This proximity switch is designed for use in extreme temperature conditions. It can be placed and used in ambient temperatures from -40 to +150°C. This switch is suitable for use with cylinders to VDMA 24562 and DIN ISO 6431 when proper bracket is used. Switch is mounted to bracket with M3 screws (included in pack).
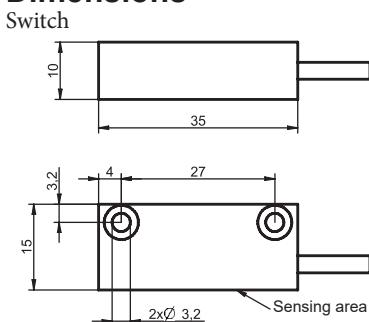
Technical data

Description	Value
Supply voltage U_b [V]	10 to 30 DC
Power consumption [mA]	20
Continuous current I_a [mA]	100
Enclosure rating to EN 60 529	IP 68
Temperature range T_a [˚C]	-40 to +150
Housing material	dural
Cable	silicone, 3 x 0.22 mm², length 2 m
Function indicator	none
Built-in reverse polarity protection, shock and vibration resistivity, switch hasn't built-in short circuit protection	

## Order codes

Type	Switching output	Max. switching frequency [Hz]	Sensitivity [mm]	Connection	Order codes
SP-472	PNP	10000	5 to 10	cable 2 m	2202 8012 5200 2000

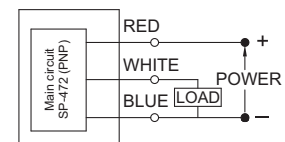| Bracket for pneumatic cylinders	Bracket type	Order codes
VDMA 24562, piston diameter 32, 40, 125 to 320 mm	1	2290 8010 0000 0000
VDMA 24562, piston diameter 50 and 63 mm (with profile tube)	2	2290 8010 0050 0063
VDMA 24562, piston diameter 80 and 100 mm (with profile tube)	3	2290 8010 0080 0100
Short stroke (piston diameter 20 to 80 mm)	4	2290 8011 0000 0001
Short stroke (piston diameter 100 mm)	4	2290 8011 0000 0002

Dimensions

Switch

Bracket

Please read carefully technical information on page 3-9.
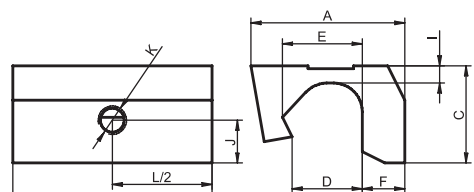
Type	A	C	D	E	F	I	J	K	L
1	27	17	12,3	14	7,5	3	7	M6	35
2	27	19	13	–	5	5	5	M5	35
3	27	25	16	–	5	6	5	M5	35

Connection

RED
WHITE
BLUE
Main circuit SP-472 (PNP)
POWER
LOAD
+
–

How to fix switch on cylinder and which series for which cylinder type

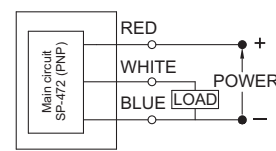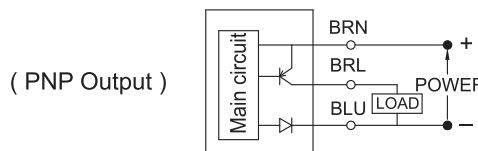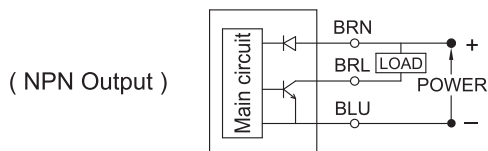| Pneumatic cylinder type	Switch can be used with bracket			
	type 1	type 2	type 3	type 4
VDMA 24562, piston diameter 32, 40, 125 to 320 mm	✓			
VDMA 24562, piston diameter 50 and 63 mm		✓		
VDMA 24562, piston diameter 80 and 100 mm			✓	
Rotary actuator, piston diameter 50 and more mm	✓			
Short stroke (piston diameter 20 to 100 mm)				✓

⚠ Warning

Do not exceed specification, permanent damage to the sensor may occur.
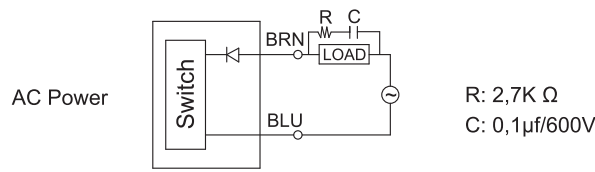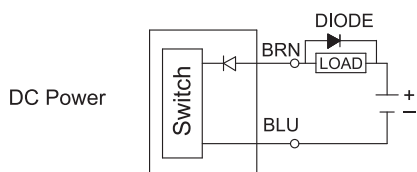
Rules for using of proximity switches

1. For reed switch type sensors, polarity must also be observed for the proper functioning of LED. Connect the brown wire in series with load positive (+) and the blue wire to negative (-) of power source. If the polarity is reversed, reed switch remains functional but LED will remain in "OFF" state.

BRN — LOAD — POWER
BLU
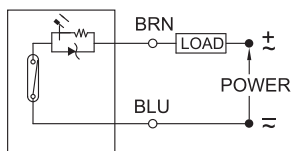
2. For solid-state type sensors, polarity must also be observed. Connect brown (red for SP-472 switch) wire to the positive (+) and the blue to the negative (-) of DC power source. The black (white for SP-472 switch) wire must connect to the load only. If the black (white for SP-472 switch) wire is accidentally connected to the power source, permanent damage to the sensor may occur.

(NPN Output)   Main circuit — BRN / BRL LOAD / BLU — POWER +/−

(PNP Output)   Main circuit — BRN / BRL / BLU LOAD — POWER +/−

Main circuit SP-472 (PNP) — RED / WHITE / BLUE LOAD — POWER +/−

3. An external protection circuit may be required if the reed switch is used with inductive load. For DC voltage, the diode must be connected, for AC voltage, the RC circuit must be connected as shown below.

DC Power   Switch — DIODE — BRN / LOAD / BLU — +/−

AC Power   Switch — BRN / R C / LOAD / BLU

R: 2,7K Ω
C: 0,1μf/600V

4. Keep sensors away form stray magnetic field to prevent malfunctions.

5. When using reed switch with capacitive load or if the lead wire length exceed 10 meters, an inductor must be installed in series.

10M or more
560~1000 μ H
LOAD +/−
As close as possible