

## Product Description

NGP Series digital pressure switches are the perfect solution designed for use in harsh industrial conditions.

It has long-term stability and overload resistance. It provides high linearity, adjustable hysteresis and flexible use over the entire measuring range.

- Different pressure options in the range of -1...600 bar
- Pressure measurement with  $\pm 0.5\%$  accuracy
- Adjustable hysteresis and window function outputs
- Flexible configurable switching output (PNP, NPN) and Relay Output
- Optional Analog 4...20 mA output
- Instant pressure reading with LED display
- 270° rotatable led display



## Areas of Application

- Machine tools
- Hydraulics and Pneumatics
- Pumps and compressors
- Machine building

## Technical Specifications

<b>Connection Type</b>	G1/4" - G1/2" - 1/4" BSPT - 1/2" BSPT - 1/2" NPT - 1/4"NPT
<b>Accuracy @ 25°C for 5 min</b>	< % $\pm 0.5$ FS
<b>Operating temperature</b>	-20°C...+80°C
<b>Body Material</b>	316L Stainless Body
<b>Output Signal</b>	Relay Output (NO/NC), Switching(PNP, NPN), Analog(4...20 mA)

## Measuring Range Specifications

<b>Vacuum Resistance</b>	Yes
<b>Pressure Resistance</b>	Examine Table 1. (Page:2)
<b>Digital Display</b>	
Indication range	14 segment
Measurement units	bar, mbAr, psi, MPa,
Display Color	Blue (LED)
Character size	13 mm [0.51 in]
Digits	4-digits
Display	The display can be rotated manually through 270°

Order Codes

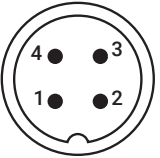
Table 1

Model	Sealing Type	Mechanical Connection	Electrical Connection Type	Pressure & Vacuum			Output Signal	Analog Output (Optional)
				Code	Pressure & Vacuum Range	P max bar		
NGP	V VITON	A3 G1/4"	T3 M12 x 1 (4 pin)	V0	-1...0 bar	6	K1 Relay Output (NO/NC)	Z1 Analog Output (4...20 mA)
	E EPDM	A5 G1/2"		V1	-1...1 bar	6		
	H HNBR	S3 1/4" BSPT		V3	-1...3 bar	15		
				V6	-1...6 bar	30		
				V10	-1...10 bar	30		
				V16	-1...16 bar	60		
				V24	-1...25 bar	75		
				M50	0..50 mbar	0,15		
				M100	0..100mbar	0,30		
				M250	0..250 mbar	0,75		
	M600	0..600 mbar		1,8				
	S5 1/2" BSPT	N4 1/4"NPT		2,5	0 ... 2,5 bar	15	K2 Switch Output (PNP,NPN)	If Z1 is not selected, analog output will not be added.
				6	0 ... 6 bar	30		
				10	0 ... 10 bar	30		
				16	0 ... 16 bar	60		
				25	0 ... 25 bar	75		
				40	0 ... 40 bar	100		
				60	0 ... 60 bar	175		
				100	0 ... 100 bar	250		
				160	0 ... 160 bar	500		
			N5 1/2" NPT		250	0 ... 250 bar		
			315	0 ... 315 bar	700			
			400	0 ... 400 bar	700			
			600	0 ... 600 bar	1050			

Electrical Connection

Connection Type	Circular Connector M12 x 1 (4-pin)
Pin Assignment	Pin assignments vary according to the output signals. Please see "Table 2" for detailed explanation.
Reverse Polarity Protection	U+ vs. U
Insulation Voltage	DC 500 V

Table 2

 <p>M12 x 1 ( 4 PiN )</p>	K1		K2		Cable Color
	U+	1	U+	1	Brown
	U-	3	U-	3	Blue
	NC	4	SP1	4	Black
	NO/S+ <sup>(1)</sup>	2	SP2/S+ <sup>(1)</sup>	2	White

Pin Assignment:

- U+ Positive power supply terminal
- U- Negative power supply terminal
- SP1 1. Switching point
- SP2 2. Switching point
- S+ 4...20 mA

(1) If analog output is requested, pin "2" will be used as analog pin.

**Properties of Output Signal**

**Digital Output**

Switching Output 1	PNP <sup>(1)</sup>
	NPN <sup>(1)</sup>
	Factory Setting:PNP
Switching Output 2	PNP <sup>(1)</sup>
	NPN <sup>(1)</sup>
	Factory Setting:PNP
Relay Output	NO
	NC

**Analog Output**

4...20 mA

**Switching Function**

- Window <sup>(2)</sup>
- Hysteresis <sup>(2)</sup>

Factory setting: Hysteresis Contact function

**Setting range of the switch points**

- Factory settings
- Customer-specific Switching point

Switching point 1 and switching point 2 can be set independently  
→ See operating instructions

**Switch hysteresis**

Minimum 0.25 % of FS <sup>(3)</sup>

**Load**

Analog Output (4 ... 20 mA)	≤ 500 Ω
NO	Max. 5A - 24DCV
NC	Max. 5A - 24DCV
PNP	Max. 300 mAh
NPN	Max. 300 mAh

**Switching delay time**

Configurable from 0 to 65 sr

**Reset Delay Time**

Configurable from 0 to 65 s

**Supply Voltage**

Product Operating Voltage Range	5 - 24 VDC	
Switching voltage	Supply voltage	
Current Consumption	Models without 4 ... 20 mA output signal	Max. 70 mA
	Models with 4 ... 20 mA output signal	Max. 95 mA
Overvoltage protection	DC 40 V	

**Dynamic behaviour**

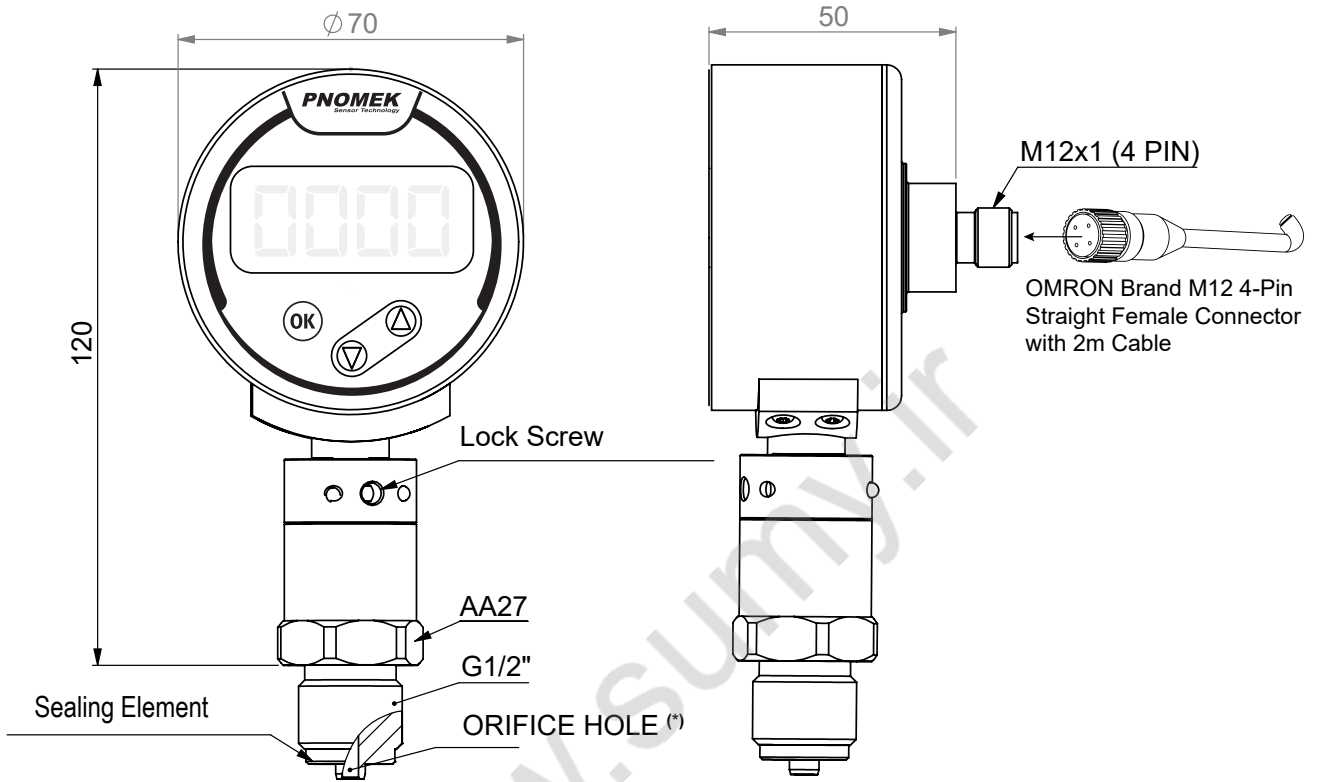
Settling time per IEC 61298-2	Analog signal	≤ 2 ms
	Switching output	≤ 2 ms
<b>Switch-on time</b>	2 s	

(1) For detailed explanation, refer to the page "8" of the user manual. Please review the "Table 2" on that page.

(2) For detailed explanation, see the page "12 and 13" of the user manual. Please review "Table 3" and "Table 4" on those pages.

(3) Full Scale

Technical Dimensions



(\*) For peak pressures, the Orfiz accessory is sold separately and must be specified when ordering.

