 – Actual speed value exceeds maximum permitted value (60000 1/min) 8 – Permitted speed range was exceeded 9 – Permitted speed range was fallen short of 14 – Permitted speed range was violated 15 – Monitoring window following end of ramp violated
Error reaction	In case of a warning in the monitoring of the safety function SSR3, the parameterised error reaction follows (STO, SS1 or SS2)		
Error rectification	• Check why the movement of the drive has violated the limits • Adjust parameterisation to physical conditions		

3610	Info1	111	Warning message for the safety function 'Safe speed range 4 (SSR4)'
			Movement monitoring
			Info2: 0 – Not to be evaluated 3 – Upper speed limit of the monitoring range was violated 4 – Lower speed limit of the monitoring range was violated
			Ramp monitoring
			Info3: 0 – Not to be evaluated 1 – Actual speed value exceeds maximum permitted value (60000 1/min) 8 – Permitted speed range was exceeded 9 – Permitted speed range was fallen short of 14 – Permitted speed range was violated 15 – Monitoring window following end of ramp violated
Error reaction	In case of a warning in the monitoring of the safety function SSR4, the parameterised error reaction follows (STO, SS1 or SS2)		
Error rectification	• Check why the movement of the drive has violated the limits • Adjust parameterisation to physical conditions		

<table>
<tr><td>3610</td><td>Info1</td><td>112</td><td>Warning message for the safety function 'Safely-limited speed 1 (SLS1)'
Movement monitoring
<table><tr><td>Info2</td><td>0</td><td>Not to be evaluated</td></tr><tr><td></td><td>3</td><td>Upper speed limit of the monitoring range was violated</td></tr><tr><td></td><td>4</td><td>Lower speed limit of the monitoring range was violated</td></tr></table>Ramp monitoring
<table><tr><td>Info3</td><td>0</td><td>Not to be evaluated</td></tr><tr><td></td><td>1</td><td>Actual speed value exceeds maximum permitted value (60000 1/min)</td></tr><tr><td></td><td>8</td><td>Permitted speed range was exceeded</td></tr><tr><td></td><td>9</td><td>Permitted speed range was fallen short of</td></tr><tr><td></td><td>14</td><td>Permitted speed range was violated</td></tr><tr><td></td><td>15</td><td>Monitoring window following end of ramp violated</td></tr></table></td></tr>
<tr><td>Error reaction</td><td colspan="3">In case of a warning in the monitoring of the safety function SLS1, the parameterised error reaction follows (STO, SS1 or SS2)</td></tr>
<tr><td>Error rectification</td><td colspan="3">• Check why the movement of the drive has violated the limits
• Adjust parameterisation to physical conditions</td></tr>
</table>

<table>
<tr><td>3610</td><td>Info1</td><td>113</td><td>Warning message for the safety function 'Safely-limited speed 2 (SLS2)'
Movement monitoring
<table><tr><td>Info2</td><td>0</td><td>Not to be evaluated</td></tr><tr><td></td><td>3</td><td>Upper speed limit of the monitoring range was violated</td></tr><tr><td></td><td>4</td><td>Lower speed limit of the monitoring range was violated</td></tr></table>Ramp monitoring
<table><tr><td>Info3</td><td>0</td><td>Not to be evaluated</td></tr><tr><td></td><td>1</td><td>Actual speed value exceeds maximum permitted value (60000 1/min)</td></tr><tr><td></td><td>8</td><td>Permitted speed range was exceeded</td></tr><tr><td></td><td>9</td><td>Permitted speed range was fallen short of</td></tr><tr><td></td><td>14</td><td>Permitted speed range was violated</td></tr><tr><td></td><td>15</td><td>Monitoring window following end of ramp violated</td></tr></table></td></tr>
<tr><td>Error reaction</td><td colspan="3">In case of a warning in the monitoring of the safety function SLS2, the parameterised error reaction follows (STO, SS1 or SS2)</td></tr>
<tr><td>Error rectification</td><td colspan="3">• Check why the movement of the drive has violated the limits
• Adjust parameterisation to physical conditions</td></tr>
</table>

<table>
<tr><td>3610</td><td>Info1</td><td>114</td><td>Warning message for the safety function 'Safely-limited increment (SLI)'
Movement monitoring
<table><tr><td>Info2</td><td>0</td><td>Not to be evaluated</td></tr><tr><td></td><td>3</td><td>Upper position limit of the monitoring range was violated</td></tr><tr><td></td><td>4</td><td>Lower position limit of the monitoring range was violated</td></tr></table>Ramp monitoring
<table><tr><td>Info3</td><td>0</td><td>Not to be evaluated</td></tr><tr><td></td><td>1</td><td>Actual speed value exceeds maximum permitted value (60000 1/min)</td></tr></table></td></tr>
<tr><td>Error reaction</td><td colspan="3">In case of a warning in the monitoring of the safety function SLS2, the parameterised error reaction follows (STO, SS1 or SS2)</td></tr>
<tr><td>Error rectification</td><td colspan="3">• Check why the movement of the drive has violated the limits
• Adjust parameterisation to physical conditions</td></tr>
</table>

3.24 No. 3840 ... 3871 Operating system

3840 'File access'

• General data error			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
	Info 1	2	Wrong parameters transferred
		3	Illegal file name
		4	Floppy drive not found
		5	To many files open
		6	No more files found
		7	Wrong device identified
		8	Unknown data system
		9	Can not find file name
		10	Unknown filehandle has been transferred
		11	Device is not supported
		12	Function is not supported
		13	Error partition table
		14	Too many devices present
		15	Wrong file position stated
		16	Access not possible (access right is active)
		17	Text buffer is to small
		18	General device error
		19	Path not found
		20	FAT is defect
		21	Root directory is full
		22	Floppy drive is full
		23	Timeout
		24	Defective sector
		25	Data error (checksum)
		26	Device has been changed
		27	Sector not found
		28	Address label not found
		29	Floppy drive not ready (e.g. no disk)
		30	Floppy is write protected
		31	DMA-Overrun
		32	CRC-error
		33	Device resource-error
		34	Defective sector size
		35	No buffer available
		36	File already exists
		37	Data position out of range
		38	File is to big
Error Removal	• Check memory device		

3841 'System diagnostics'

• Internal communication: Error message returned from end device			
Device			
Description			
Class	Warning		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
Error Localization			
	Info 2		Number of the addressed ID
	Info 4		Number of the parameter set
Error Removal			

3842 'System diagnostics'

• Internal communication: No heap memory could be addressed.			
Device			
Description			
Class	Warning		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
Error Localization			
	Info 2		Number of the addressed ID
	Info 4		Number of the parameter set
Error Removal			

3843 'System diagnostics'

• Internal communication: Source module does not exist (not logged in?)			
Device			
Description	An access attempt came from a module unknown to the internal communications system (i.e., not logged in)		
Class	Warning		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
Error Localization			
	Info 2		Number of the addressed ID
	Info 4		Number of the parameter set
Error Removal			

3844 'System diagnostics'

• Internal communication: The addressed target does not exist			
Device			
Description	An unknown target was addressed (via routing "ID32944 SYADR").		
Class	Warning		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
Error Localization			
	Info 2		Number of the addressed ID
	Info 4		Number of the parameter set
Error Removal			

3845 'System diagnostics'

Device			
Description	A target has been accessed that is already occupied by another source module.		
Class	Warning		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
Error Localization			
	Info 2		Number of the addressed ID
	Info 4		Number of the parameter set
Error Removal			

3846 'System diagnostics'

• Internal communication: A module has logged on that already exists (number already assigned?)			
Device			
Description			
Class	Warning		
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
Error Localization			
	Info 2		Number of the addressed ID
	Info 4		Number of the parameter set
Error Removal			

3847 'System diagnostics'

• Internal communication: The element code is unknown			
Device			
Description			
Class	Warning		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
Error Localization			
	Info 2		Number of the addressed ID
	Info 4		Number of the parameter set
Error Removal			

3848 'System diagnostics'

• Internal communication: Too many modules have logged in or • Internal communication: Too many paths have been opened			
Device			
Description			
Class	Warning		
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
Error Localization			
	Info 2		Number of the addressed ID
	Info 4		Number of the parameter set
Error Removal			

3849 'System diagnostics'

• Internal communication: Protocol or command order is incorrect			
Device			
Description			
Class	Warning		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
Error Localization			
	Info 2		Number of the addressed ID
	Info 4		Number of the parameter set
Error Removal			

3850 'System diagnostics'

• A bus connected to the internal communication is not in standby mode (e.g., SBUS token error)			
Device			
Description			
Class	Warning		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
Error Localization			
	Info 2		Number of the addressed ID
	Info 4		Number of the parameter set
Error Removal			

3851 'System diagnostics'

• An internal communication path has been occupied by a module by writing to routing "ID32944 SYADR" and has no longer been used for a fixed period (blocking).			
Device			
Description	Timeout internal communication		
Class	Warning		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
Error Localization			
	Info 2		Number of the addressed ID
	Info 4		Number of the parameter set
Error Removal			

3852 'System diagnostics'

• An internal communication path specified by a module is not valid or is no longer valid.			
Device			
Description			
Class	Warning		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
Error Localization			
	Info 2		Number of the addressed ID
	Info 4		Number of the parameter set
Error Removal			

3853 'System diagnostics'

• Router error in module setting			
Device	**AS-PL15** **AS-Cxx-1**		
Description			
Class	Error		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
Error Localization			
	Info 2		Number of the addressed ID
	Info 4		Number of the parameter set
Error Removal	Check parameterisation		

3854 'System diagnostics'

• Router memory overflow of the inernal buffer			
Device	**AS-PL15** **AS-Cxx-1**		
Description			
Class	Error		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
Error Localization			
	Info 2		Number of the addressed ID
	Info 4		Number of the parameter set
Error Removal	Check parameterisation		

3855 'System diagnostics'

• Router memory overflow at access to the internal database			
Device	**AS-PL15** **AS-Cxx-1**		
Description			
Class	Error		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
Error Localization			
	Info 2		Number of the addressed ID
	Info 4		Number of the parameter set
Error Removal	Check parameterisation		

3860 'ADB-File access'

• Access to parameter data bank ADB not possible			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
	Info 1	0	No adb-file found
		1	File can not be opened
		2	Read error
		3	General File interpretation error (e.g. checksum, version, …)
		4	Entry maximum list length is missing Info2 | | ID
Error Removal	• Check ADB or transfer again		

3861 'System start / update'

• Firmware update AMKAMAC not successful (RTB-File faulty or BOOT-Device could not been generated) • Firmware update option AS-FCT1, AS-FCT2 not successful, Hex-File faulty			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
	Info 1	1 - 14	Software update not successful
		30	Firmware update option AS-FCT1, AS_FCT2 not successful, Hex-File faulty
Error Removal			

<table>
<tr><td colspan="4">• Error during system start or update</td></tr>
<tr><td>Device</td><td colspan="3">A4 / A5 / iSA</td></tr>
<tr><td>Description</td><td colspan="3"></td></tr>
<tr><td>Class</td><td colspan="3">Error</td></tr>
<tr><td>Drive Behaviour</td><td colspan="3"></td></tr>
<tr><td>Device Behaviour</td><td colspan="3"></td></tr>
<tr><td colspan="4">Additional Error Information (AMK Service)</td></tr>
<tr><td rowspan="6"></td><td rowspan="6">Info 1</td><td>18</td><td>Timeout Problem during System Startup</td></tr>
<tr><td>19</td><td>Hardware Problem during System Startup</td></tr>
<tr><td>20</td><td>Error while flashing I/O card</td></tr>
<tr><td>21</td><td>Error while flashing I/O card
<table>
<tr><td rowspan="8">Info 2</td><td>1</td><td>Task is invalid</td></tr>
<tr><td>2</td><td>Command from CMD file is invalid</td></tr>
<tr><td>3</td><td>Memory problem</td></tr>
<tr><td>4</td><td>Binary file not available for flashing</td></tr>
<tr><td>5</td><td>Target module not available</td></tr>
<tr><td>6</td><td>No firmware in binary file</td></tr>
<tr><td>7</td><td>Invalid binary file
<table>
<tr><td>Info 3</td><td>7</td><td>Firmware file check sum incorrect</td></tr>
</table></td></tr>
</table></td></tr>
<tr><td>22</td><td>Error in host synchronisation</td></tr>
<tr><td>30</td><td>Firmware update of option AS-FCT1, AS-FCT2 failed, hex file corrupt</td></tr>
<tr><td>Error Removal</td><td colspan="3"></td></tr>
</table>

3862 'System diagnostics'

• System exception, CPU error			
Device			
Description			
Class	Warning		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
	Exception in PLC-Tasks (user program)		
	Info1	16	Task monitoring failed
		17	Hardware monitoring failed
		18	Bus error
		19	Check sum error on program loading
		20	Field bus error
		21	I/O map update failed
		22	Cycle time exceeded
		23	“Online change” program too large
		26	Retain-memory to small or not available (AS-FCT1)
		27	Boot project could not be loaded, it was deleted
		39	PLC overload
		80	Invalid instruction
		81	Access infringement
		82	Privileged instruction
		83	Page error
		84	Stack overflow
		85	Invalid arrangement
		86	Invalid access code
		87	Access to protected page
		88	Double error
		89	Double error
		256	Access to uneven address
		257	Array limit exceeded
		258	Division by zero
		259	Overflow
		260	Not ignorable exception
		336	Floating point unit: General error
		337	Floating point unit: Not normalized operand
		338	Floating point unit: Division by zero
		339	Floating point unit: Inaccurate result
		340	Floating point unit: Inaccurate instruction
		341	Floating point unit: Overflow
		342	Floating point unit: Stack check failed
		343	Floating point unit: Underflow
	Exception AMKAMAC System program 65536…		
Error Removal			

3863 'System diagnostics'

• Router memory overflow internal buffer			
Device	**AS-PL15** **AS-Cxx-1**		
Description			
Class	Warning / Error		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
	Info 1	0	Timeout PGT task
		1	Time overflow copy command (e.g. to many data's configured with SERCOS)
		2	PLC controller configuration error
		3	Too many asynchronous send data per "ID 2 SERCOS cycle time"
		4	Time overflow "timer task"
		5	Time overflow EtherCAT "send task"
		6	Time overflow task "cyclic"
		7	Access to not configured input
		8	Access to not configured output
		10	System exit
		11	Battery error, all the BIOS values were received, because they are saved into a flash module. The system time will be set on 00:00:00. The system data will be set on 01.01.2001.
		12	File system error
		13	Temperature error
		14	Error in initialisation of the system library
		15	Checksum error in root file system
Error Removal	Check parameterisation		

<table>
<tr><td>Device</td><td colspan="3">A4 / A5 / A6 / iSA</td></tr>
<tr><td>Description</td><td colspan="3">Error / warning on system runtime</td></tr>
<tr><td>Class</td><td colspan="3">Warning / Error</td></tr>
<tr><td>Drive Behaviour</td><td colspan="3"></td></tr>
<tr><td>Device Behaviour</td><td colspan="3"></td></tr>
<tr><td colspan="4">Additional Error Information (AMK Service)</td></tr>
<tr><td rowspan="16"></td><td rowspan="16">Info 1</td><td>0</td><td>Time overflow PGT task in PLC</td></tr>
<tr><td>1</td><td>Time overflow copying functions (e.g., too much data in configuration)</td></tr>
<tr><td>2</td><td>Error in PLC controller configuration</td></tr>
<tr><td>3</td><td>Too much asynchronous transmission data per "ID2 SERCOS cycle time"</td></tr>
<tr><td>4</td><td>Overflow of internal timer</td></tr>
<tr><td>5</td><td>Overflow of EtherCAT transmission task (e.g., too much data in configuration)</td></tr>
<tr><td>6</td><td>Overflow of cyclical task, system is overloaded</td></tr>
<tr><td>7</td><td>Access to unassigned communications input data</td></tr>
<tr><td>8</td><td>Access to unassigned communications output data</td></tr>
<tr><td>9, 10</td><td>Internal error</td></tr>
<tr><td>11</td><td>Battery error, battery is empty
• All BIOS values are kept because they are stored in the flash module.
•The system time will be set on 00:00:00. The system data will be set on 01.01.2001.</td></tr>
<tr><td>12</td><td>Error checking file system for PLC program and parameters.</td></tr>
<tr><td>13</td><td>Temperature error. Device was operated at an excessively high ambient temperature.</td></tr>
<tr><td>14</td><td>Internal error</td></tr>
<tr><td>15</td><td>Error checking Linux file system</td></tr>
<tr><td>20</td><td>Error in runtime system P3
<table><tr><td rowspan="2">Info 2</td><td></td><td>Information about cause of error -> AMK Service</td></tr><tr><td>224</td><td>Meaning for A4 / A6 /
EtherCAT CC bus: Synchronization error in connection with option A-SEC</td></tr></table></td></tr>
<tr><td>21</td><td>Error at activation of backlight function</td></tr>
<tr><td>Error Removal</td><td colspan="3">• Info 1 = 11, 12:
Please send the device to AMK for repairs.
• Info 1 = 20, Info 2 = 224: Set ID34026 'BUS mode attribute' instance 2 bit 15 = 1</td></tr>
</table>

3864 'Bus configuration'

• Testing configuration of the buses • Test cycle time ID 2 for the buses. The values in the different instances must in each case be divisible by all smaller values • Ethernet faultily parameterised			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
	Info 1	1	Bus Master or slave definition invalid
		2	"ID2 SERCOS cycle time" in the different instances invalid
		3	• Ethernet double parameterized; see "ID34140 AS BUS protocol" • IP addresses invalid (see Ethernet parameterisation) • "ID34141 AS card address" invalid, wrong slot number Info 2: Ethernet instance
Error Removal			

• System configuration			
Device	**A5**		
Description	Error in system configuration		
Class	Error		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
	Info 1	1	Bus master or slave definition invalid
		2	"ID2 SERCOS cycle time" is invalid in the different instances
		3	• Ethernet parameterised twice; see "ID34140 AS BUS protocol • IP addresses invalid (see Ethernet configuration) • "ID34141 AS card address" invalid, incorrect slot number Info 2: Ethernet instance
		4	Invalid dongle code, device not enabled for this communication Info 2: Instance
		6	Invalid configuration "ID32917 Time zone"
		7	Internal error
		8	Invalid bus type, check "ID34140 AS BUS protocol" Info 3: Instance
		9	Error during bus initialisation Info 2 = 1: Invalid bus type; check "ID34140 AS BUS protocol" (Info 3: Instance) Info 2 = 2: Invalid bus type; check "ID34025 BUS mode" (Info 3: Instance) Info 2 = 5: Bus not ready, I/O option does not exist (Info 3: Instance = 3)
Error Removal			

3865 'Software version option'

• Software version of the active option module is not compatible with the software level of the basic system			
Device			
Description			
Class			
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
			Instance of the not compatible option module
Error Removal			

3867 'System diagnostics'

• Error in updating device data record			
Device	**AS-PL15** **AS-Cxx-1**		
Description			
Class	Error		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
	Info 1	1	Update is faulty which is controlled by the configuration file
			Info 2: 2 – Configuration file faulty 10 – Invalid device data 11 – Invalid ID selection 17 – Invalid configuration for generation of the device data record
		2	Devices can not be accessed over fieldbus
		3	Timeout during update
		4	Data record does not fit to device
Error Removal	• Info 1 = 4: Select a fitting data record • Check configuration of fieldbus		

• Parameter Update			
Device	**A5**		
Description	Error in parameter update functionality		
Class	Fehler		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
	Info 1	1	Internal error
		2	Device could not be accessed
			Info 2: 1 – ASC-Bus 2 – CC-Bus Info 3: Busadresse
		3	Timeout communication
		4	Data record does not fit to device
Error Removal			

3868 'System diagnostics'

• Error during initialisation of system			
Device	**A5**		
Description			
Class	Error		
Drive Behaviour			
Device Behaviour			
Additional Error Information (AMK Service)			
	Info 1	1	Error in module communications, source module does not exist
		2	Error in module communications, target module does not exist
		3	Packet transfer error in DPM gateway
		4	Error initialising real-time data
		5	Error initialising slave interface (P2)
		6	Error initialising master interface (P3)
		8	Error in memory allocation
		9	Error in memory allocation
		10 - 12	Internal error Info 2 | Module number
Error Removal			

• Error internal communication			
Device	**iSA**		
Description			
Class	Error		
Drive Behaviour			
Device Behaviour	System run-up aborted		
Additional Error Information (AMK Service)			
	Info 1	1	Error in module communications, source module does not exist
		2	Error in module communications, target module does not exist
		3	Packet transfer error in DPM gateway
		4	Error initialising real-time data
		5	Error initialising slave interface (P2)
		6	Error initialising master interface (P3)
		8	Error in memory allocation
		9	Error in memory allocation
		10 - 12	Internal error Info 2 | Module number
		13	Internal error: Message corrupt, invalid length in the head
		14	Internal error: Message corrupt, invalid commando
		15	Internal error: Message corrupt, invalid user data length
		16	Internal error: Message corrupt, invalid user data length
		17	Internal error: Timeout internal communication
Error Removal			

3869 'I/O Optional Card'

• E/A Optionskarte			
Device	**A5**		
Description	Error during initialisation of system		
Class	Error		
Drive Behaviour			
Device Behaviour			
Additional Information (AMK Service)			
	Info 1	10	Incorrect check sum
		11	Incorrect SPI message ID
		12	Protocol error
		13	Error SPI real-time transmission data
		14	Error SPI real-time reception data
Error Removal			

3871 'System diagnostics: Communication'

• Communication error with the supply			
Device	**iSA**		
Description			
Class	Error		
Drive Behaviour			
Device Behaviour			
Additional Information (AMK Service)			
	Info 1	1	Internal error during access parameters
		2	Internal error during cyclical communication with the supply
		3	Programming supply not allowed. **DANGER** **Danger to life by electric shock from touching electrical connections!** DC bus (DC bus terminals) remains loaded despite error condition.
		4	Programming supply aborted because file error.
Error Removal	• Info 1 = 2 New programming the supply (ISA) over ATF • Info 1 = 3 When programming via ATF, create external 24V supply voltage at X08 • Info 1 = 4 New programming the supply (ISA) over ATF		

4 Messages through control panel, error deletion

1. In the case of error:

Error
DIAGNOSTICS NEXT

F3
F1

(DIAGNOSTICS)

xxxx	Aqq zz
abcd	

xxxx: Diagnostic No.
Aqq: Error source (AZ0,4Wn)
zz: Error counter
abcd: Diagnostic text

3. Display of further diagnostic messages which (if present) are stored in the diagnostic stack.

4. Switch off inverter on (UE) and controller enable (RF).

5. Remove cause of fault

6.

DELETE ERROR DIAGNOSTICS	SYSTEM STARTUP

7.

Shift

F3
F1

Error delection active

For some seconds then:

DELETE ERROR DIAGNOSTICS	SYSTEM STARTUP

Alternatively an error deletion can take place with inactive “Inverter on and controller enable” signals through the binary input FL at AZ X30, FL at KU X33 or through active option cards such as AZ-PSx. Error deletion always results in a partial system initialization. This lasts approx. 2 s per activated drive. Only after the end of this time and the “Group ready” message can the system be restarted.

Error deletion with active UE/RF

1. In the case of error:

Error	
DIAGNOSTICS	NEXT

F3
F1

(DIAGNOSTICS)

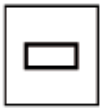
xxxx	Aqq zz
abcd	

xxxx: Diagnostic No.
Aqq: Error source (AZ0,4Wn)
zz: Error counter
abcd: Diagnostic text

3. Display of further diagnostic messages which (if present) are stored in the diagnostic stack.

4. Switch off inverter on (UE) and controller enable (RF).

5. Remove cause of fault



6.

DELETE ERROR	SYSTEM
DIAGNOSTICS	STARTUP

7.

Shift

F3
F1

Error delection active

For some seconds then:

DELETE ERROR	SYSTEM
DIAGNOSTICS	STARTUP

Internal diagnostic information

(F2 key on “System diagnostics” message, or “See description”)

1.

(DIAGNOSTICS)

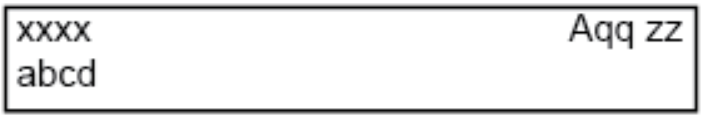
2.

3.

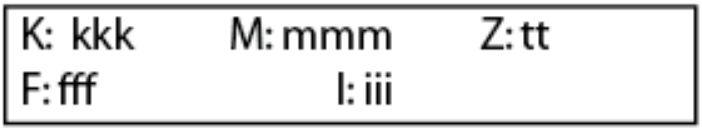
Display of the internal data structure of further messages if present. Further information can be found in the “Clocking out the diagnostic message” section.

Please note all values and inform the AMK service (Tel.: +49 (0) 7021/50 05-191).


F3
F1


xxxx
Aqq zz
abcd


F4
F2


K: kkk
M: mmm
Z: tt
F: fff
I: iii

Glossary

A

A1
Analog input 1

ADO
Address offset (EtherCAT)

A7
AMKAMAC controller A7

A-SPB
Profibus DP slave interface

A-SPN
Profinet IO Device interface

AZSSINT
AZ system-internal interface for users such as AZ-PSx, AZ-MC1, …

AZB
AZ control panel

AZ-R01
AZ computer (board designation)

AZ-PSx
Programmable control option card

AZ-MC1
NC option card

AZ-EA8
EA8 option card (binary input/output card)

AL
Application Layer (EtherCAT)

AZ
AZ central drive computer (AZ/AW series)

AW
AMKASYN inverter (AZ/AW series)

A-encoder
Inductive magnetoresistor sensor with sine and cosine track and homing signal (zero pulse)

AT
Drive telegram from slave to master

ASCII
American Standard Code for Information Interchange

AIPEX
AMK startup and parameterizing software (PC software): Programming, parameterization, configuration, diagnosis, oscilloscope, status information

AZ-EA24
EA24 option card (binary input/output card)

AIPAR
AMKASYN startup parameterizing software

AFP
AMK fieldbus protocol for drive control (e.g. homing, relative Positioning, digital speed control etc.)

ADB
AMK database - file in XML format with information about all AMK parameters

ACC
AMK CAN Communication (CAN bus interface with standard CANopen protocol DS301 and additional hardware synchronization signal)

B

BA
Operation mode

BAV
Operation mode management

BAx
Digital output on controller card (BA1, BA2, BA3)

BIN
Binary (digital)

BZO
DC bus ready: upper value

C

CoE
CAN application protocol over EtherCAT

CRC
Cyclic redundancy check (Checksum)

CMD
Commanding

CAN
Controller Area Network

D

Default
Factory setting

DO
Digital output

DI
Digital input

DC
Distributed Clock (EtherCAT)

DEALLOC
Memory enable

DEZ
Decimal

DRIVE
Drive-specific parameter (Value is valid inside only one parameter set)

DTH
Database

DZR
Speed control

E

EnDat 2.1
Motor encoder interface protocol of the company Heidenhain

EnDat 2.2
Motor encoder interface protocol of the company Heidenhain

ES1
Main contactor interruption

ES2
Main contactor interruption

EtherCAT
Real-time Ethernet bus

EF2
Power output stage enable

E-encoder
Absolute encoder, singleturn, EnDAT 2.1 with additional sine and cosine track

EF
Power output stage enable

F

FSM
Finite State Machine (EtherCAT)

Formal parameter
Formal parameters don't have remanent values in parameter handling

FTP
File transfer protocol

FSoE
Fail-Safe over EtherCAT

FORMAL
Formal parameter

FL
Command (Causes a new system run-up)

Firmware
System software, loaded by AMK

F-encoder
Absolute encoder, multiturn, EnDAT 2.1 with additional sine and cosine track

FIPO
Fine interpolator

G

GLOBAL
Global parameter; valid for all parameter sets

H

Hiperface DSL
Motor encoder interface protocol of the company Sick Stegmann

HEX
Hexadecimal, 0x...

Hiperface
Motor encoder interface protocol of the company Sick Stegmann

HW
Hardware

I

iDT
AMKASMART Servo motors with integrated inverter

ihXT
AMKASMART Servo motors with integrated inverter

iSA
AMKASMART decentralized controller with power supply

I
Input

I/O
Input / output

iC
AMKASMART decentralized inverter with power supply

ID
Parameter identification numbers acc. to SERCOS Standard

IGBT
Power electronic component, e. g. transistor

I-encoder
Incremental encoder, optical encoder with sine and cosine track and zero pulse

i²t
Integral of the squared current over time

IM
Magnetizing current

IMAX
Inverter maximum current

IN
Nominal current

Instance
Parameters, depending on the fieldbus, are instanced. For each bus, different values can be parameterized (bus depending participant address, transmission rate etc.). Field bus interfaces and slots where field bus option cards can be installed are allocated to instances (see product documentation)

IPO
Interpolator

iX
AMKASMART decentralized inverter

K

KEN
AMKASYN compact power supply without recovery

KWF
AMKASYN U/f double AC inverter

Kv
Position loop factor

KE/KW
Modular AMK drive system (contains compact power supply KE, compact inverter KW with controller card and applicable option card)

KW
AMKASYN compact inverter

KTY
Type of a temperature sensor

KW-Rxx
AMKASYN controller card for installation into compact inverter

KWD
AMKASYN compact double inverter to control two motors

KE
AMKASYN compact power supply with recovery

KU
AMKASYN compact converter

KP
Proportional gain (speed control, PID controller)

KMD-SS
Commanding interface

KMD
Command, commanding

KES
AMKASYN compact power supply with sinusoidal voltage and current

L

LIW
Actual position value

LSB
Least Significant Bit

LT
Logical participant

M

MSB
Most Significant Bit

MDT
Master Data Telegram from master to slave

MCE
Motor Controller Electronic

M(N)
Nominal torque

MNU
Menu on AZ control panel

Modulo
Modulo processing of position setpoint and actual values

MON
Monitor (AW or KU)

MPU
Measuring steps of the encoder per revolution (digital value for P- and Q-encoders)

MST
Master synchronization telegram

N

n
Speed

n(act)
Actual speed value

NIP
Zero pulse of encoder

NK
Cam switch

NMT
Network management (CANopen)

n(n)
Nominal speed

n(set)
Speed setpoint

O

OPT
Option slot

Operational
In state operational, data are transferred cyclically via fieldbus

P

PTC
PTC resistor

PGT
Periphery basic clock Fetch cycle in the basic device to which the drive controller is synchronized (The cycle time is according to ID2)

P-encoder
Absolute encoder singleturn, EnDAT 2.2 light

PEEP
Parallel EEPROM

PDO
Process Data Object

PDK_xxxxxx_abcdefgh
Product documentation; xxxxxx - AMK part no. , abcdefgh - name

Parameter
Identification number acc. to SERCOS standard

PS
Programmable controller

PV
Photovoltaics

PWM
Pulse width modulation

Q

QUE
Acknowledgment DC bus on; shows that DC bus is loaded

QRF
Acknowledgment controller enable; the drive is controlled in the activated operation mode

Q-encoder
Absolute encoder multiturn, EnDAT 2.2 light

QBR
Acknowledgment motor holding brake

R

RM
Motor with integrated frequency inverter

RF
Command 'Controller enable'; the drive is energized and will be controlled depending on the selected operation mode. Controller enable can only be set if the device is error-free (SBM = TRUE) and acknowledgement DC bus on is set (QUE = TRUE).Acknowledgement controller enable (QRF) is set.

RPDO
Remote process data object

S

SW
Software

STO
Safe torque off (Safety function acc. to DIN EN 61800-5-2)

SSR
Safe speed range (Safety function acc. to DIN EN 61800-5-2)

SS2
Safe stop 2 (Safety function acc. to DIN EN 61800-5-2)

SWC
Software commutation

SoS
Safe operating stop (Safety function acc. to DIN EN 61800-5-2)

SA
Safe output

SAK
Following distance error compensation

SBM
System ready message; shows that the device is error-free In case of error. SBM will be reset

SBUS
AMK-specific protocol for serial interfaces

SDO
Service Data Object

SE
Safe input

SEEP
Device-internal memory, serial EEPROM

SEM
Safe encoder monitoring

S-encoder
Absolute encoder, singleturn, RS485 Hiperface with sine and cosine track

SERCOS
Standardized digital interface for communication between controller and field bus participants.

SS1
Safe Stop 1 (Safety function acc. to DIN EN 61800-5-2)

SoE
Servodrive Profile (SERCOS) over EtherCAT (Acc. to IEC 61800-7-300)

SMS
Safe maximum speed (Safety function)

SLS
Safely-limited speed (Safety function acc. to DIN EN 61800-5-2)

SLI
Safely-limited increment (Safety function acc. to DIN EN 61800-5-2)

SIWL
Software pulse transmission

T

TR
Rotor time constant

T
Temperature or time period

t
Time

Td
Differentiating time in speed control (PID controller)

T-encoder
Absolute encoder, multiturn, RS485 Hiperface with sine and cosine track

Tn
Integral-action time in speed control (PID controller)

U

U/f
Voltage / frequency control (open loop)

UA1
Analog command value voltage for AW analog input A1

UE
Command 'DC bus on' control signal to load the DC bus e.g. in KE. DC bus on can only be set if the device is error-free (SBM = TRUE). After the DC bus is loaded, the acknowledgement message QUE is set.

U-encoder
Absolute encoder, singleturn, RS485 Hiperface with sine and cosine track

V/f
Voltage / frequency control (open loop)

ub_basync
Bit block for controlling the command value synchronization in the drive

UPS
Uninterruptible power supply

V

V-encoder
Absolute encoder, multiturn, RS485 Hiperface with sine and cosine track

VA
Volt ampere

X

X(s)
Position command value

Y

Y-encoder
Absolute encoder, singleturn or multiturn, RS485 Hiperface DSL

Z

ZWR
Central inverter

Your opinion is important!

With our documentation we want to offer you the highest quality support in handling the AMK products.
That is why we are now working on optimizing our documentation.
Your comments or suggestions are always of interest to us.
We would be grateful if you take a bit of time and answer our questions. Please return a copy of this page to us.

e-mail: Documentation@amk-group.com
or
fax no.: +49 7021/50 05-199

Thank you for your assistance.
Your AMK documentation team

1. How would you rate the layout of our AMK documentation?

   (1) very good (2) good (3) satisfactory (4) less than satisfactory (5) poor

2. Is the content structured well?

   (1) very good (2) good (3) moderate (4) hardly (5) not at all

3. How easy is it to understand the documentation?

   (1) very easy (2) easy (3) moderately easy (4) difficult (5) extremely difficult

4. Did you miss any topics in the documentation?

   (1) no (2) if yes, which ones:

5. How would you rate the overall service at AMK?

   (1) very good (2) good (3) satisfactory (4) less than satisfactory (5) poor

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