

Hydro-electric piston type pressure switch

RE 50040/04.06
Replaces: 07.04

1/8

Type HED 1

Component series 4X
Maximum operating pressure 600 bar

K3981/5

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Features

- Drain port, optional
- Check lamp, optional
- Electrical connection
 - Cable gland
 - Plug-in connection

Information on available spare parts:
www.boschrexroth.com/spc

Ordering code

HED 1		A	4X/				*
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With drain port	= K
Without drain port	= O
Component series 40 to 49 (40 to 49: unchanged installation and connection dimensions)	= 4X
Type HED 1 K	
Pressure range max. 100 bar	= 100
Pressure range max. 350 bar	= 350
Pressure range max. 500 bar	= 500
Type HED 1 O	
Pressure range max. 50 bar	= 50
Pressure range max. 100 bar	= 100
Pressure range max. 350 bar	= 350
Cable gland	= No code
Plug-in connection 4-pin + PE	= K ¹⁾
Plug-in connection 6-pin + PE	= K6 ¹⁾

Further details in clear text	
Seal material	
No code =	NBR seals
V =	FKM seals (other seals on enquiry)
⚠ Caution!	
Observe compatibility of seals with hydraulic fluid used!	
No code =	Without lamp
L24 =	Lamp for 24 V (20 V to 35 V)
L110 =	Lamp for 110 V (90 V to 130 V)
L220 =	Lamp for 220 V (180 V to 240 V)

¹⁾ Plug-in connector, separate order, see below

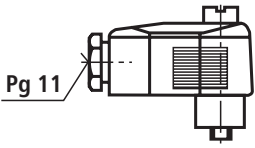
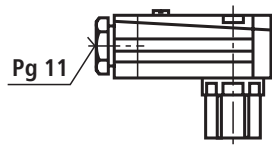
Standard types

Type	Material number
HED 1 KA4X/100	R900383852
HED 1 KA4X/350	R900383624
HED 1 KA4X/500	R900383853

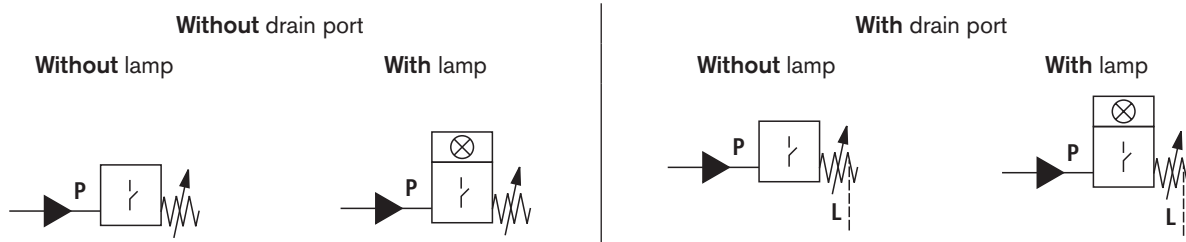
Type	Material number
HED 1 OA4X/50	R900383854
HED 1 OA4X/100	R900383855
HED 1 OA4X/350	R900383856

Further standard types and components can be found in the EPS (standard price list).

Plug-in connector

Plug-in connector 4-pin + PE		Plug-in connector 6-pin + PE; DIN EN 175201-804	
 <p>Colour: red</p>		 <p>Colour: grey</p>	
for plug-in connection K	Material no. R900005538	for plug-in connection K6	Material no. R900002803

Symbols



Function, section

Hydro-electric pressure switches of type HED 1 are piston type pressure switches.

They basically consist of housing (1), micro-switch (2), set screw (3), plunger (4), piston (5) and compression spring (6).

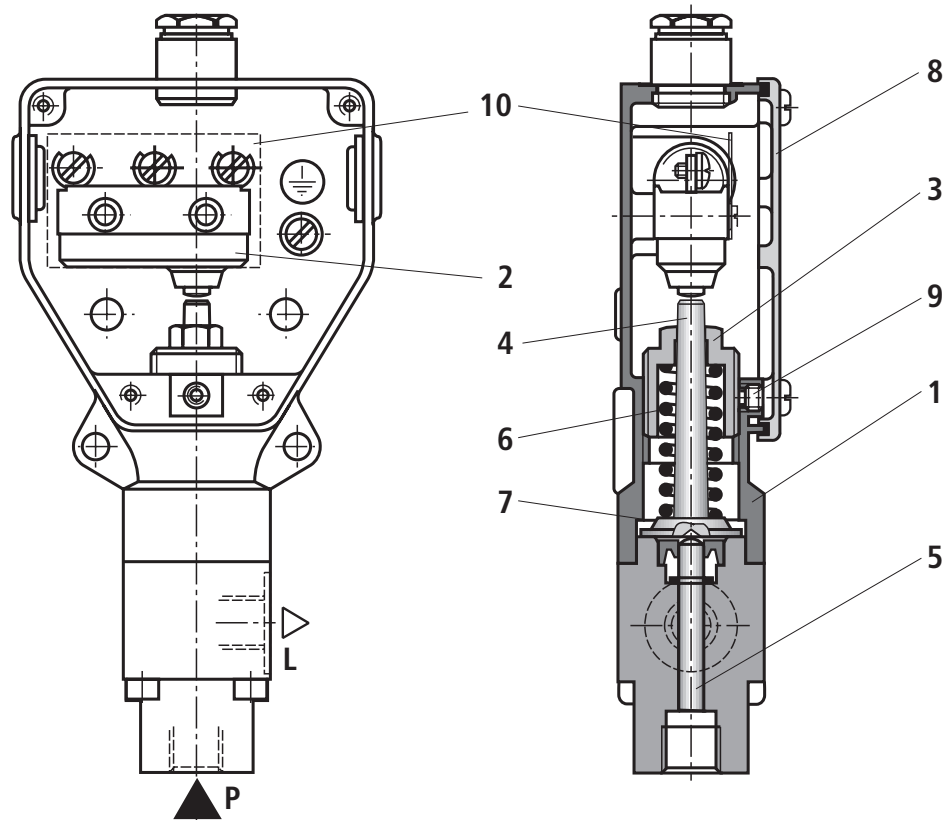
Pressure switches of type HED 1 are used for opening or closing an electrical circuit in dependence upon pressure.

Live terminals are covered by insulation foil (10).

The pressure to be monitored acts on piston (5). This piston (5) is supported on plunger (4) and acts against the infinitely adjustable force provided by compression spring (6). Plunger (4) transmits the movement of piston (5) to micro-switch (2). This causes the electrical circuit to open or close depending on the circuit setup. A mechanical limit stop (7) protects the micro-switch against destruction in the case of overpressure.

Adjustment of the switching pressure

To adjust the switching pressure, remove nameplate (8) and loosen locking screw (9). The switching pressure can now be adjusted by turning set screw (3). Then, set screw (3) must be secured by means of locking screw (9) and nameplate (8) mounted.



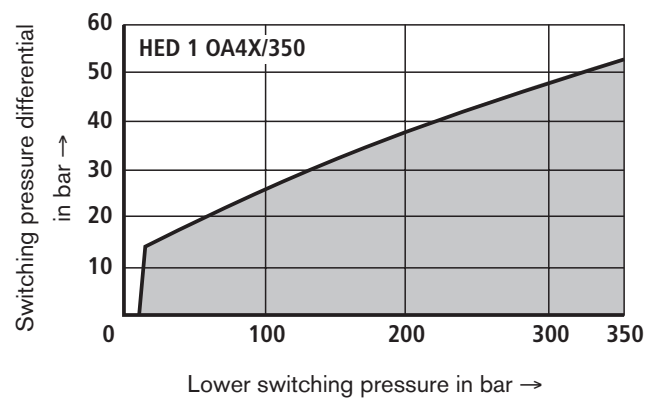
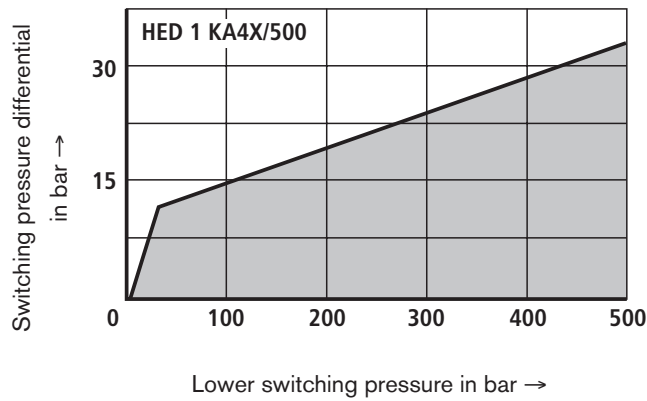
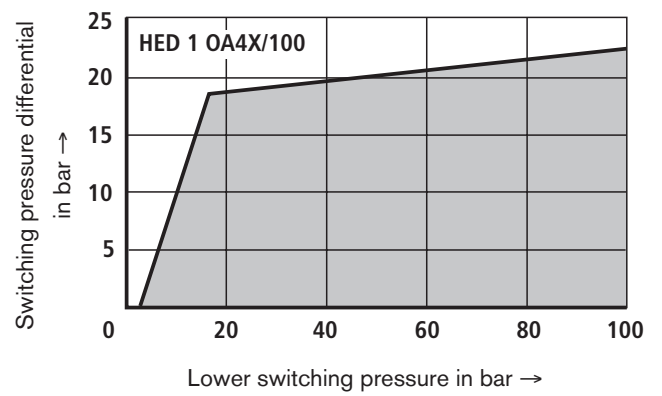
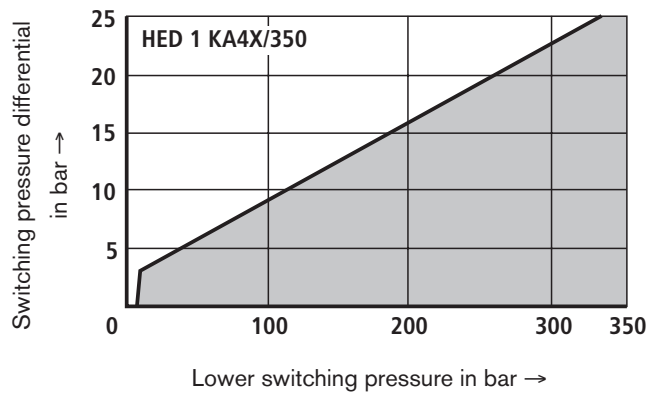
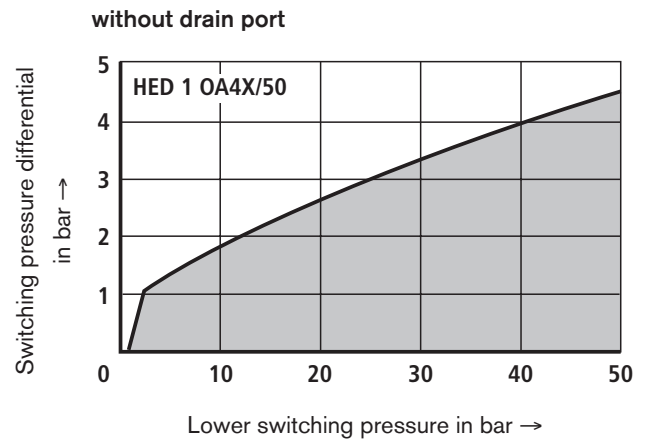
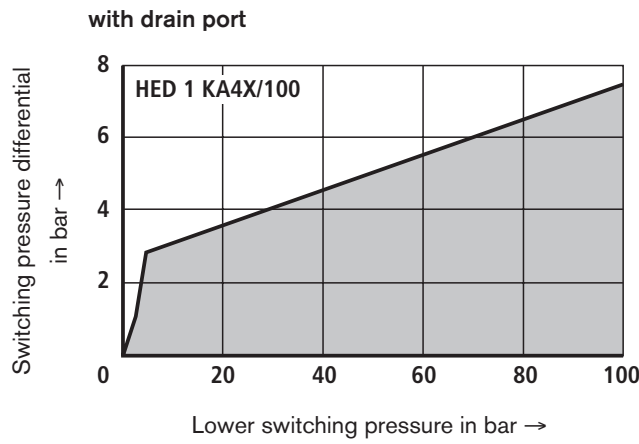
Technical data (for applications outside these parameters, please consult us!)

General								
Weight		kg	1.2					
Installation position			Optional					
Ambient temperature range		°C	-30 to +50 (NBR seals) -20 to +50 (FKM seals)					
Hydraulic								
			Type HED 1 KA			Type HED 1 OA		
Pressure range		bar	100	350	500	50	100	350
Maximum operating pressure (briefly)		bar	600	600	600	80	350	350
Falling pressure	- minimum	bar	3	6	10	2	3	6
	- maximum	bar	92	325	465	45	82	295
Increasing pressure	- minimum	bar	6	10	20	3,5	8	20
	- maximum	bar	100	350	500	50	100	350
Maximum pressure at drain port		bar	2					
Hydraulic fluid	Mineral oil (HL, HLP) to DIN 51524 ¹⁾ ; fast bio-degradable hydraulic fluids to VDMA 24568 (see also RE 90221); HETG (rape seed oil) ¹⁾ ; HEPG (polyglycols) ²⁾ ; HEES (synthetic esters) ²⁾ ; other hydraulic fluids on enquiry							
Hydraulic fluid temperature range		°C	-30 to +80 (NBR seals) -20 to +80 (FKM seals)					
Max. permissible degree of contamination of the hydraulic fluid - cleanliness class to ISO 4406 (c)			Class 20/18/15 ³⁾					
Viscosity range		mm ² /s	10 to 800					
Electrical								
Contact load	- AC voltage	V AC	250 V; 3 A					
	- DC voltage	V DC	40 V; 1 A In the case of DC voltage with inductive load, provide a spark suppressor to increase the service life.					
Maximum switching frequency	- Type HED 1 KA	1/h	18000					
	- Type HED 1 OA	1/h	3000 (briefly 1.5 1/s)					
Switching accuracy (repeatability)	< ± 2 % of set pressure							
Electrical connection	Cable gland Pg 11 Plug-in connection Pg 11							
Type of protection to DIN EN 60529	IP 65 with plug-in connector mounted and locked							
Maximum cable cross-section	- Cable gland	mm ²	4					
	- Plug-in connector	mm ²	1.5					

¹⁾ Suitable for NBR and FKM seals²⁾ Only suitable for FKM seals³⁾ The cleanliness classes specified for components must be adhered to in hydraulic systems. Effective filtration prevents malfunction and, at the same time, prolongs the service life of components.

For the selection of filters, see data sheets RE 50070, RE 50076, RE 50081, RE 50086 and RE 50088.

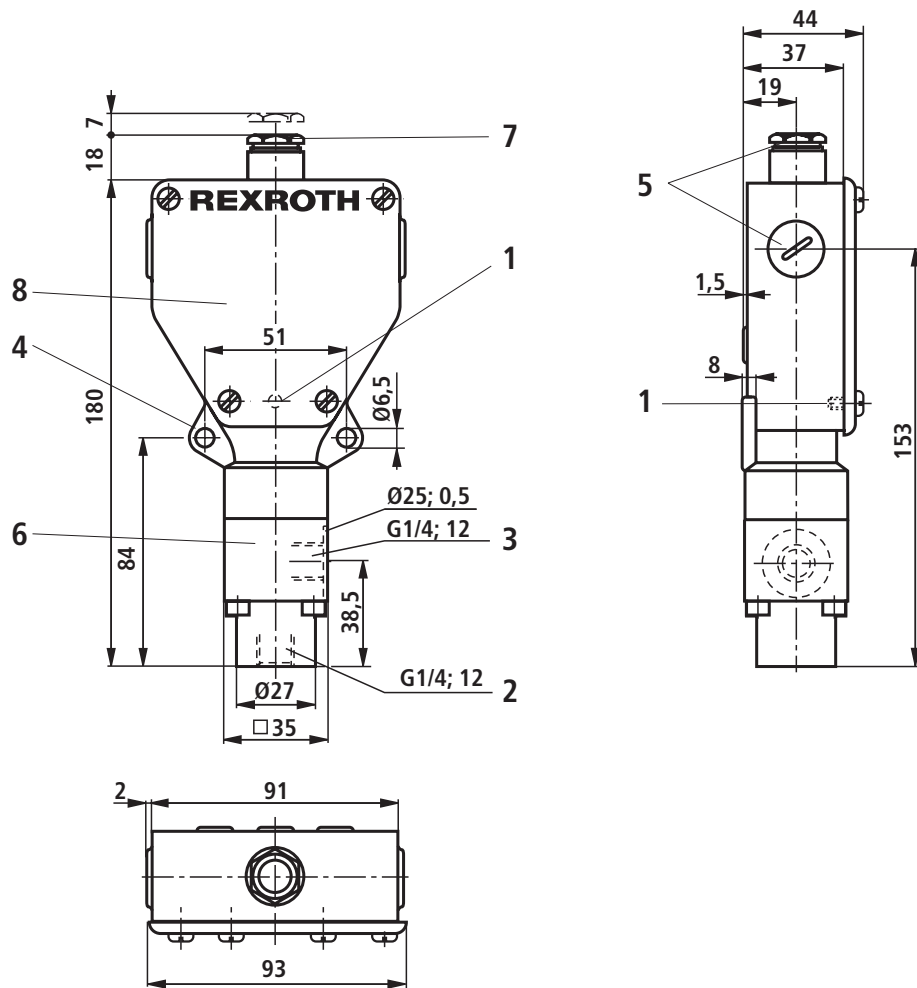
Switching pressure differential (pressure switch with or without drain port)



Note!

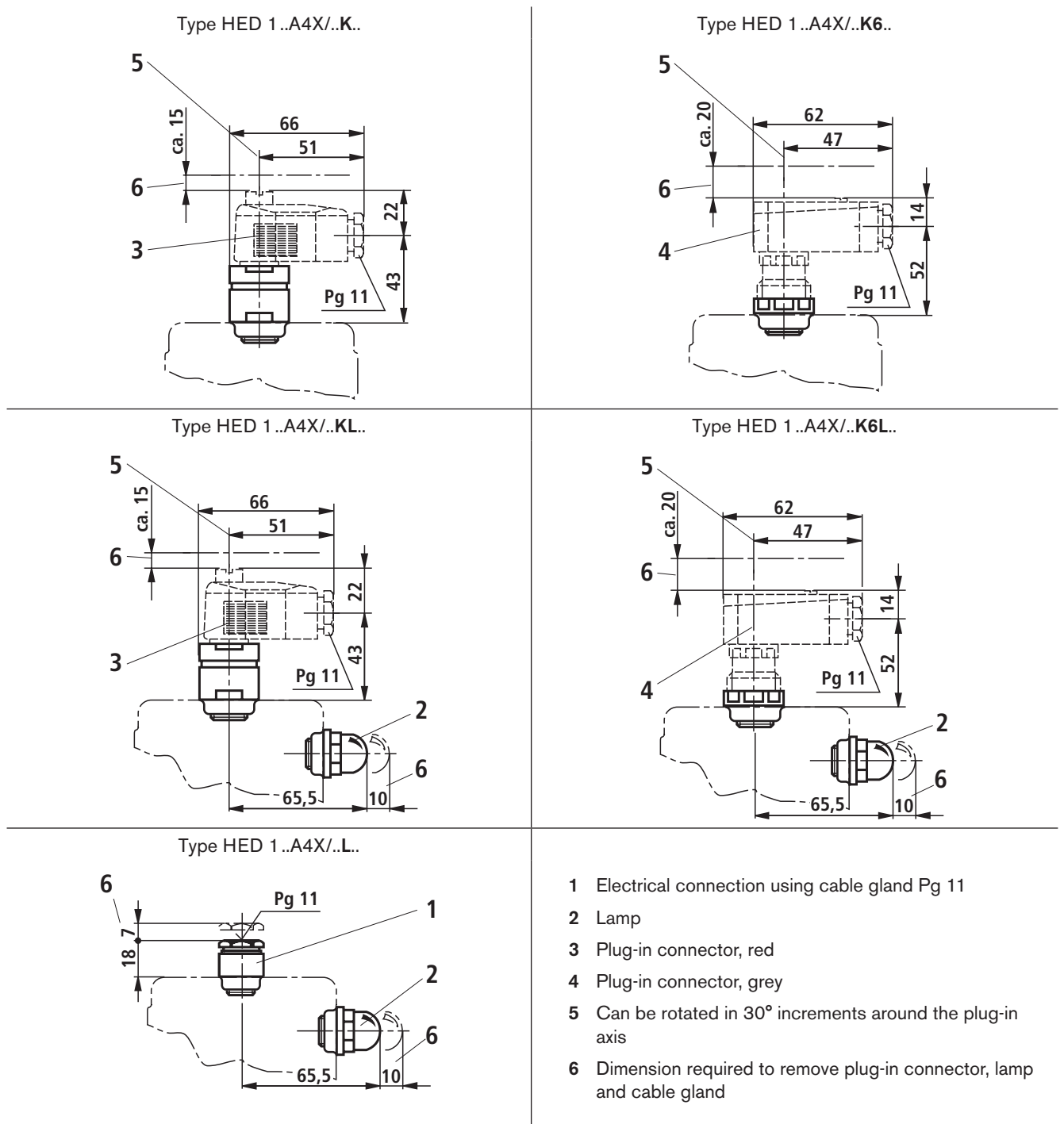
To ensure the reliability of the switching signal, the actual switching pressure differential obtained must be greater than the existing switching pressure differential of the pressure switch.

Unit dimensions (nominal dimensions in mm)



- 1 Locking mechanism for securing the set screw
- 2 Pressure port P
- 3 Drain port L, optional
- 4 Fixing holes
- 5 Electrical connection Pg 11, optional
- 6 Cartridge assembly, can be rotated in 90° increments
- 7 Electrical connection using cable gland Pg 11
- 8 Nameplate

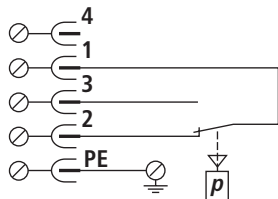
Unit dimensions: Electrical connection (nominal dimensions in mm)



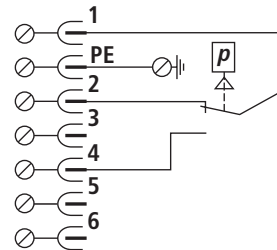
- 1 Electrical connection using cable gland Pg 11
- 2 Lamp
- 3 Plug-in connector, red
- 4 Plug-in connector, grey
- 5 Can be rotated in 30° increments around the plug-in axis
- 6 Dimension required to remove plug-in connector, lamp and cable gland

Pin assignment

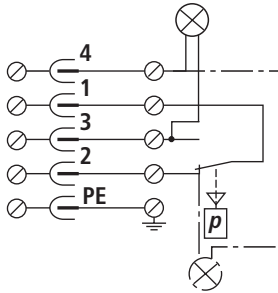
Plug-in connection "K"



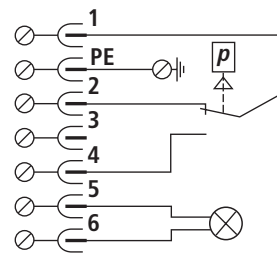
Plug-in connection "K6" (DIN EN 175201-804)



Plug-in connection "KL" with lamp

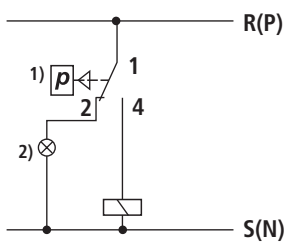


Plug-in connection "K6L" (DIN EN 175201-804)

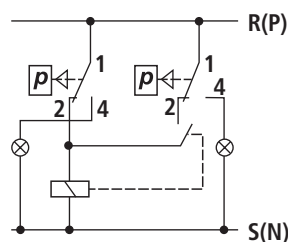


Connect lamp in accordance with the desired circuit

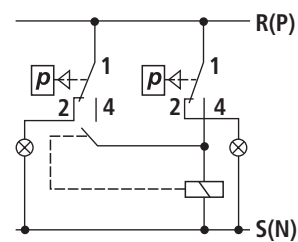
Circuit example



Simple circuit
(1 x HED 1)



Differential circuit
with N/O contact
(2 x HED 1)



Differential circuit
with N/C contact
(2 x HED 1)

1) Pressure switch

2) Lamp