

Typ 10 N \triangleq NK 10

Application

The level switch 10 N is used as a safety device in thermotechnical as well as in process plants to prevent liquid levels from falling below the lowest permissible limit. As a limiter, the instrument meets the safety requirements of DIN 4754 for plants with organic liquids.

Features

- temperatures resistant up to 400 °C
- wetted parts of stainless steel
- double-walled stainless steel bellows
- heat-resistant varnish

Operation

The level switch is installed with the float system extending into the liquid-filled vessel. The float rod transfers the movement of the float, which is a result of the varying liquid level, directly to a micro switch.

The fixpoint of the float rod is located in the unpressurized part of the switch, which is sealed against the pressurized part by a stainless steel bellows.

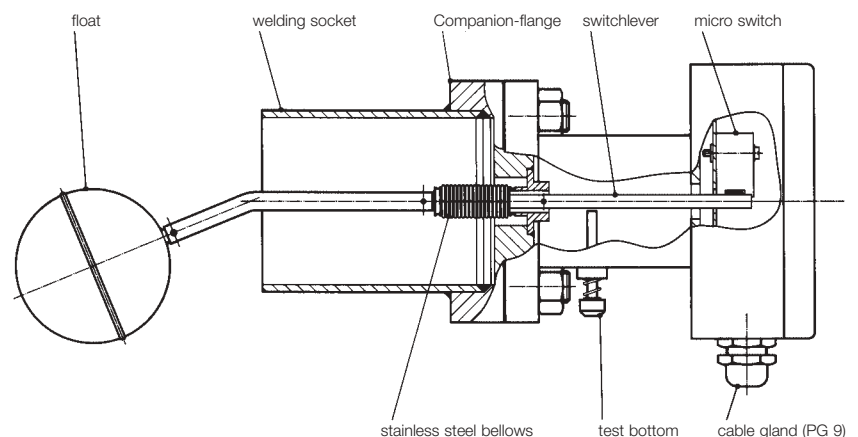
The switch is equipped with a test button, which allows a functional check of the signal circuit acc. to DIN 32 728, without draining the vessel.

In case of pressing this test button moves the float against the buoyancy force of the liquid and thus simulates a falling liquid level.

According to DIN 32 728, a locking and unlocking device, which meets the requirements of DIN 57 116 / VDE 0116, has to be incorporated in the subsequent electric circuit, if the instrument is to be used as a level limiter.



Functional Diagram



Technical Data

Type 10 N S 80, 10 N S 90, 10 N 61, 10 N 80

Maximum operating pressure _____ 16 bar
 Maximum medium temperature _____ 400 °C
 Maximum permissible ambient temperature _____ 70 °C

Type 10 N 65/10

Maximum operating pressure _____ 10 bar
 Maximum medium temperature _____ 350 °C
 Maximum permissible ambient temperature _____ 70 °C

All types

Contact rating _____ 250 V, 6 A, resistance load
 Electrical connection _____ internal terminal board
 Enclosure classification _____ IP 55 acc. to DIN 40 050
 Minimum specific gravity _____ $\rho = 0.6 \text{ kg/dm}^3$
 Switching hysteresis _____ approx. 6 mm
 Installation _____ horizontally

Material

Switching point difference _____ max. 30 mm

Material

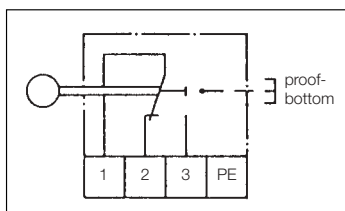
Float system _____ 1.4301
 Stainless steel bellows _____ 1.4541
 Welding Socket _____ St. 35.8
 Flanges _____ 1.0425 (H II)
 bzw. 15 Mo 3

Electrical Connection

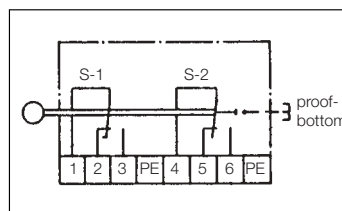
The electrical connection has to be carried out in accordance to the applicate codes and standards (VDE-regulations) and with the rules set by the power supply company.

Electrical Connection

1 micro-switch



2 micro-switches



Dimensioned Drawings

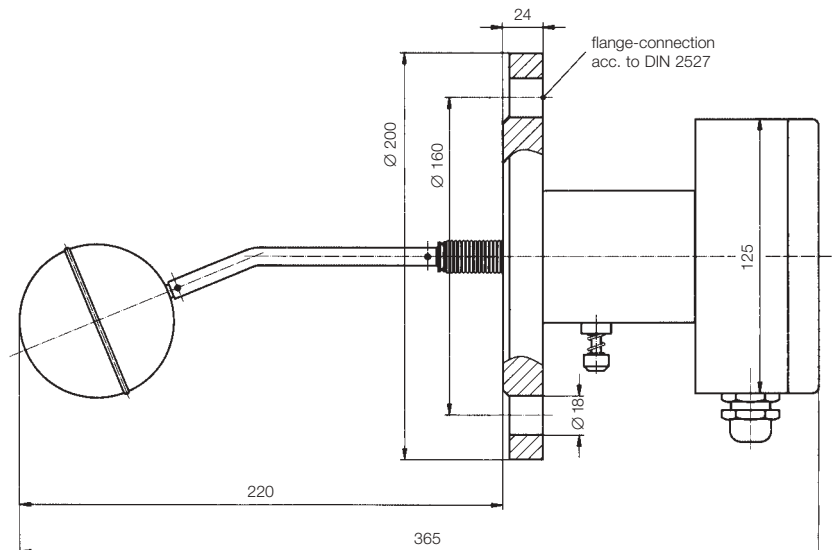
Mounting Type ... 10 N 80

These switches are equipped with a mounting flange according to DIN 2501.

Mounting flange

Type Flange
10 N 80 DN 80 PN 25

The switch must be positioned in such a way that the unobstructed movement of the float in the vertical direction is guaranteed.



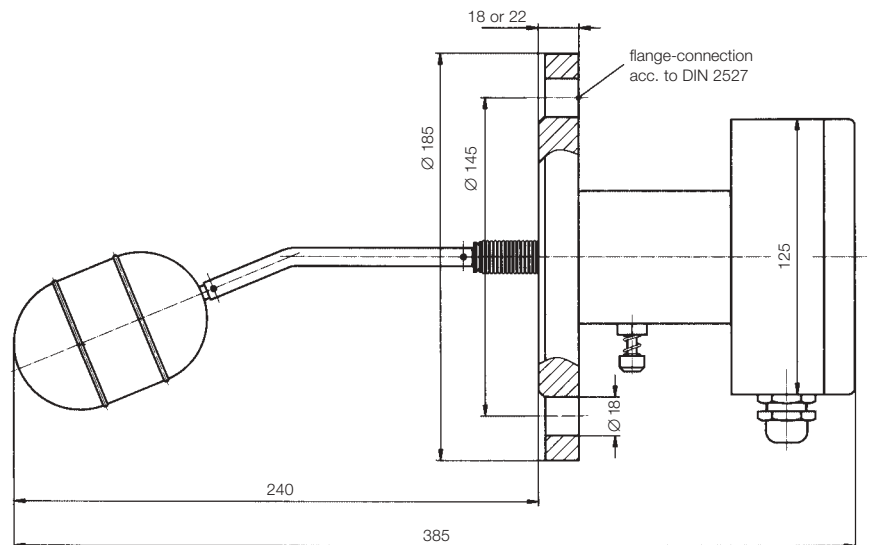
Mounting Type ... 10 N 65 ... 10 N 65/10

These switches are equipped with a mounting flange according to DIN 2501.

Mounting flange

Type Flange
10 N 65 DN 65 PN 25
10 N 65/10 DN 65 PN 10

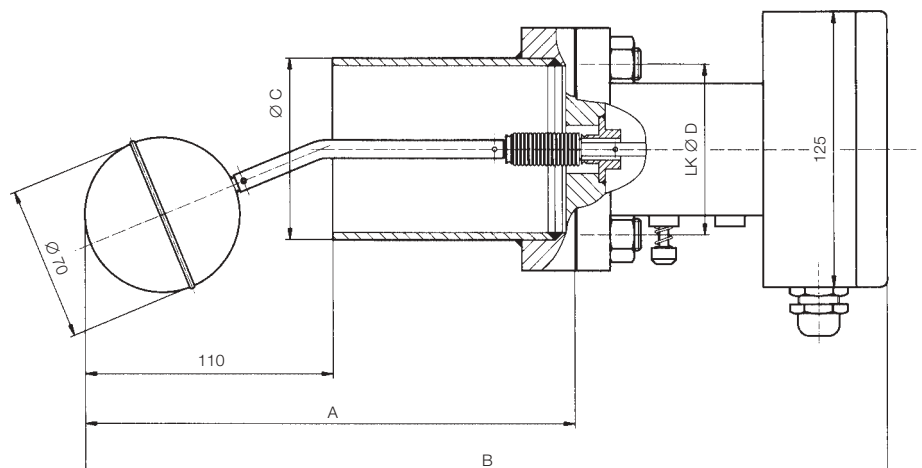
The switch must be positioned in such a way that the unobstructed movement of the float in the vertical direction is guaranteed.



Mounting Typ ... 10 N S 80 ... 10 N S 90

The socket of the instrument is welded to the expansion vessel acc. to DIN 4754.

The switch must be positioned in such a way that an unobstructed movement of the float in the vertical direction is guaranteed.



Mounting

Type	Size A	Size B	Size C	Size D
10 N S 80	220	365	82,9	ø 110
10 N S 90	250	395	88,9	90 x 90

Certificate acc. to DIN 2527

DIN CERTCO



Gesellschaft für
Konformitätsbewertung mbH

Genehmigung

zum Führen des DIN-Prüf- und Überwachszeichens

License

for bearing the DIN Testing and Inspection Mark

Genehmigungsinhaber
Licensee: Klaus Fischer
Meß- und Regeltechnik GmbH
Bielefelder Str. 37 a
32107 Bad Salzuffen

Registernummer ID01697

Technische Daten
Technical Data
Art des Meßgliededes: Schwimmer
Meßgefäß:
Art der Meßwertübertragung: mechanisch durch Schwimmerstange
mit Balgabdichtung
Zulässiger Betriebsüberdruck: 16 bar / 10 bar (10 N 65/10)
Zulässige Betriebstemperatur: 400 °C / 350 °C (10 N 65/10)
Nennspannung: 250 V bzw. 480 V

Produktbezeichnung
Product designation: Füllstandbegrenzer

**Prüflaboratorium/
Überwachungsstelle**
Testing Laboratory/
Inspection body: Technischer Überwachungs-Verein
Hannover/Sachsen-Anhalt e. V.
Am TÜV 1
30519 Hannover

Typ, Modell
Typ, Model: 10 N 65, 10 N 80, 10 N 65/10, 10 N S 80, 10 N S 90
Bei 2 Mikroschaltern Zusatzkennzeichnung K 2

Prüfbericht
Test report: UW-Rod/Wal 45 473 7 vom 11.05.1988
FBW 4409/92 vom 30.09.1992
FBW 4509/92 vom 30.09.1992
FBW 9108/97 vom 26.08.1997

Prüfgrundlage
Basis Type testing: DIN 32728:1981-02;

**Termin für die nächste
Fremdüberwachung**
Date of ..: 1998-05-31

Registernummer
Registration No.: ID01697

Genehmigungsgrundlage
Basis of Examination: - Ihr Antrag von 1997-07-11
- Aufgeführte Prüf- und Überwachungsunterlagen

Gültig bis
Valid until: 2002-05-31

Status
Status: 2. Verlängerung
der Erstgenehmigung von 1987-05-21

Weitere Angaben siehe Seite 2
For more information please refer to page 2



Diese Genehmigung berechtigt zum Führen des nebenstehenden Konformitätszeichens
mit der oben aufgeführten Registernummer
This License entitles the licensee to use the DIN CERTCO mark in connection
with above stated registration no.



DIN CERTCO Gesellschaft für
Konformitätsbewertung mbH
Burggrafenstraße 6, 10787 Berlin

1997-10-08
Datum, 1. Gültigkeit des Produktbereiches

Order Nos

**Level Switch /
Level limiter**

Type 10N ≙ NK 10

Article-No.

□ □ ≙ □ 0 0 0 0 0 0 □

- | | |
|---|--------|
| Flange connection acc. DIN 2527 form E DN65 PN25 .. ▷ 65 | .. ▷ 1 |
| Flange connection acc. DIN 2527 form E DN80 PN25 .. ▷ 80 | .. ▷ 2 |
| Flange connection acc. DIN 2527 form E DN65 PN16 .. ▷ 65/10 | .. ▷ 3 |
| Welding connection – 82.5 mm .. ▷ S 80 | .. ▷ 4 |
| Welding connection – 88.9 mm .. ▷ S 90 | .. ▷ 5 |

Electrical connection

- | |
|--|
| 1 micro switch .. ▷ K1 .. ▷ 1 |
| 2 micro switches (switch S2 adjustable) .. ▷ K2 .. ▷ 2 |