DataSheet

Electrical Pressure Sensor with LED Display
PE80H Series - Impact Resistance

Introduction

A sputtering film measuring component is equipped for PE80H to measuring pressure. High accuracy, integrated LED display for pressure display and parameters set.

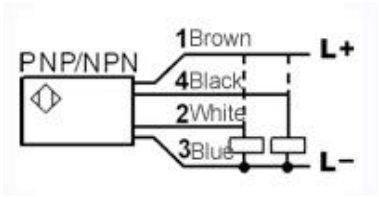
Characteristics

- **Max measuring range: 5…2200 bar**
- **Digital LED for pressure and switching state display**
- **Items set through menu: switching set/reset point, analog output start/end point, switching output type**
- **Configuration off-site**
- **High reliability**
- **Output to PLC**
- **M12 plug**
- **Easy to assembling/disassembling, high protection class**
- **Positive/negative pressure measurable**
- **With both switching output and analog output, the sensor could be used as pressure switch as well as pressure transmitter**
- **330º Rotatable indicator**

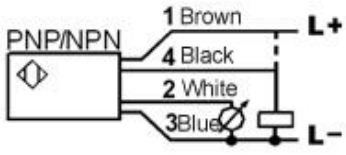
Specifications

Measuring range:	See order code for details
Overpressure:	See technical data below for details
Switching output:	calibrating span: 0.5%…100% of F.S.
	Accuracy: 0.5% of F.S.
	Number of switches: 1 or 2 selectable
	Output: PNP / NPN, NC / NO programmable.
	Rated current: ≤300mA
	Response time: ≤30ms
Analog output:	Output type: 4…20mA analog output
	Load resistance: ≤500Ω
	Accuracy: 0.5% of F.S.
Repeatability:	0.5% of measuring range
Display:	Red 9mm 4-LEDs, display range: -999…9999
Power supply:	15...30V DC
Wiring protection:	Reverse polarity, Overvoltage and Short-circuit
Ambient temperature:	-20…80℃
Medium temperature:	-30…100℃
Storage temperature:	-40…100℃
Temperature effect:	< ±0.03%F.S./K
Protection class:	IP67
Process connection:	Stainless steel + NBR sealing
Housing material:	Zinc Alley
Electrical connection:	M12×1 5-pin plug (for 1 analog output + 2 switching output)

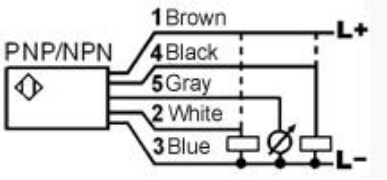
Wiring



2 switching output



1 analog output + 1 switching output



2 switching outputs + 1 analog output

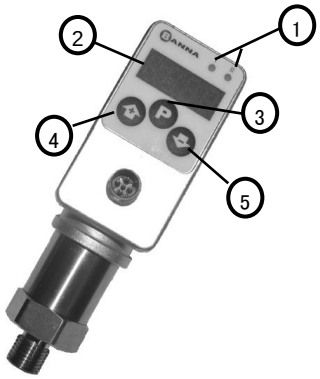
Applications

Applicable to both liquid and gas
Pump control
Storage tank monitoring
Liquid level control
Filter blocking
Leaking monitoring
Hydraulics and pneumatics
Machinery manufacture
Process control

Technical data

Measuring range (bar)	Static over pressure (bar)	Burst pressure (bar)	Medium temperature(℃)	Sensing component
0…5	10	50	-30…100	Sputtering film
0…7	14	70		Sputtering film
0…10	20	100		Sputtering film
0…16	32	160		Sputtering film
0…20	40	200		Sputtering film
0…35	70	350		Sputtering film
0…70	140	700		Sputtering film
0…100	200	1000		Sputtering film
0…160	320	1600		Sputtering film
0…250	500	2500		Sputtering film
0…400	800	4000		Sputtering film
0…700	1400	7000		Sputtering film
0…1000	2000	10000		Sputtering film
0…1600	3200	16000		Sputtering film
0…1800	3600	18000		Sputtering film
0…2200	4400	22000		Sputtering film

Panel



1- Ⅰ = output 1 state
Ⅱ = output 2 state
2- 4-LEDs display
3- P confirm
4- up
5- down

Keys

keys	Function
P + ▲	Press and hold for 3 seconds, enter setting mode
▲	Shift up menu item / change setting value
▼	Shift down menu item / shift setting bit
P	Enter menu / Confirm and enter next menu

Menus

All parameters of PE80H are set through following menus:

Menus	Description	Options
unit	Display unit	psi / bar
SP1	Switch 1 set point	2%...100% of measuring range
rP1	Switch 1 reset point	0…98% of measuring range
out1	Switch 1 output mode	Hno / Hnc / Fno / Fnc*
SP2	Switch 2 set point	2%...100% of measuring range
rP2	Switch 2 reset point	0…98% of measuring range
out2	Switch 2 output mode	Hno / Hnc / Fno / Fnc*
Sfun	Switch output function	PnP / nPn
Afr	Analog output lower limit	0…75% of measuring range
Ato	Analog output upper limit	25%...100% of measuring range
Aout	Analog output range	0…20 mA / 4…20 mA
dAp	Wave filter coefficient	0…8
Sto	Save	YES / NO

Hno - Hysteresis normally open

Hnc - Hysteresis normally close

Fno - Window normally open

Fnc - Window normally close

Note:

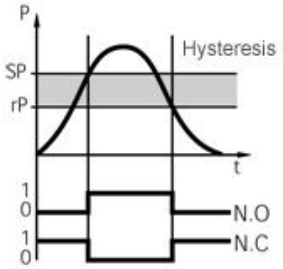
1) The difference between set point and reset point must be at least 2% of measuring range, otherwise, one of them will be adjusted automatically.
2) The difference between analog output upper limit and lower limit must be at least 25% of measuring range, otherwise, it will be adjusted automatically.

Others	Description
OL	Higher than upper limit alerting
UL	Lower than low limit alerting

Output - Window/ Hysteresis

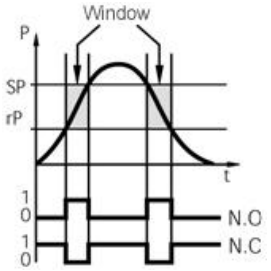
Hysteresis

Hysteresis of PE80H could be set through menus. The hysteresis is shown as gray band in right diagram, that is, SP-rP. The hysteresis keeps the switching output stable if the pressure fluctuates around the preset value. For rising pressure, the output switches when it reaches the set point(SP); For falling pressure, the output switches back only if the reset point(rP) is reached.

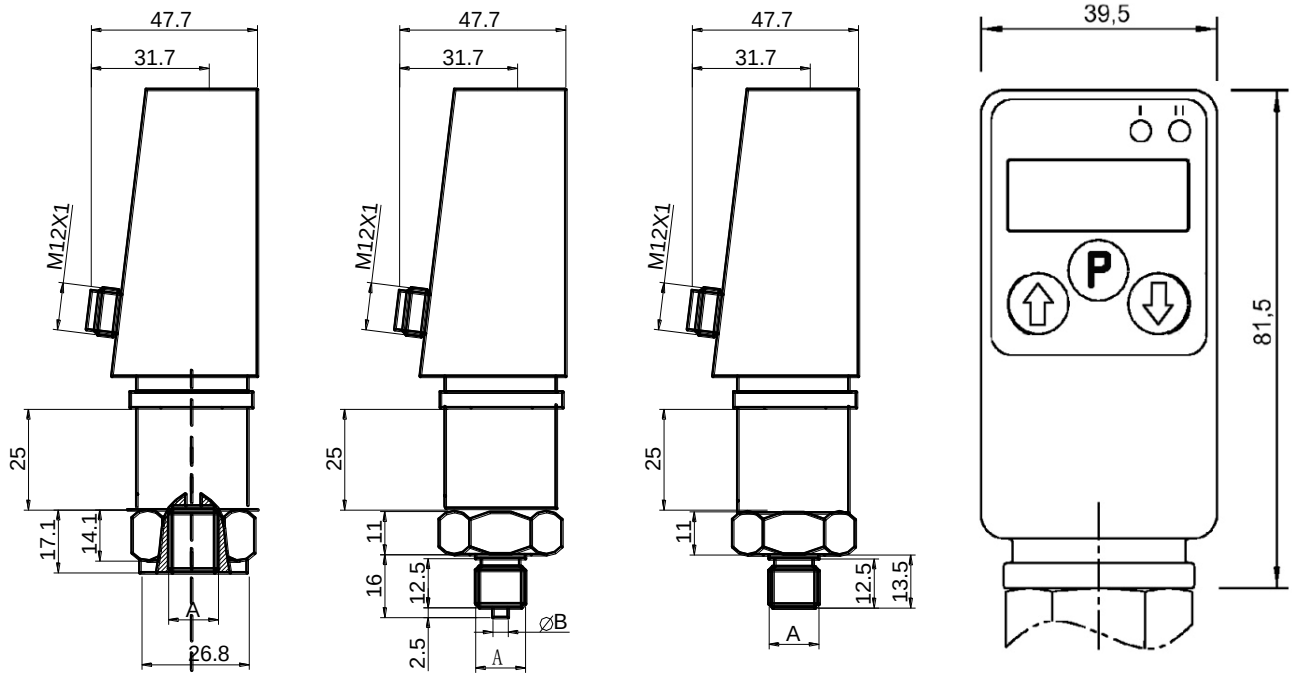


Window

The window function of PE80H could be used to monitor a certain pressure range, alerting will be activated if the pressure is out of the range. The window is shown as gray band in right diagram, it allows the monitoring of a defined range. If the pressure between the set point(SP) and reset point(rP), the output is activated(NO) respective deactivated(NC).



Dimensions in mm



Order code

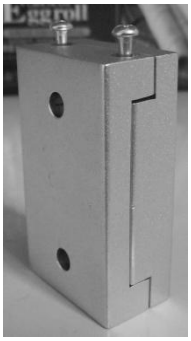
Note: 1bar=1.02kg/cm2=0.1Mpa

PE80H	P	001	G14	H	T	2A	Q	Description
PE80H								PE80H Series - Impact resistance
	P							Positive pressure model
		005						Measuring range: 0…5 bar
		007						Measuring range: 0…7 bar
		010						Measuring range: 0…10 bar
		016						Measuring range: 0…16 bar
		020						Measuring range: 0…20bar
		035						Measuring range: 0…35 bar
		070						Measuring range: 0…70 bar
		100						Measuring range: 0…100 bar
		160						Measuring range: 0…160 bar
		250						Measuring range: 0…250 bar
		400						Measuring range: 0…400 bar
		700						Measuring range: 0…700 bar
		1000						Measuring range: 0…1000 bar
		1600						Measuring range: 0…1600 bar
		1800						Measuring range: 0…1800 bar
		2200						Measuring range: 0…2200 bar
			G14					Connecting thread: G1/4
			G12					Connecting thread: G1/2
				H				Connecting thread: male thread
				I				Connecting thread: female(G1/4 only)
					T			Output: Push-pull
					P			Output: PNP
					N			Output: NPN
						1S		1 switching output
						2S		2 switching outputs
						1A		1 analog output
						2A		1 switching output + 1 analog output
						3A		2 switching outputs + 1 analog output
							Q	M12×1 plug

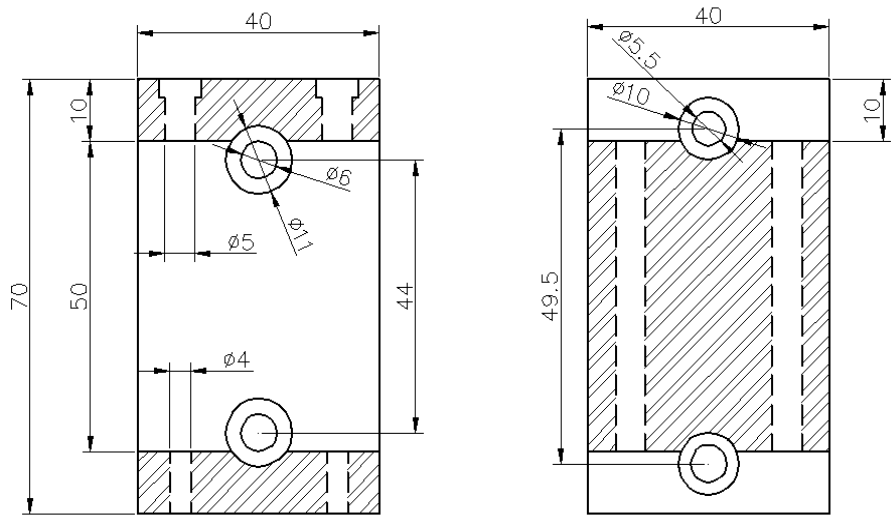
Note: Customization available for process connection.

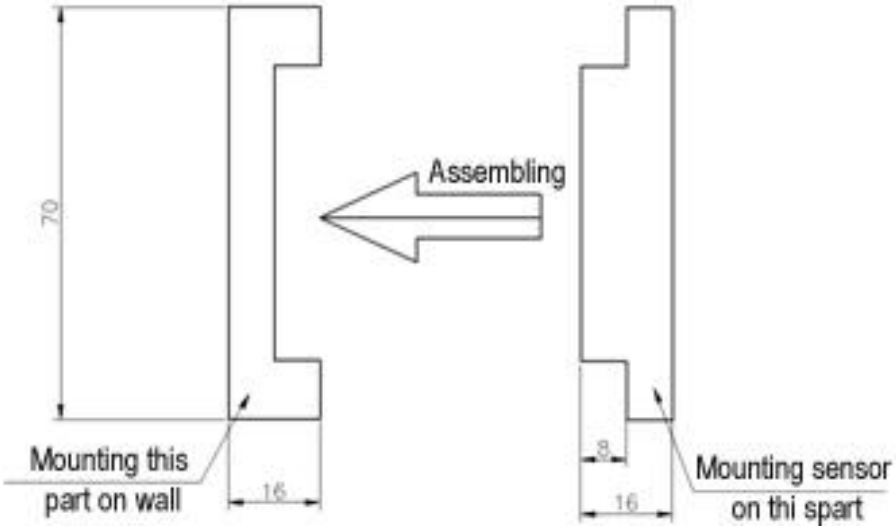
Accessories 1 - Mounting bracket

RR001-	A	/6	Description
RR001-			PE80H mounting bracket
	A		Material: Anodic alumina
		/6	Hole diameter on wall: Φ6



Bracket


40
10
70
50
44
ø6
ø11
ø5
ø4
40
ø5.5
ø10
10
49.5


70
Assembling
Mounting this
part on wall
16
8
16
Mounting sensor
on thi spart