Pressure Switch Standard MEPL-S

Characteristics

1500 - MODULAR - ECONOMIC - SERIES -

- Input:	0...0,1 up to 0...1000 bar
- Output:	Relay with changeover contact
- Voltage supply:	24...30 VDC
- Accuracy sensor:	0,5% of nominal range
- Process connection:	G 1/2" / G 1/4" / 1/2 NTP / 1/4 NPT
- Electrical connection:	M12x1, 8-pole
- Indication:	LED red
- Ambient temperature:	-30...+80 °C (operation)
- Adjustment switch point:	by magnet / with HART tool
- Material:	Stainless steel 1.4571 (contact with medium)
- Ingress protection:	at least IP65

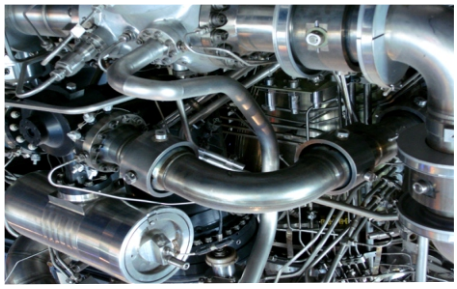
Technical Data

Input		
Pressure:	Relative: 0...0,1 up to 0...1000 bar / Absolute: 0...0,25 up to 0...25 bar / ±Ranges	
Pressure ranges:	see table page 2 (with overpressure safety)	
Output		
Relay:	Type:	Changeover contact
	Switching capacity:	1 A, 30 VDC (resistive load) 0,3 A, 125 VAC (resistive load)
	Switching power:	30 W or 37,5 VA (resistive load)
	Switching cycles:	> 100000
Performance		
Sensor:	Accuracy:	<0,5% of span (at reference conditions) Including non-linearity, hysteresis, zero and full scale error (corresponds to error of measurement per IEC 61298-2)
	Adjustment:	in vertical mounting position with lower pressure connection
	Non-linearity:	<0,2% of span (BFSL per IEC 61298-2)
	Non-repeatability:	<0,1% of span (per IEC 61298-2)
	1-year stability:	<0,2% of span (at reference conditions)
	Temperature coefficient:	mean coefficient (TC) within compensated temperature range
		TC zero: <0,2% of span / 10 K <0,4% span / 10 K for ranges <250 mbar
		TC span: <0,2% span / 10 K
	Reference conditions:	15...25 °C / 860...1060 mbar / 45...75% rH / 24 VDC
Indication:	LED:	Red, 360°
	Relay active:	LED lights
	Relay inactive:	LED off

Applications

The pressure switch MEPL-S is suitable for a whole range of industrial applications and can be connected e. g. to the digital input of a SPS. With different versions available and a very simple in-situ switch point adjustment, the pressure switch is also suitable for demanding applications.





Technical Data (Continued)

Switching amplifier:	Accuracy:	±0,3% of nominal range
	Switching delay:	0 s (Standard), with HART configuration: 0...99,9 s
	Hysteresis:	15 of nominal range (Standard) Configuration via HART: variable
	Damping:	0 s (Standard), with HART configuration: 0...99,9 s
	Measuring rate:	10 Messungen/s
	Response time:	20 ms
	Switching point:	50% of nominal range (Standard)
	Measuring range:	Nominal measuring range (Standard)
	Switch point:	Adjustment with magnet (recalibration)
	Switch-on delay:	<5 s

Supply

Voltage:	24...30 VDC
Current consumption:	approx. 35 mA maximum (with relay circuit)
Reverse voltage protection:	available (no function, no damage)

Environmental Conditions

Temperature:	Operating range:	-20...80 °C 0...+80 °C (compensated range)
	Medium:	-30...+100 °C
	Storage:	-40...+85 °C
Condensation:	uncritical	
CE-conformity:	Pressure equipment directive: 2014/68/EU EMC directive: 20014/30/EU	
Shock resistance:	1000 g according IEC 60068-2-27 (mechanical shock)	
Vibration resistance:	20 g according IEC 60068-2-6 (vibration under resonance)	

Mechanics

Dimensions:	see page 3	
Pressure connection:	G 1/2 (EN837) / G 1/4 (EN837) / G 1/4 (DIN 3852-E) / 1/2 NTP / 1/4 NPT for NPT thread: nominal size for “US standard tapered pipe thread NPT”	
Electrical connection:	M12x1, 8-pole	
Material:	Process connection:	stainless steel CrNi (contact with medium)
	Body:	PBT GF30
	Cover:	PBT GF30
	Lens:	PMMA
Transmission fluid:	synthetic oil (internally), no transmission fluids with pressure ranges >25 bar	
Weight:	approx. 230 g	
Device protection:	Protection class:	at least IP65 (electronics) valid with plugged connector
	PCB:	potted

Pressure Table

Relative Pressure

Measuring range	0,1	0,16	0,25	0,4	0,6	1	1,6	2,5	4	6	10
Overload limit	1	1,5	2	2	4	5	10	10	17	35	35
Measuring range	16	25	40	60	100	160	250	400	600	1000	
Overload limit	80	50	80	120	200	320	500	800	1200	1500	

Absolute Pressure

Measuring range	0,25	0,4	0,6	1	1,6	2,5	4	6	10	16	25	0,8...1,2
Overload limit	2	2	4	5	10	10	17	35	35	80	80	5

Vacuum and ±Ranges

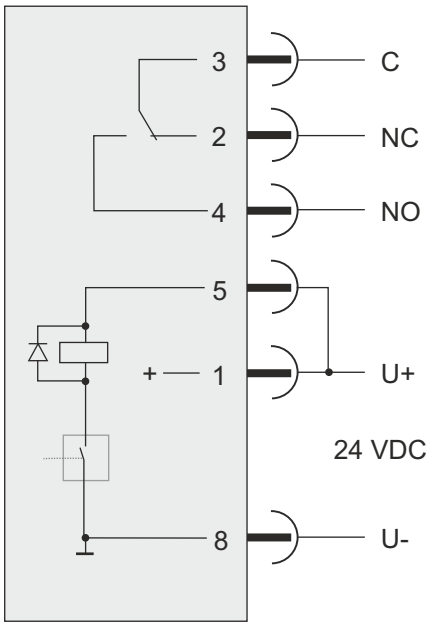
Measuring range	-0,6...0	-0,4...0	-0,25...0	-0,16...0	-0,1...0	-1...0	-1...+0,6	-1...+1,5	-1...+3	-1...+5
Overload limit	4	2	2	1,5	1	5	10	10	17	35
Measuring range	-1...+9	-1...15	-1...+24							
Overload limit	35	80	50							

Electrical Connection

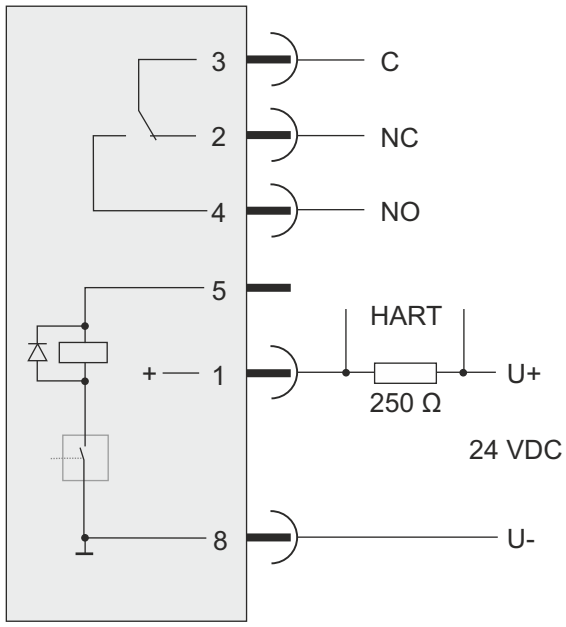
Connection and Pin Assignment

M12x1

8-pole

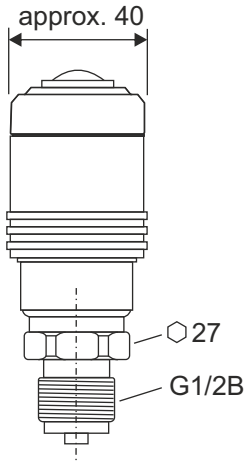


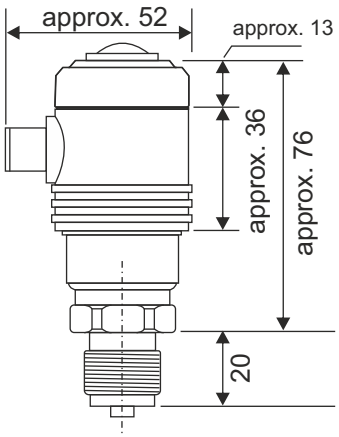
Connection for standard use
(No configuration via HART)



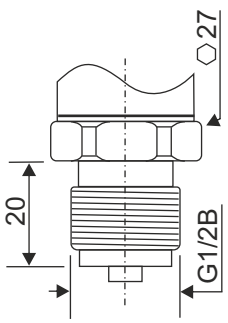
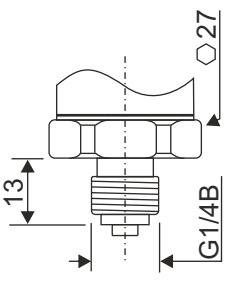
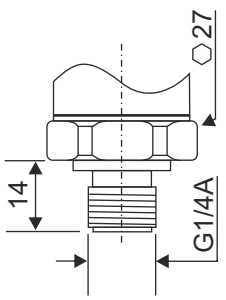
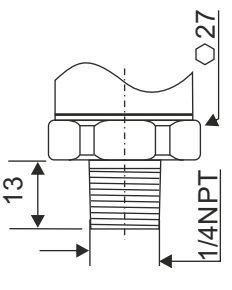
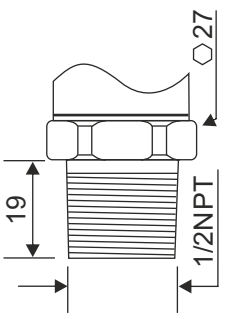
Connection for configuration via HART
(Relay is without function)

Dimensions (in mm)





Pressure Connection (in mm)

G1/2B (EN837) Manometer	G1/4B (EN837) Manometer	G1/4A (DIN 3852-E)	1/4NPT	1/2NPT
				
		Overload limit 600 bar		

Order Code

N	P	X	X	X	X	-	X	X	X	X	X

Pressure type:	Relative pressure	0
	Absolute prssure	1
	Vacuum, ± Ranges	2
Temperature Medium:	-30...+100 °C	0
Process connection:	G1/2” (EN 837), Manometer	0
	G1/4” (EN 837), Manometer	1
	G1/4” (DIN 3852 E)	2
	1/2”NPT	3
	1/4"NPT	4
	Other connection (please specify)	5
Contact with medium:	CrNi steel	0
Pressure range:	Please specify[1]	X
Accuracy pressure sensor:	0,5% of range	1
Electrical connection:	M12x1, 8-pole	2
Configuration:	Factory configuration[2]	1
	Customized (please specify)[3]	2
Special model:	No	0
	Yes (please specify)	1

1) Pressure range absolute: 2 = 0...0,25 / 3 = 0...0,4 / 4 = 0...0,6 / 5 = 0...1 / 6 = 0...1,6 / 7 = 0...2,5 / 8 = 0...4 / 9 = 0...6 / A = 0...10 / B = 0...16 / C = 25 / D = 0,8...1,2 bar

Pressure range relative: 0 = 0...0,1 / 1 = 0...0,16 / 2 = 0...0,25 / 3 = 0...0,4 / 4 = 0...0,6 / 5 = 0...1 / 6 = 0...1,6 / 7 = 0...2,5 / 8 = 0...4 / 9 = 0...6 / A = 0...10 / B = 0...16 / C = 0...25 / D = 0...40 / E = 0...60 / F = 0...100 bar / G = 0...160 / H = 0...250 / I = 0...400 / J = 0...600 / K = 0...1000 bar

Vacuum, ±Ranges: 0 = -0,6...0 / 1 = -0,4...0 / 2 = -0,25...0 / 3 = -0,16...0 / 4 = -0,1...0 / 5 = -1...0 / 6 = -1...+0,6 / 7 = -1...+1,5 / 8 = -1...+3 / 9 = -1...+5 / A = -1...+9 / B = -1...+15 / C = -1...+24 bar

2) Nominal measuring range / Used measuring range = Nominal measuring range / Switching point: 50% of nominal measuring range / Hysteresis: 1% of nominal measuring range / Switching delay: 0 s / Damping: 0 s

3) Details as per Technical Data

Accessories:

DEV-HM (Interface HART, USB, software) Order No.: **01310-00220**

HART Communication and Configuration

The HART-Tool is a graphical user interface with a menu-driven progam for configuration. It can be used for start-up, configuration, signal analysis, data backup and device documentation. Connection via HART interface DEV-HM for operating systems: Windows XP, Windows 7, 8.1 and 10. Possible settings are: Switching point, Filter function, Nominal measuring range (LRL, URL), Used measuring range (LRV, URV), Hysteresis, Switching delay, HART address

Please note: When using communication via a HART modem, a communication resistance of 250 Ω has to be taken into account.