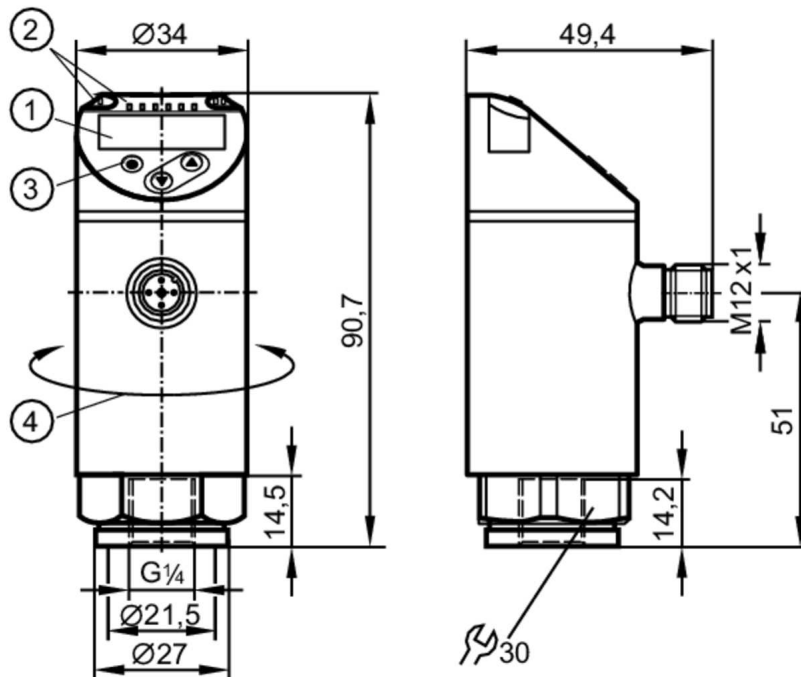


# PE2091



## Pressure sensor with display

PE-250-SER14-MFRKG/US/ /E



- 1 alphanumeric display 4-digit red/green
- 2 LEDs Display unit / Switching status
- 3 Programming button
- 4 upper part of the housing can be rotated 345°



### Product characteristics

Number of inputs and outputs	Number of digital outputs: 2; Number of analog outputs: 1		
Measuring range	0...250 bar	0...3625 psi	0...25 MPa
Process connection	threaded connection G 1/4 Internal thread		

### Application

System	gold-plated contacts		
Measuring element	ceramic-capacitive pressure measuring cell		
Application	for industrial applications		
Media	liquids and gases		
Conditionally suitable for	use in gases at pressures > 25 bar only on request		
Medium temperature [°C]	-25...80		
Min. bursting pressure	1000 bar	14500 psi	100 MPa
Pressure rating	500 bar	7250 psi	50 MPa
Vacuum resistance [mbar]	-1000		
Type of pressure	relative pressure		

### Electrical data

Operating voltage [V]	18...30 DC; (to SELV/PELV)		
Current consumption [mA]	< 35		
Min. insulation resistance [MΩ]	100; (500 V DC)		
Protection class	III		
Reverse polarity protection	yes		

# PE2091



## Pressure sensor with display

PE-250-SER14-MFRKG/US/ E

Power-on delay time [s]	0.3
Integrated watchdog	yes

### Inputs / outputs

Number of inputs and outputs	Number of digital outputs: 2; Number of analog outputs: 1
------------------------------	---

### Outputs

Total number of outputs	2
Output signal	switching signal; analog signal; IO-Link; (configurable)
Electrical design	PNP/NPN
Number of digital outputs	2
Output function	normally open / closed; (configurable)
Max. voltage drop switching output DC [V]	2
Permanent current rating of switching output DC [mA]	250
Switching frequency DC [Hz]	< 500
Number of analog outputs	1
Analog current output [mA]	4...20; (scalable 1:5)
Max. load [Ω]	500
Analog voltage output [V]	0...10; (scalable 1:5)
Min. load resistance [Ω]	2000
Short-circuit protection	yes
Type of short-circuit protection	yes (non-latching)
Overload protection	yes

### Measuring/setting range

Measuring range	0...250 bar	0...3625 psi	0...25 MPa
Set point SP	1.5...250 bar	25...3625 psi	0.15...25 MPa
Reset point rP	0.5...249 bar	10...3610 psi	0.05...24.9 MPa
Analog start point	0...200 bar	0...2900 psi	0...20 MPa
Analog end point	50...250 bar	725...3625 psi	5...25 MPa
In steps of	0.5 bar	5 psi	0.05 MPa

### Accuracy / deviations

Switch point accuracy [% of the span]	< ± 0,4; (Turn down 1:1)
Repeatability [% of the span]	< ± 0,1; (with temperature fluctuations < 10 K; Turn down 1:1)
Characteristics deviation [% of the span]	< ± 0,25 (BFSL) / < ± 0,5 (LS); (Turn down 1:1; BFSL = Best Fit Straight Line; LS = limit value setting)
Hysteresis deviation [% of the span]	< ± 0,1; (Turn down 1:1)
Long-term stability [% of the span]	< ± 0,05; (Turn down 1:1; per 6 months)
Temperature coefficient zero point [% of the span / 10 K]	0,2; (-25...80 °C)
Temperature coefficient span [% of the span / 10 K]	0,2; (-25...80 °C)

# PE2091



## Pressure sensor with display

PE-250-SER14-MFRKG/US/ /E

Notes on the accuracy / deviation

switch point accuracy, linearity error under DNV GL:  $< \pm 1\%$ :  $< \pm 1\%$

### Reaction times

Response time [ms]	< 1.5
Delay time programmable dS, dr [s]	0...50
Damping process value dAP [s]	0...4
Damping for the analog output dAA [s]	0...4
Max. response time analog output [ms]	3

### Software / programming

Parameter setting options	hysteresis / window; normally open / closed; switch-on/ switch-off delay; Damping; Display unit; current/voltage output
---------------------------	---

### Interfaces

Communication interface	IO-Link				
Transmission type	COM2 (38,4 kBaud)				
IO-Link revision	1.1				
SDCI standard	IEC 61131-9				
Profiles	Smart Sensor: Process Data Variable; Device Identification, Device Diagnosis				
SIO mode	yes				
Required master port class	A				
Process data analog	1				
Process data binary	2				
Min. process cycle time [ms]	2.3				
Supported DeviceIDs	<table><thead><tr><th>Type of operation</th><th>DeviceID</th></tr></thead><tbody><tr><td>default</td><td>460</td></tr></tbody></table>	Type of operation	DeviceID	default	460
Type of operation	DeviceID				
default	460				

### Operating conditions

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

### Tests / approvals

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]		161
Pressure equipment directive	sound engineering practice; can be used for group 2 fluids; group 1 fluids on request	

### Mechanical data

Weight [g]	276.5
Material	stainless steel (1.4404 / 316L); PBT+PC-GF30; PBT-GF20; PC
Materials (wetted parts)	stainless steel (1.4404 / 316L); Al2O3 (ceramics); EPDM
Min. pressure cycles	100 million
Tightening torque [Nm]	25...35; (recommended tightening torque; Depends on lubrication, seal and pressure rating)
Process connection	threaded connection G 1/4 Internal thread

# PE2091



## Pressure sensor with display

PE-250-SER14-MFRKG/US/ /E

Restrictor element integrated no (can be retrofitted)

### Displays / operating elements

Display	Display unit	3 x LED, green (bar, psi, MPa)
	Switching status	2 x LED, yellow
	Measured values	alphanumeric display, red/green 4-digit

### Remarks

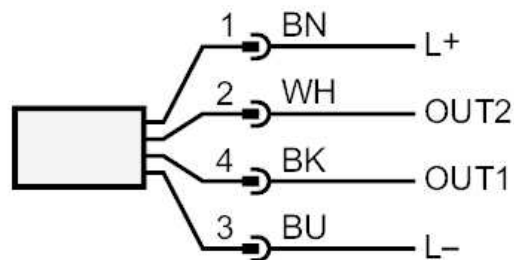
Pack quantity 1 pcs.

### Electrical connection

Connector: 1 x M12; coding: A; Contacts: gold-plated



### Connection



OUT1 switching output or IO-Link  
OUT2 switching output or analog output  
Colors to DIN EN 60947-5-2  
Core colors :  
BK = black  
BN = brown  
BU = blue  
WH = white