

p/Q controller

RE 30134/12.05
Replaces: 05.04

1/8

Type VT-VACAP

Unit series 2X



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Features

- Analog amplifiers in Europe card format for installation in 19" rack
- Suitable for servo solenoid valves with on-board electronics
- Closed-loop position control with PID action
- Short-circuit-proof outputs
- External deactivation for pressure controller
- Suitable for pressure sensors (1...6 V, 0...10 V, 4...20 mA)
- Supply for pressure sensors
- Detection of open circuit to pressure sensors

Testing and service equipment

- Test adapter type VT-PA-3, see RE 30070

Accessories

- Pressure sensors type HM18, see RE 30271

Ordering data

VT

V

A

C

A

P

500

2X

V0

Hydraulic component
(actuation)
Axis control

= A

Valve type
Controller

= C

Actuation
Analog

= A

Function
p/Q control

= P

Option
2 channels

2CH =

Customized version
Catalog version

V0 =

Unit series
Unit series 20 to 29

2X =

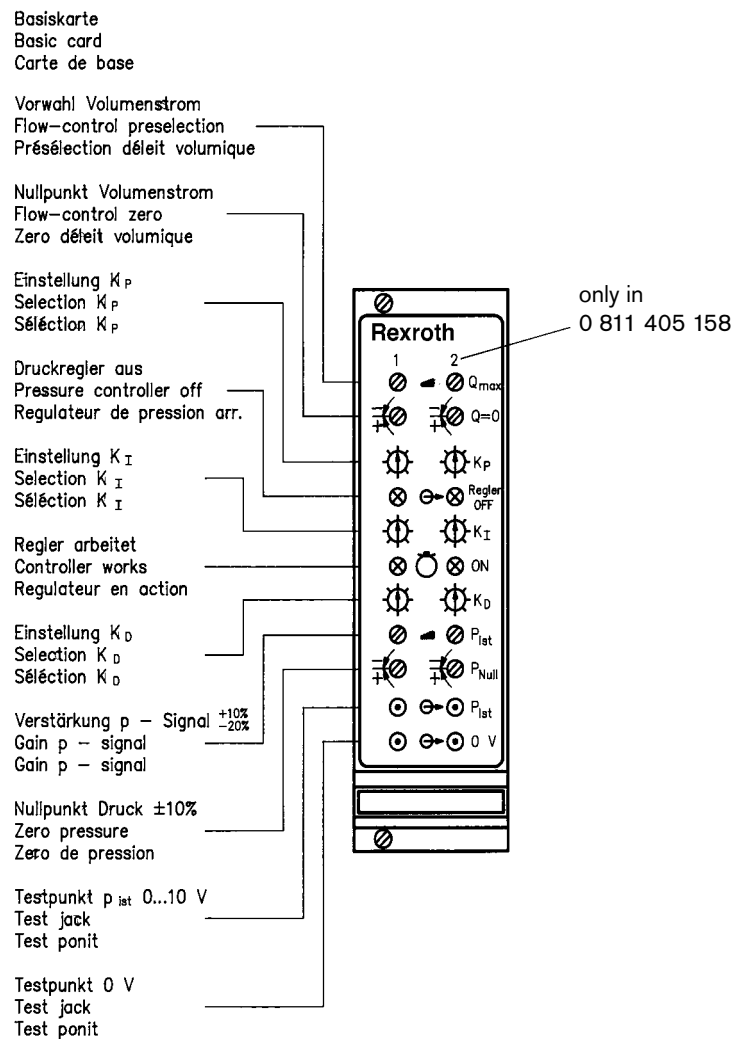
Serial number for types

500 = Standard version without valve amplifier function

Preferred types

Type	Material No.	For valve types
VT-VACAP-500-20/V0	0 811 405 157	Servo solenoid valves with on-board electronics
VT-VACAP-500-20/V0/2CH	0 811 405 158	Servo solenoid valves with on-board electronics

Front plate



Applications

The "single-channel p/Q controller card" consists of the basic card in standard Europe format together with DC/DC converter and front plate. The "2-channel p/Q controller card" version consists of this same basic card equipped with an additional p/Q daughter card incorporating the same circuitry. The two cards share a common front plate.

The supply voltage is 24 V DC. This card does not provide the power supply for the valve being regulated.

The input parameters for the cards comprise the setpoint value for valve position, the setpoint value for pressure, the actual (feedback) pressure and any control mode signals. The pressure sensors with voltage interface receive their voltage supply from the card (z6/z8).

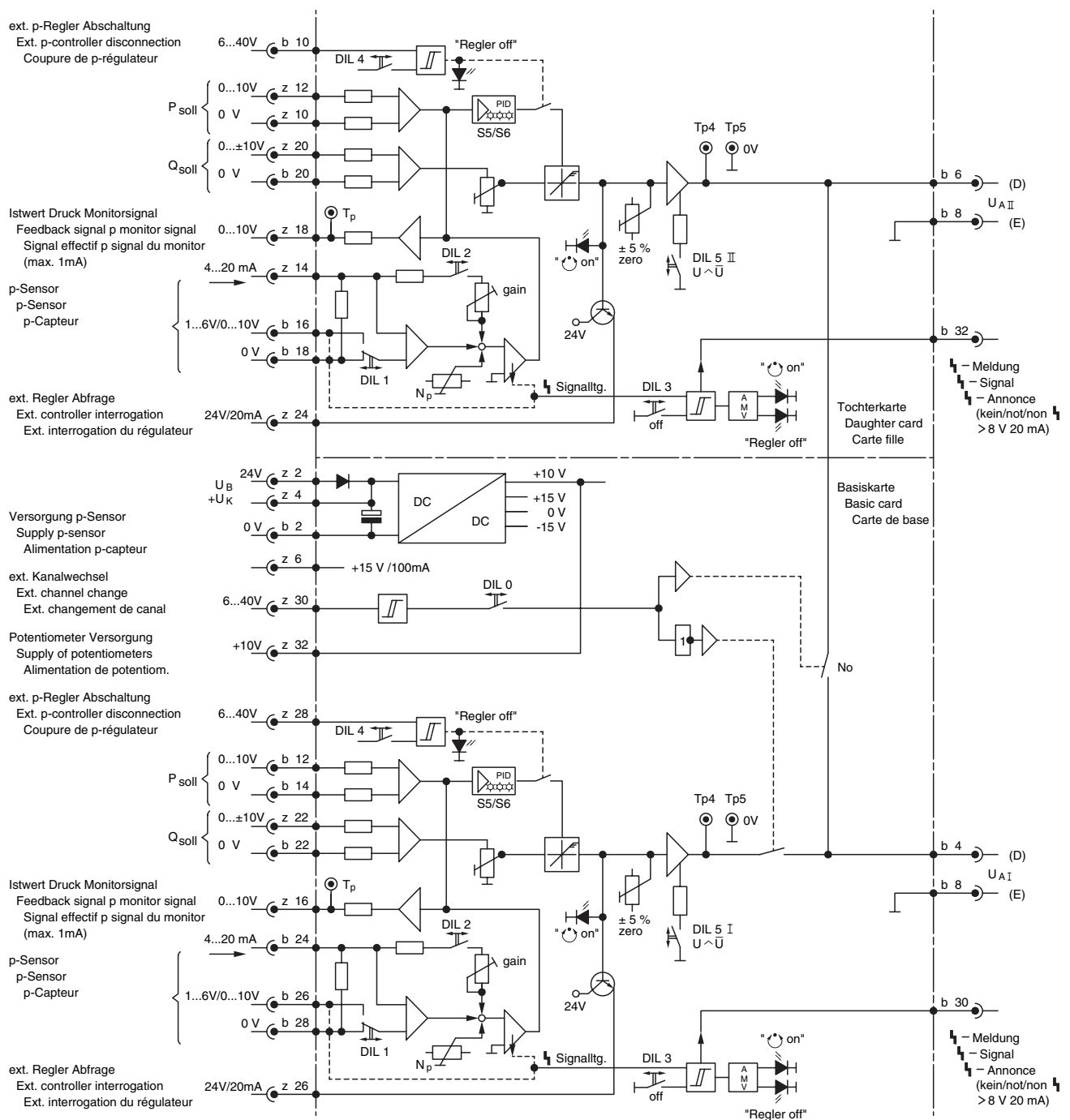
Cards are for the connection of pressure sensors with both voltage and current signals.

The setpoint value for pressure is selected via potentiometer. The potentiometers can be supplied from the card (z32/b12). Test connections in the front plate and on the card are available for monitoring and compensation tuning of the most important parameters.

The circuitry of the "2-channel card" is designed to allow fully independent operation of the controller on the basic card and that on the daughter card. In this mode, the card can be employed to control 2 valves with on-board electronics (see example 2).

An additional channel mode circuit provides a substantial increase in the range of optional applications for these cards (see example 1).

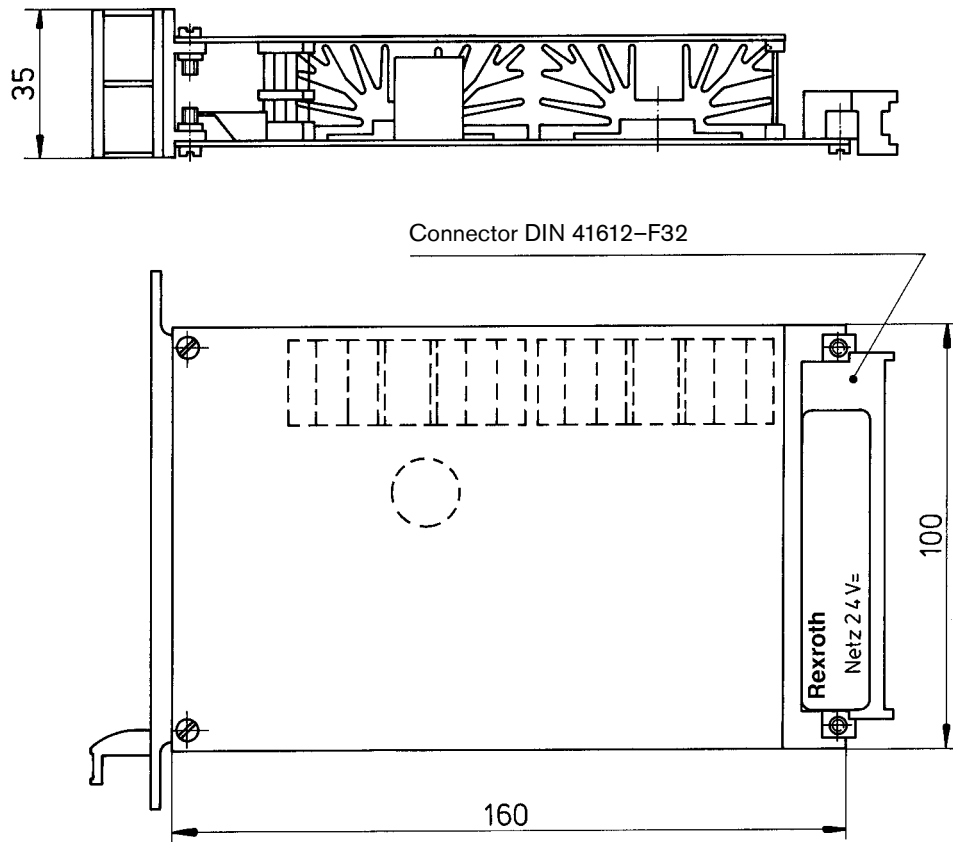
Block diagram with terminal assignment



Daughter card installed only on 2-channel version

Technical data

Specifications		
PCB format	mm	(100 x 160 x approx. 35)/(W x L x H), Europe format with front plate (7 modular spacings)
Plug connection		Connector DIN 41612-F32
Ambient temperature	°C	Operating temperature 0...+70, storage temperature -20...+70
Power supply U_B at z2-b2		24 V DC nominal, Battery voltage 21...40 V Rectified AC voltage $U_{eff} = 21...28$ V (single phase, full-wave rectification)
Smoothing capacitor at z4-b2		4700 µF/63 V DC, only if ripple $U_B > 10\%$
Current rating		0 811 405 157 max. 160 mA
		0 811 405 158 max. 220 mA
	Basis card	Daughter card
Pressure sensor (1...6 V/0...10 V) Pressure sensor (4...20 mA)	b26-ref. b28 b24-ref. b28	b16-ref. b18 z14-ref. b18
Pressure sensor supply – V	z6 (+15 V)/b8 (0 V)	
Pressure setpoint (0...10) V	b12/b14 (0 V)	z12/z10 (0 V)
External controller deactivation	z28: 6...40 V DC	b10: 6...40 V DC
External controller readout	z26: 24 V DC, max. 20 mA	z24: 24 V DC, max. 20 mA
Monitor signal p_{actual}	z16: 0...10 V DC	z18: 0...10 V DC
External channel selection mode	z30: 6...40 V DC	
Flow setpoint	z22: 0...±10 V DC b22: 0 V	z20: 0...±10 V DC b22: 0 V
Potentiometer supply	z32: +10 V, max. 10 mA	
Output	U_{AI1} ; b4/b8 (0 V): 0...±10 V Load $R_L > 1$ kΩ	U_{AI1} ; b6/b8 (0 V): 0...±10 V Load $R_L > 1$ kΩ
Cable: Pressure sensor Valve PLC signals	4 x 0.5 mm ² (screened) 5 x 0.5 mm ² (screened) 0.5 mm ² (screened)	
LED displays/channel	Pressure controller OFF Controller operating Open circuit to pressure sensor (both above-mentioned LED's flash)	
Special features	Monitoring for open circuit to pressure sensor Test connections for major parameters External deactivation of pressure controller External channel selection mode For use with various pressure sensors	

Unit dimensions (nominal dimensions in mm)

Notes
