

Pressure switches

33 L Series

Electronic pressure switches

Vacuum and relative pressure -1 to 600 bar



Diagnostic function acc. to DESINA

Display of system pressure

Easy programming of switchpoints

Economic solution for industrial applications

Switching status indicated by 3-colour LED display

Free of lacquer impairing substances

Technical data

Medium:

Gaseous, liquid, aggressive and neutral, non-combustible

Electrical connection:

M 12 x 1

Mounting:

Optional

Fluid temperature:

-25°C to + 80°C

Consult our Technical Service for use below +2°C.

Ambient temperature:

-20°C to + 80°C

Pressure range:

-1 to 1 / 16 / 40 / 100 / 160 / 250 / 400 / 600 bar

Temperature sensitivity (zero point):

0,4% of final value/10 K

Temperature sensitivity (range):

0,4% of final value/10 K

Switching point:

Adjustable between 0 to 100% of FS

Reset point:

Adjustable between 0 to 100% of FS

Accuracy:

≤ 1,5% FS

(Linearity, hysteresis, repeatability)

Degree of protection to DIN 40 050:

IP65 (<10bar) / IP67 (>10bar), with plug mounted

Shock protection:

30g, xyz, DIN EN 60068-2-27

Vibration protection:

10g, 5 to 500 Hz, xyz, DIN EN 60068-2-6

Weight:

0,06 kg

Materials

Housing: aluminium, stainless steel, polyester

Wetted parts:

-1 to 16 bar: aluminium, ceramics, FKM (viton)

40 to 600 bar: stainless steel, ceramics, FKM (viton)

All parts free of lacquer impairing substances



Measuring range (bar) (Relative pressure) ³⁾	Value max. (bar) (Over pressure) ⁴⁾	Port size ¹⁾	Output signal ²⁾	Display step size (bar)	Model
-1 ... 1 bar	6	G1/4	2 x PNP	0,01	0860110
-1 ... 1 bar	6	Flange	2 x PNP	0,01	0860116
0 ... 10 bar	25	G1/4	2 x PNP	0,05	0860120
0 ... 10 bar	25	Flange	2 x PNP	0,05	0860126
0 ... 16 bar	40	G1/4	2 x PNP	0,1	0860130
0 ... 16 bar	40	Flange	2 x PNP	0,1	0860136
0 ... 40 bar	100	G1/4	2 x PNP	0,2	0860140
0 ... 40 bar	100	Flange	2 x PNP	0,2	0860146
0 ... 100 bar	175	G1/4	2 x PNP	0,2	0860150
0 ... 100 bar	175	Flange	2 x PNP	0,2	0860156
0 ... 160 bar	280	G1/4	2 x PNP	1,0	0860160
0 ... 160 bar	280	Flange	2 x PNP	1,0	0860166
0 ... 250 bar	400	G1/4	2 x PNP	1,0	0860170
0 ... 250 bar	400	Flange	2 x PNP	1,0	0860176
0 ... 400 bar	700	Flange	2 x PNP	2,0	0860186
0 ... 600 bar	1000	G1/4	2 x PNP	3,0	0860190
0 ... 600 bar	1000	Flange	2 x PNP	3,0	0860196

1) Versions with fluid connection 1/4 NPTF on request, versions with bleeder screw on request

2) Mode of OUT2 is programmable: Diagnostic acc. to DESINA / switching, switching logic of OUT1 and /OUT2 is programmable (NO/NC)

3) Versions with pressure unit psi on request

4) Max. value = over pressure. Short-term pressure peaks are not allowed to exceed this limit value during operation.

Operative utilization of the overload range is not permitted.

Options selector

Pressure ranges (bar)	Substitute	Fluid connection	Substitute
-1 ... 1	1	G1/4	0
0 ... 10	2	Flange	6
0 ... 16	3		
0 ... 40	4		
0 ... 100	5		
0 ... 160	6		
0 ... 250	7		
0 ... 400	8		
0 ... 600	9		

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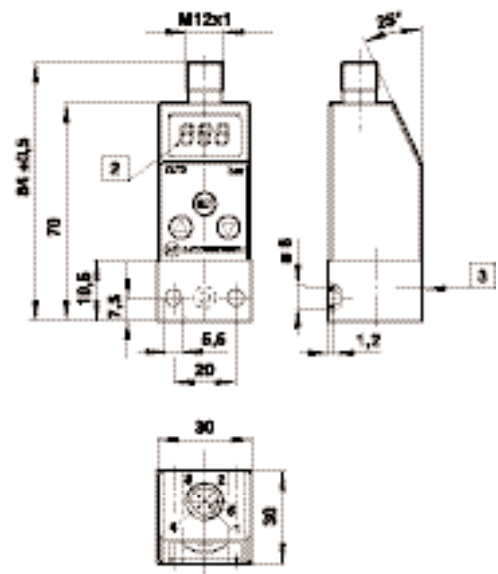
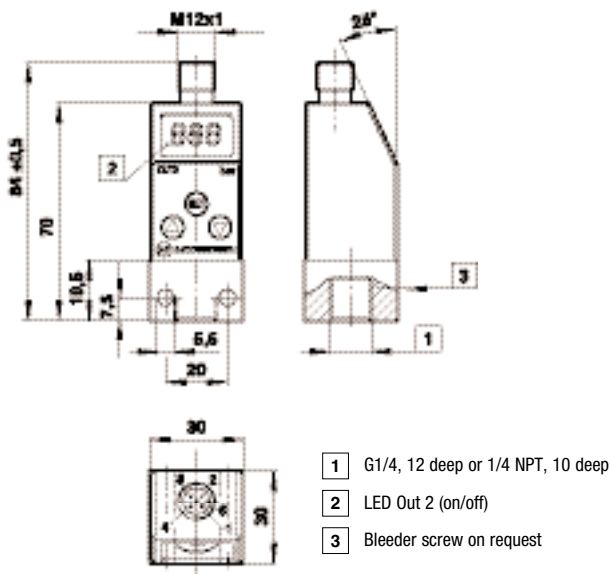
Electrical parameters

Electrical connection:	M12 x 1
Power supply:	UB =18 to 32 V d.c., polarity safe
Permissible residual ripple:	10% (within UB)
Current consumption:	< 100 mA (plus load current)
Switching mode:	PNP, Potential-bound open collector switching to UB
Output signal:	Out 1: switching: UB minus 1.5V / I _{max} . 250 mA Out 2: diagnostic/switching UB minus 1,5V/250 mA Surge and short-circuit protection (Out1/Out2)
Switching logic Out 1 & 2:	NO/NC programmable
Response time:	< 10 ms
Service life:	min. 50 million switching cycles
Electromagnetic compatibility:	Interference emission acc. to EN 61326 Interference immunity acc. to EN 61326 Part 1

Electrical connection M12 x 1



Pin no.	Signal	Cable	Display
1	+U	Brown	
2	Out 2 (diagnostic/switch, PNP)	White	Red blinking / LED
3	0 V	Blue	
4	Out 1 (switch, PNP)	Black	Yellow / green
5	NC		



Accessories

Pressure port reducing nipple	Snubber	Connector M 12x1 90° 5 pins (on PE-requirement)	Connector M 12x1 90° 4 pins	Connector M 12x1 Straight 4 pins
0574767	0574773	0799845 (2 m cable, 5-pin) 0250081 (5 m cable, 5-pin)	0523058 (2 m cable length) 0523053 (5 m cable length)	0523057 (2 m cable length) 0523052 (5 m cable length)

Pressure port reducing nipple
0574767 (brass)
0550083 (stainless steel 1.4301)

Snubber
0574773 (brass)
0553258 (stainless steel 1.4301)

