



Fig. 1	Exploded view of limit switch set	2
Fig. 2	Parts list for limit switch set	2
Fig. 3	Dismantling	3
Fig. 4	Fitting the threaded bush	3
Fig. 5	Fitting the switching nut and fixing plate	4
Fig. 6	Fitting the mounting bracket	4
Fig. 7	Fitting the contact piece	5
Fig. 8	Fitting the limit switch(es)	5
Fig. 9	Setting the limit switch(es)	6

Caution The operating manual 0570.8 must be observed and adhered to in all details.

For installation of the limit switch set, the valve may or may not be in situ. However, the preferred option is to install the set before the valve itself is mounted in the piping.

Special care must be exercised if the limit switch set is to be fitted with the valve in situ. In this case, safety sections 3.1 to 3.6 of the operating manual (precautionary notes; pressureless, cool condition of valve, ...) must be complied with under all circumstances.

See operating manual 0570.8 for bolt tightening torques.

Non-observance could cause leakage around the bonnet flange of the installed valve.

Fig. 1 Exploded view of limit switch set

The set includes **one** limit switch.

A second limit switch is available on request.

Please refer to Fig. 2 (example: DN 50, set 4) regarding individual components.

Assembly instructions: see Fig. 3 to Fig. 9.

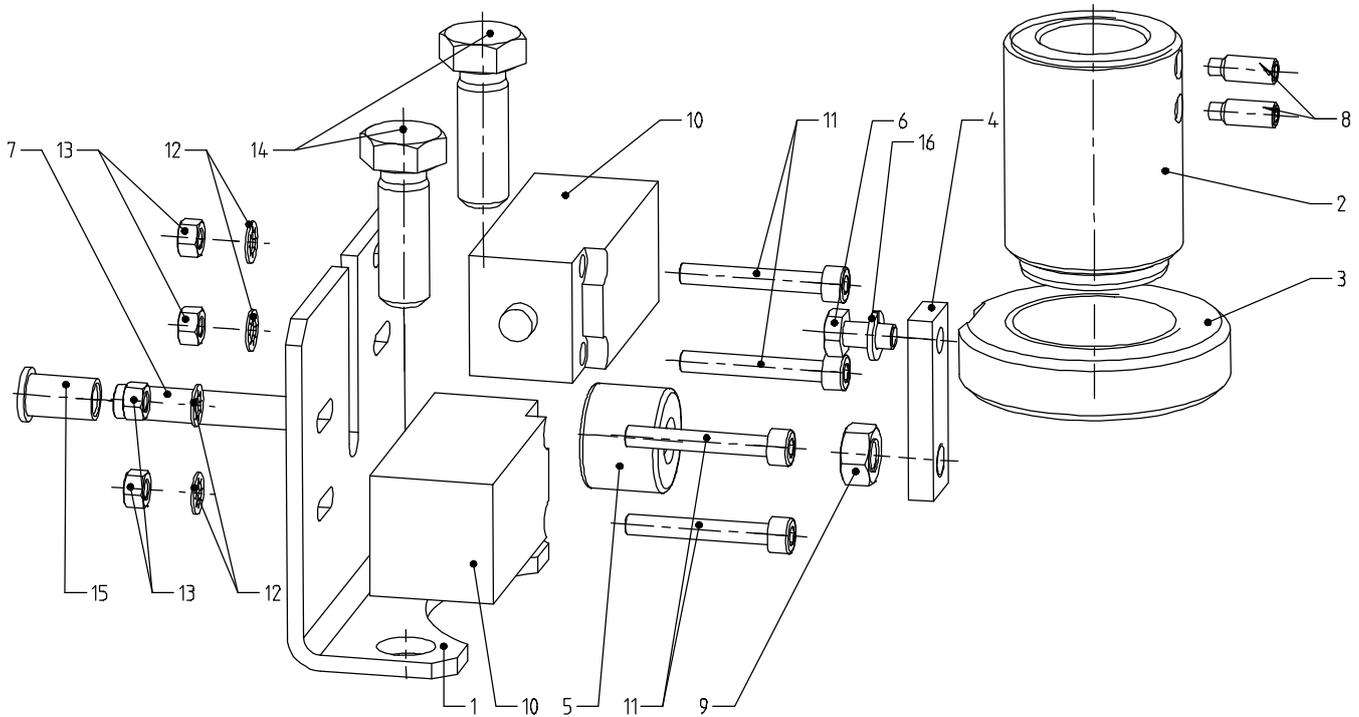
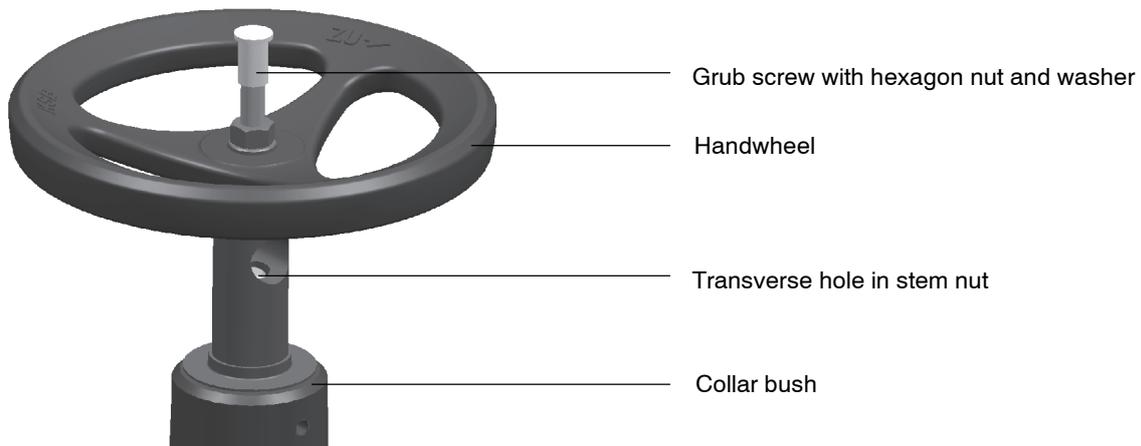


Fig. 2 Parts list for limit switch set (example: DN 50, set 4).

16	1	Spring washer	A 6	DIN 128	A 4	
15	1	Protective cap	A 7 x 16 NT	ZN 1252		01183921
14	2	Hexagon head bolt	M 12 x 35	ISO 4017	A2-70	
13	4	Hexagon nut	M 5	ISO 4032	8 + A2A	
12	4	Serrated lockwasher	J 5.3	ISO 6798	FSTPHR	
11	4	Socket head cap screw	M 5 x 35	ISO 4762	8.8	
10	1	Limit switch	XCK-P2110P16	UG1020001	as specified	46001831
9	1	Hexagon nut	M 8	ISO 4032	8 + A2A	00182269
8	2	Grub screw	M 6 x 12	ISO 4026	A4-21H	
7	1	Grub screw	M 8 x 55	ISO 4026	45H + A2A	01037673
6	1	Hexagon head bolt	M 6 x 12	ISO 4017	8.8 + A2A	
5	1	Contact piece		UG1297318	1.4021	
4	1	Fixing plate		UG1295815	1.4016	
3	1	Switching nut		UG1295756	1.4021	
2	1	Threaded bush		UG1295675	1.4021	
1	1	Mounting bracket		UG1295367	1.4016	
Pos.	Qty.	Description	Stock Halbzeug Stock	Drawing/Norm-No.	Material	Ident-No.

Fig. 3 Dismantling



Caution First turn valve OPEN.

Caution The valve cannot be operated during the modification work (because the handwheel must be removed).

With valve in situ:

Prior to modification, valve pressure must be released and the valve must be allowed to cool down to below the fluid's evaporation temperature in all areas in contact with the fluid in order to effectively prevent any risk of scalding (see operating manual).

The collar bush must be removed with the valve OPEN.

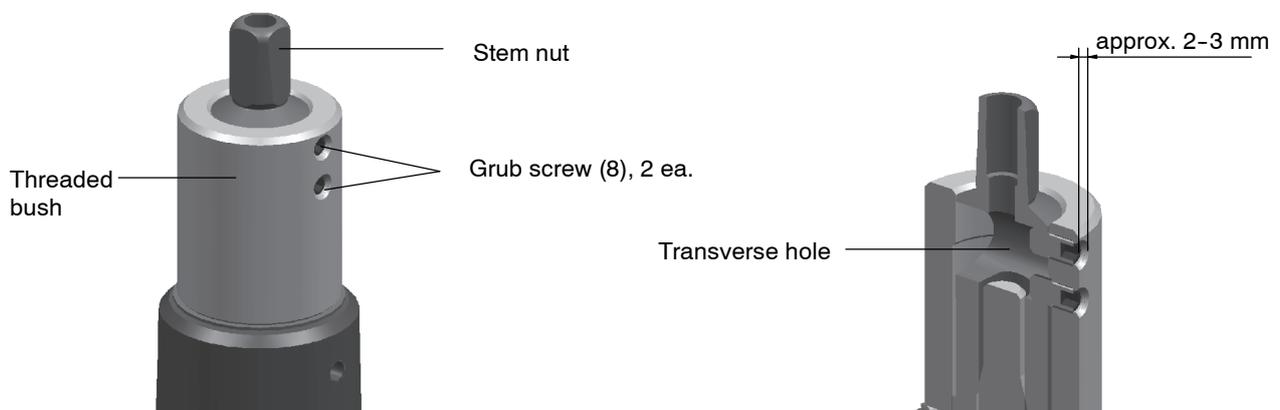
Carefully lever off the collar bush (interference fit on stem nut).

Caution CLOSE the valve.
The valve cannot be operated during the modification work (because the handwheel must be removed).

Dismantle the following parts:

- Grub screw
- Hexagon nut
- Washer
- Handwheel
- Collar bush (no longer required)

Fig. 4 Fitting the threaded bush



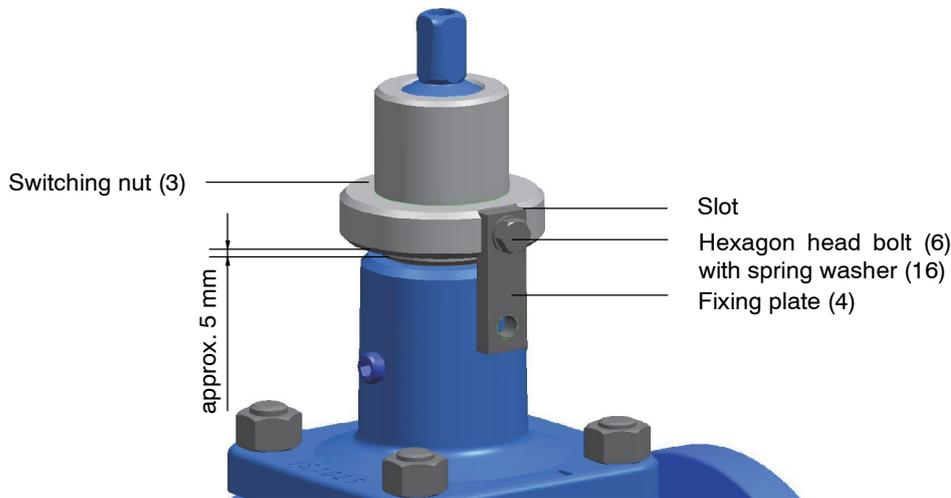
- Push the threaded bush (2) onto the stem nut up to the stop.
- Turn the threaded bush (2) such that the threaded holes align with the transverse hole (cf. Fig. 3).
- Fit the threaded bush (2) on the stem nut with two grub screws (8) so that the grub screws extend into the transverse hole.
- Turn the grub screws (8) in another approx. 2 – 3 mm.

Caution The switching nut (3) must fit on top, as shown in Fig. 5.

Note on assembly:

Check the threaded bush (2) for assemblability. If necessary, remove (residual) paint with a suitable solvent.

Fig. 5 Fitting the switching nut and fixing plate

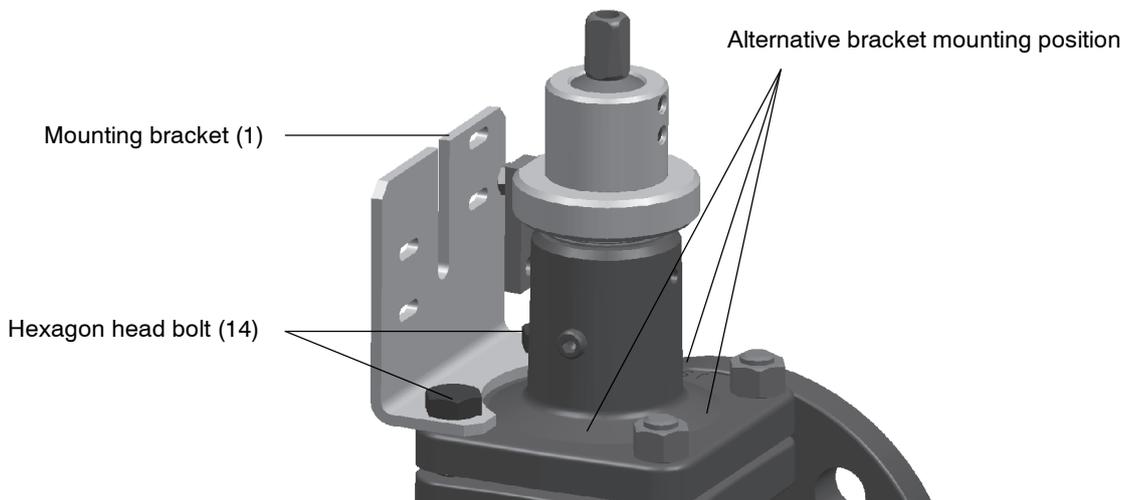


- Turn the switching nut (3) onto the threaded bush (2). Caution: Left-hand thread!
- Maintain clearance to the bonnet (approx. 5 mm).
- Take care to ensure that the slot in the switching nut (3) is located on the side where the mounting bracket (1) is to be fitted. If the switching nut (3) does not fit properly, check the grub screws (8) and their installed depth (Fig. 4) and turn them in somewhat more deeply if necessary.

Caution Do not turn the grub screws (8) in too far, as this could cause malfunctioning.

- Use a hexagon head bolt (6) and spring washer (16) to attach the fixing plate (4) to the threaded bush.

Fig. 6 Fitting the mounting bracket



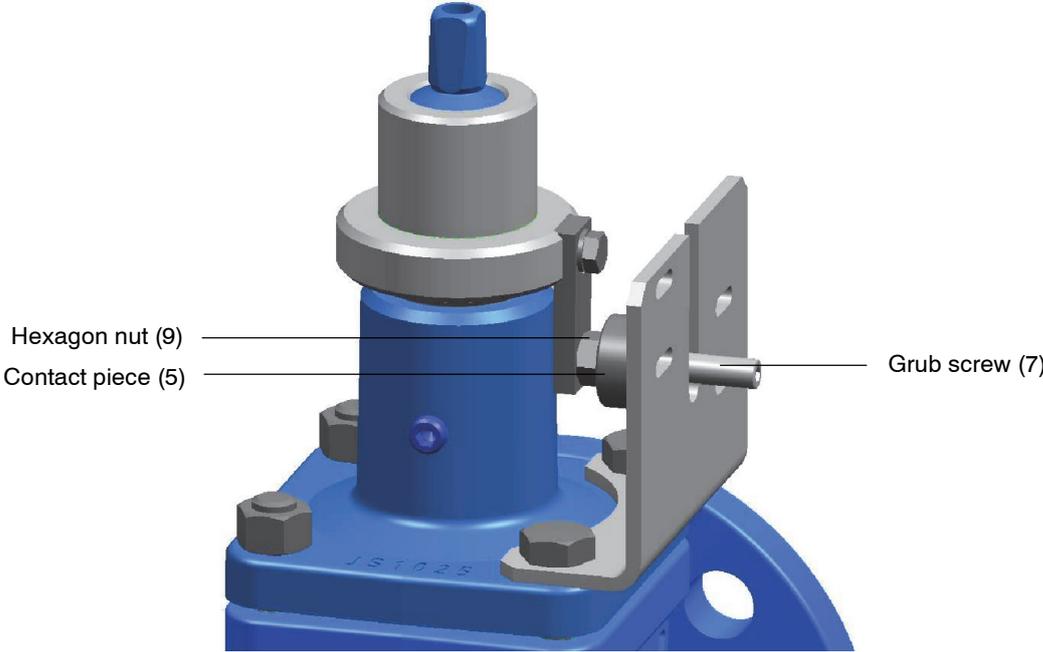
The following procedure shall be adhered to:

- If the valve is installed in the system, valve pressure must be released and the valve must be allowed to cool down to below the fluid's evaporation temperature in all areas in contact with the fluid in order to effectively prevent any risk of scalding.
- Preferably, the bracket should be mounted to the left or right of the pipe, but it can also be mounted to the left or right of the handwheel, i.e. normal to the pipe axis.
- Unscrew and remove the studs one at a time, and replace each of them in turn with a loosely tightened hexagon head bolt (14) – together with the bracket (1), of course.
- Do not yet tighten the hexagon head bolts (14) all the way!

Caution

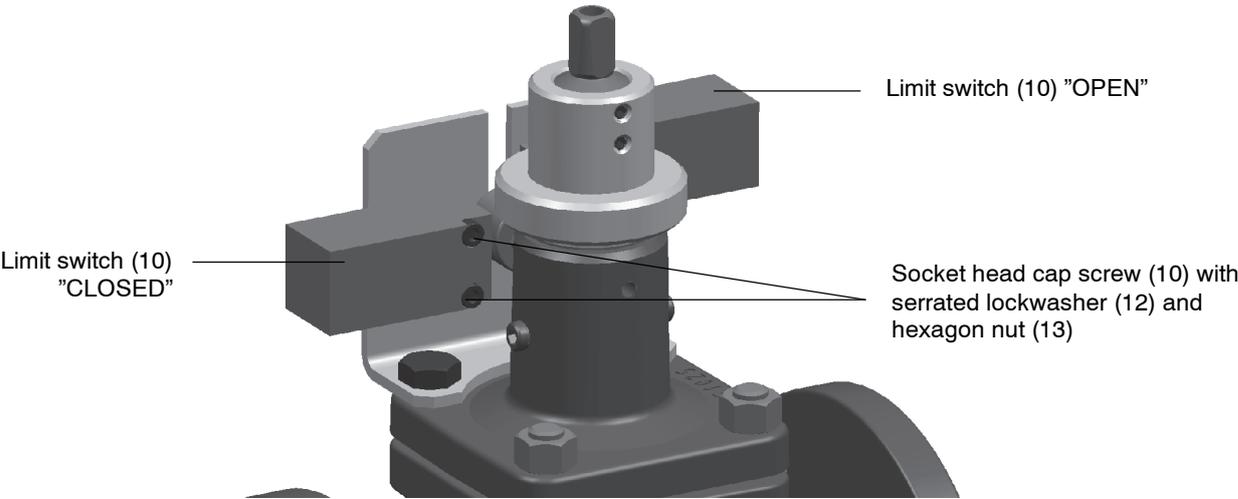
Use only the accompanying original bolts; non-compliance will result in loss of warranty cover.

Fig. 7 Fitting the contact piece



- Turn the hexagon nut (9) onto the grub screw (7), and slide the contact piece (5) onto the grub screw (7).
- Slip the assembly from above into the slot in the mounting bracket (1).
- Now, turn the grub screw (7) all the way into the fixing plate (4), allowing part of it to protrude.
- Firmly tighten the hexagon nut (9).
- Position the mounting bracket (1) such that the contact piece (3) is not blocked. The contact piece (3) must be able to rotate on the grub screw (7).
- Now, bolt down the mounting bracket (1); see also Fig. 6).

Fig. 8 Fitting the limit switch(es)

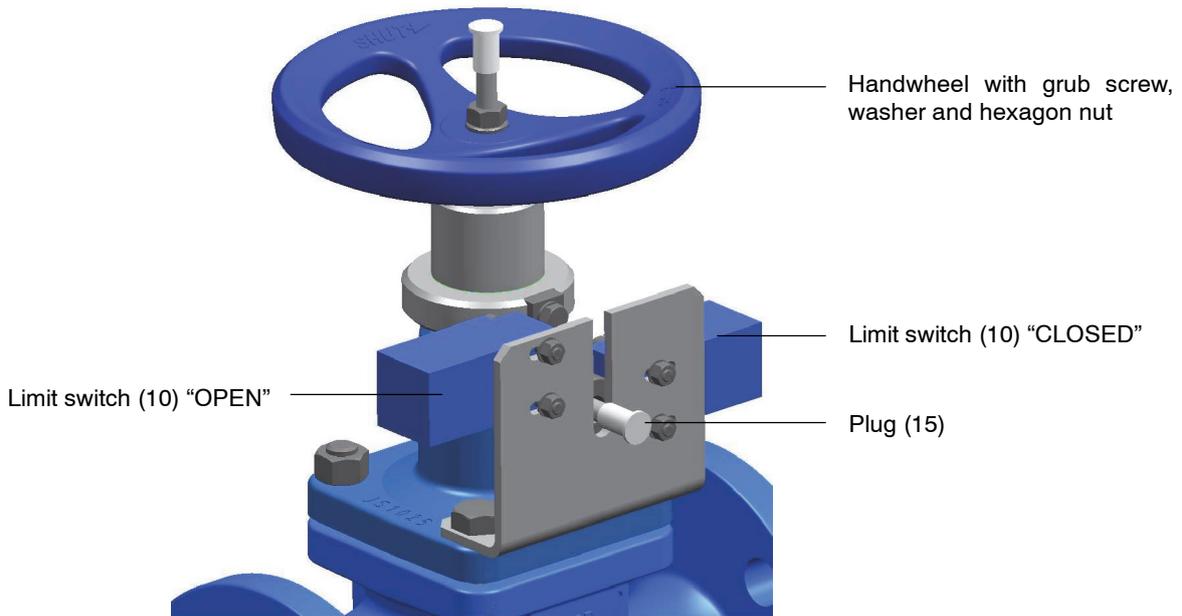


The standard set includes one limit switch (10). A second limit switch is available on option. Install the limit switch (10; at bottom for "CLOSED" position or at top for "OPEN" position): There are two socket head cap screws (11), each with a serrated lockwasher (12) and a hexagon nut, (13) per limit switch set.

- The mounting bracket (1) has slotted holes to facilitate setting of the limit switches (10).
- Mount the limit switches (10) in the desired switching positions, and loosely tighten screws.

Note: The set includes sufficient screws for two limit switches.

Fig. 9 Setting the limit switch(es)

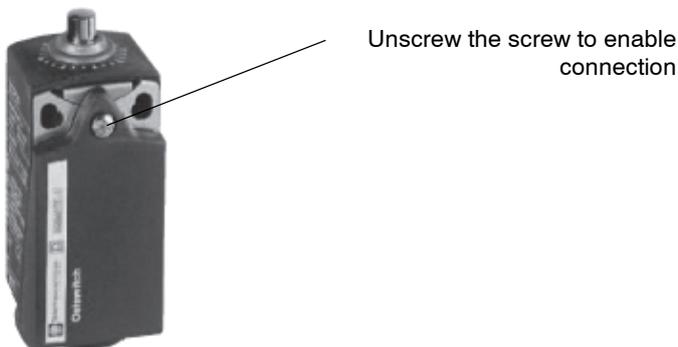


- Fit the grub screw, the hexagon nut, the washer and the handwheel again.
- Insert the plug (15).
- Run the valve to both limit positions, respectively adjusting the limit switch and tightening the screws.
- The limit switches (10) have snap-action contacts (audible "click").
- After completing the installation and checking the limit switch set (limit switch setpoints adjusted), check the hexagon head bolts and the remaining studs, and tighten them in accordance with the table entitled "Bolt tightening torques" (cf. operating manual 0570.8).
- Check the valve with limit switches for proper functioning.
- Check the limit switches (10) for correct "CLOSED" and "OPEN" function and switching points, as applicable.

This concludes the assembly procedure for the limit switch variant set.

If, for example, the "OPEN" position does not function properly, adjust the clearance of the switching nut (3) (Fig. 5). Then repeat all steps described in Fig. 4 to Fig. 8.

Electrical connection



Wire up connections 13, 14 and 21, 22 (behind cover) as follows:

- NC contact: 21 and 22
- NO contact: 13 and 14

The scope of supply includes no M16 cable gland (strain relief).

Technical data of limit switches

Position switch type:

Telemecanique

Design Compact, type XCK P, plastic housing

Osiswitch XCK-P2110P16 (ident. No. 46001831)

Complete unit with ISO M16 x 1.5 cable entry

for cable diameter 4 - 8 mm

with metal end plunger B1

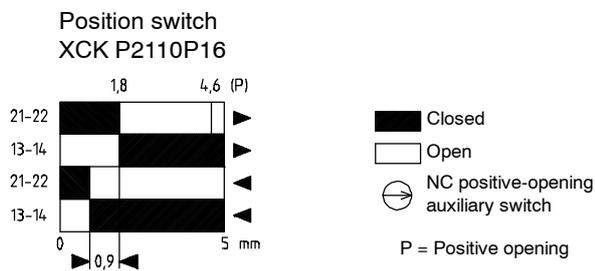
Type to EN 50047

Enclosure to DIN EN 60529/ IEC 60529

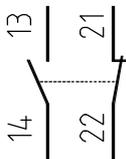
IP 66 - IP 67

NC+NO (normally closed + normally open) snap-action
auxiliary switches

Contact travel:



Snap-action NC+NO auxiliary switches





KSB Aktiengesellschaft
Johann-Klein-Strasse 9 • 67227 Frankenthal (Germany)
Tel.: +49 6233 86-0 • fax: +49 6233 86-3882
E-mail: valves@ksb.com • www.ksb.com