

# PRESSURE TRANSMITTER & SWITCH WITH 4 DIGIT LCD DISPLAY

## PN SERIES

Electronic Pressure Sensor PN with NPT Process Connection

2 Outputs:

OUT1 = Switching Output

OUT2 = Switching or Analog Output

4 Digit LCD Display

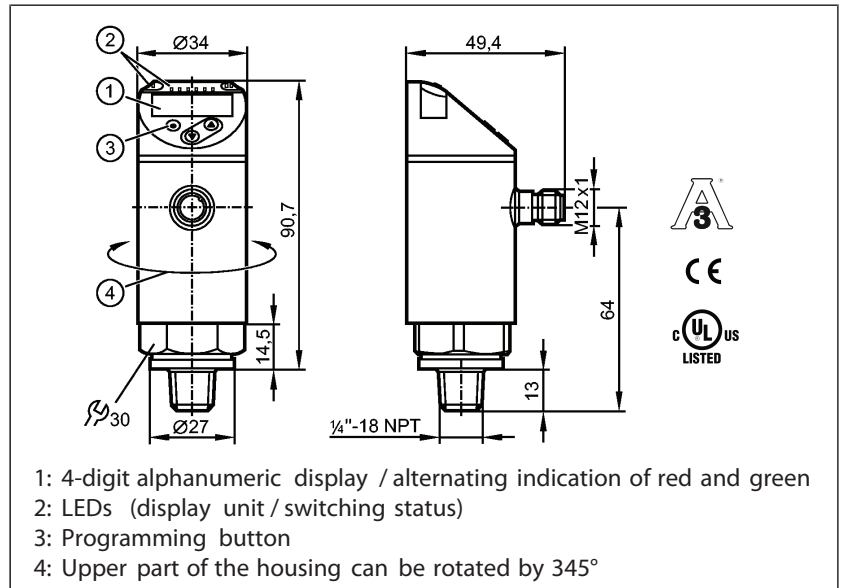
Simple Pushbutton Set-up

Zero & Span Adjustable

Quickly Connects with Water Tight Standard M12 Industrial Connector (Cables and Connectors Sold Separately)

Available in the following Ranges and % of Span

Model	PSI	BAR	MPa	"H <sub>2</sub> O	mBAR	kPa
PNXX93	-14.5 to 362.5	-1 to 25	-0.1 to 2.5	--	--	--
PNXX94	-14.6 to 145	-1 to 10	-0.1 to 1	--	--	--
PNXX96	-1.8 to 36.25	-0.125 to 2.5	--	--	--	-12.5 to 250
PNXX97	-0.72 to 14.50	--	--	--	-50.0 to 1000	-5 to 100
PNXX98	--	--	--	-5.0 to 100.4	-12.5 to 250	-1.25 to 25
PNXX99	-14.5 to 14.5	--	--	--	-1000 to 1000	-100 to 100



### Application

Application	Type of pressure: relative pressure Group 2 fluids fluids according to the Pressure Equipment Directive (PED)
Medium temperature [°C]	-25...80

### Electrical data

Electrical design	DC PNP/NPN
Operating voltage [V]	14...30 DC <sup>1)</sup>
Insulation resistance [MΩ]	> 100 (500 V DC)
Protection class	III
Reverse polarity protection	yes

### Outputs

Output	2 outputs OUT1 = switching output OUT2 = switching output or analog output
Output function	2 x normally open / closed programmable or 1 x normally open / closed programmable + 1 x analog (4...20 mA / 0...10 V; programmable 1:5)

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Current rating	[mA]	250
Voltage drop	[V]	< 2
Short-circuit protection		yes (non-latching)
Overload protection		yes
Switching frequency	[Hz]	≤ 500
Analog output		4...20 mA; 0...10 V
Max. load	[Ω]	4...20 mA: max. 500
Min. load resistance	[Ω]	0...10 V: min. 2000

## Accuracy / deviations

### Accuracy / deviations

(in % of the span) Turn down 1:1

Switch point accuracy		< ± 0.4
Characteristics deviation *)		< ± 0.25 (BFSL) / < ± 0.5 (LS)
Hysteresis		< ± 0.1
Repeatability **)		< ± 0.1
Long-term stability ***)		< ± 0.05

Temperature coefficients (TEMPCO) in the temperature range -25...80°C (in % of the span per 10K)

Greatest TEMPCO of the zero point		0.2
Greatest TEMPCO of the span		0.2

## Reaction times

Power-on delay time	[s]	0.3
Min. response time switching output	[ms]	< 1.5
Delay time programmable dS, dr	[s]	0...50
Damping for the switching output (dAP)	[s]	0...4
Damping for the analog output (dAA)	[s]	0...4
Response time analog output	[ms]	< 3
Integrated watchdog		yes

## Software / programming

Programming options		hysteresis / window function; NO / NC; on delay, off delay; damping; display unit; current/ voltage output
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## Environment

Ambient temperature	[°C]	-25...80
Storage temperature	[°C]	-40...100
Protection		IP 65 / IP 67

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## Tests / approvals

Pressure equipment directive	97/23/EG: sound engineering practice	
EMC	DIN EN 61000-6-2 DIN EN 61000-6-3	
Shock resistance	DIN EN 60068-2-27	50 g (11 ms)
Vibration resistance	DIN EN 60068-2-6	20 g (10...2000 Hz)
MTTF [Years]	145	
UL approval number	J012	

## Mechanical data

Process connection	1/4" NPT	
Materials (wetted parts)	stainless steel (316L / 1.4404); Al2O3 (ceramics); FKM	
Housing materials	stainless steel (316L / 1.4404); PBT+PC-GF 30; PBT-GF 20; PC	
Min. pressure cycles	100 million	
Weight [kg]	0.245	

## Displays / operating elements

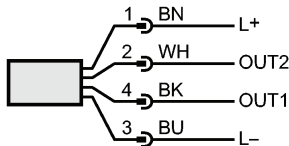
Display	Display unit 4 x LED green Switching status 2 x LED yellow 4-digit alphanumeric display / alternating indication Measured values of red and green
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## Electrical connection

Connection	M12 connector; gold-plated contacts
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### Wiring

Core colors	
BK	black
BN	brown
BU	blue
WH	white



OUT1: switching output or IO-Link  
 OUT2: switching output or 4...20 mA / 0...10 V  
 Colours to DIN EN 60947-5-2

## Remarks

Remarks	*) BFSL = Best Fit Straight Line / LS = Limit Value Setting **) with temperature fluctuations < 10 K ***) in % of the span / 6 months 1) to EN50178, SEL V, PEL V 2) Depends on lubrication, seal and pressure rating
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Pack quantity [piece]	1
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