

PM40

Nöding

Messtechnik



Datasheet Pressure Switch with digital display PM40

PERFORMANCE FEATURES

- 4 digit *super bright* LED display
- Digitally rotatable display
- Adjustable turndown without loss of accuracy 1:5
- Dry capacitive pure ceramic measuring cell
- High overload capability
- Front flush process connection
- Smallest measuring range: 0...40 mbar
- Largest measuring range: 0...40 bar
- Negative pressure measuring range: up to -1 bar
- Adjustable on site
- Accuracy $\leq 0,3\%$, also for turndown up to 1:5
- 2 Switching outputs DC PNP, max. 100mA
- Analog output: 4...20 mA, 3-wires

AREAS OF APPLICATION

- Gaseous media
- Pump applications
- Hygiene applications
- Viscous media
- Abrasive media
- Aggressive media
- Hydrogen

The model PM40 is an easy-to-use pressure switch with a digital display and the possibility to adjust the sensor individually on site. The high overload capability compensates for pressure peaks in fast-closing systems such as drinking water applications with solenoid valves. Front-flush process connections reliably prevent clogging, even with viscous media. The large, brightly illuminated display can still be easily read from a great distance and therefore allows for a quick assessment of the process pressure. The upper part of the sensor can be rotated, in addition the display can be rotated via software for horizontal installation. The analog output with 2 adjustable switching outputs extends the range of applications. For our OEM customers we offer the possibility of individual pre-setting of the PM40 for the respective application. Our modular design concept provides a wide variety of products. Feel free to contact us if you need a customization that is not listed in this datasheet.

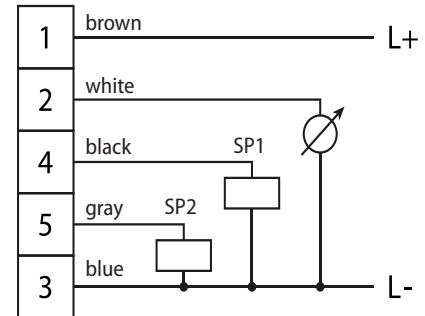
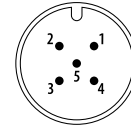
PM40 Datasheet Pressure Switch with digital display

TECHNICAL DATA

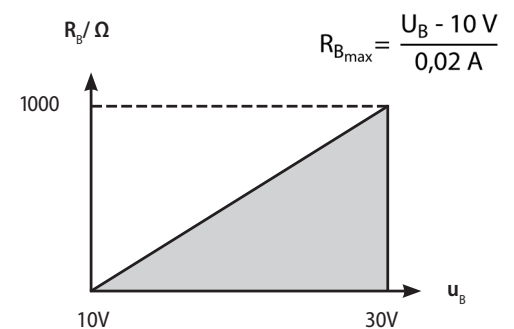
Measuring ranges	
Pressure range	see table "Measuring ranges" others on request
Output	
Analog output	4...20 mA 3-wires
Switching output	2x DC PNP, max. 100 mA
Power supply	
20 mA output	10...30 V DC
Turndown Td	
Turndown within specification	1:5 (1:Td)
Smalles adjustable measuring span	see table "Measuring ranges"
Signal characteristics in relation to the measuring span	
Accuracy	$\leq \pm 0,3 \% @ 25^\circ\text{C}$
Accuracy at Turndown > 5	0,1 %* Td
Long term stability	$\leq \pm 0,1 \% / \text{Year}$
Response time	60 ms * Averaging counter (adjustable 1-128)
Swich-on time	ca. 1 s
Temperature coefficient	
zero	$\leq \pm 0,01 \% \text{ FS} / \text{Kelvin}$
span	$\leq \pm 0,01 \% \text{ FS} / \text{Kelvin}$
Temperature ranges	
Medium temperature	-25...100 °C
Surrounding temperature	-25...80 °C
Storage temperature	-25...80 °C
Electrical protections	
Short-circuit resistance	Permanent
Reverse polarity protection	Protection against reverse polarity, but no function
Electromagnetic compatibility	Interference emissions and immunity acc. to EN 61326
Mechanical resistance	
Vibration	4g with 3-axis resonance frequency according to DIN EN 60068-2-6:2008
Wetted materials	
Process connection	Stainless steel, 1.4404
Sensor	Ceramic Al ₂ O ₃ , high purity 99,9%
Sensor seal	FPM (Viton), NBR, EPDM, FFKM (Chemraz / Kalrez)
Surroundings	
Protection type	IP 67
Exemplary weight	
PM40-3200-F11 (figure p. 1)	Approx. 440 g

ELECTRICAL CONNECTION

M12 Connector



LOAD



PM40 Datasheet Pressure Switch with digital display

ORDERING CODE

Output signal

- 0 None
- 3 4...20 mA 3-wires

Switching output

- 2 2 switching outputs

Ranges

Measuring ranges see table

- 99 Non-standard range (on request)

Process connection and material

- 3 G 1/2 B, EN 837-1, 1.4404
- G G 1/2 A a. 11,8 mm drill hole, ISO 228-1, 1.4404
- F G 1 A, similar to DIN EN ISO 1179-2, 1.4404
- 1 G 1/2 A, DIN EN ISO 1179-2, 1.4404
- L Clamp 1" DN 25...40, 1.4404
- S Long version G 1/2 A, ISO 228-1, 1.4404
- SQ Long version G 3/4 A, ISO 228-1, 1.4404
- 9 Others (on request)

Material upper housing

- 1 Stainless steel 1.4301

Sensor seal

- 1 FPM (Viton), standard
- 2 NBR (Perbuan)
- 3 EPDM
- 5 FFKM (Chemraz / Kalrez)
- 9 Others (on request)

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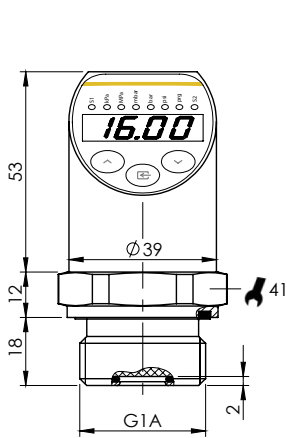
MEASURING RANGES

Preset Measuring range relative pressure	Code	Adjustable range	Smallest measuring span within specification (1:5)*	Overload (bar)	Burst pressure (bar)
0...100 mbar / 0...10 kPa	00	-100...100 mbar	40 mbar	-0,7/2,7	4
0...200 mbar / 0...20 kPa	B1	-200...200 mbar	80 mbar	-1/3,3	5
0...400 mbar / 0...40 kPa	03	-400...400 mbar	160 mbar	-1/4	6
0...1 bar / 0...100 kPa	05	-1...1 bar	400 mbar	-1/6,7	10
0...2 bar / 0...200 kPa	B3	-1...2 bar	600 mbar	-1/10	18
0...4 bar / 0...400 kPa	08	-1... 4 bar	1 bar	-1/12	18
0...10 bar / 0...1 MPa	10	-1...10 bar	2 bar	-1/30	50
0...20 bar / 0...2 MPa	B5	-1...20 bar	4 bar	-1/60	100
0...40 bar / 0...4 MPa	13	-1...40 bar	8 bar	-1/105	175

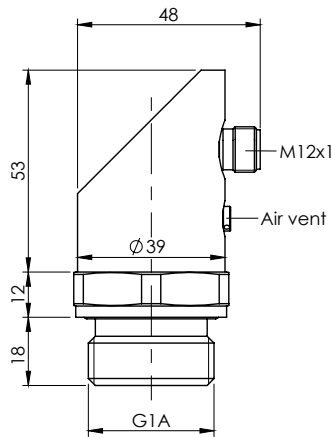
Preset Measuring range absolute pressure	Code	Adjustable range	Smallest measuring span within specification (1:5)*	Overload (bar)	Burst pressure (bar)
0...100 mbar / 0...10 kPa	X7	0...100 mbar	40 mbar	0/2,7	4
0...200 mbar / 0...20 kPa	B2	0...200 mbar	80 mbar	0/3,3	5
0...400 mbar / 0...40 kPa	28	0...400 mbar	160 mbar	0/4	6
0...1 bar / 0...100 kPa	30	0...1 bar	400 mbar	0/6,7	10
0...2 bar / 0...200 kPa	B4	0...2 bar	600 mbar	0/10	18
0...4 bar / 0...400 kPa	33	0...4 bar	1 bar	0/12	18
0...10 bar / 0...1 MPa	35	0...10 bar	2 bar	0/30	50
0...20 bar / 0...2 MPa	B6	0...20 bar	4 bar	0/60	100
0...40 bar / 0...4 MPa	38	0...40 bar	8 bar	0/105	175

*At Turndown > 5 the accuracy is: 0,1% *Td

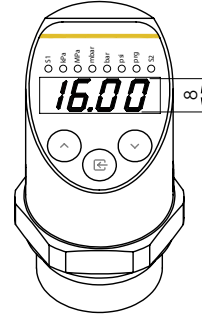
DIMENSIONS



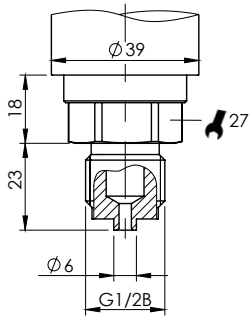
PROCESS CONNECTION ■ TYPE F



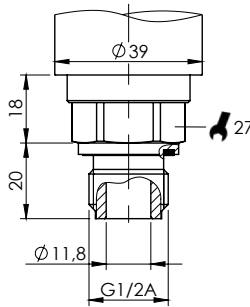
■ SIDE VIEW



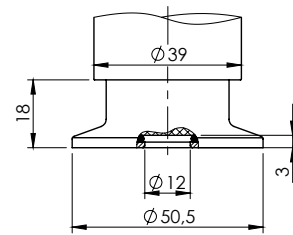
■ TOP VIEW



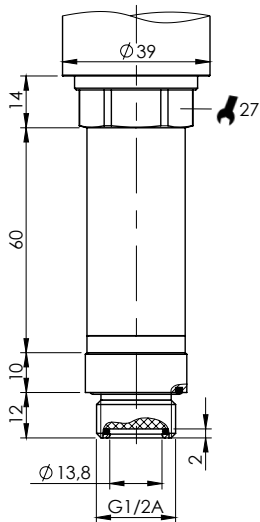
PROCESS CONNECTION ■ TYPE 3



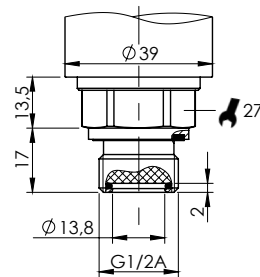
■ TYP G



■ TYP L



PROCESS CONNECTION ■ TYPE S



■ TYPE 1



ALTERNATIVE MOUNTING
DISPLAY ROTATABLE VIA MENU