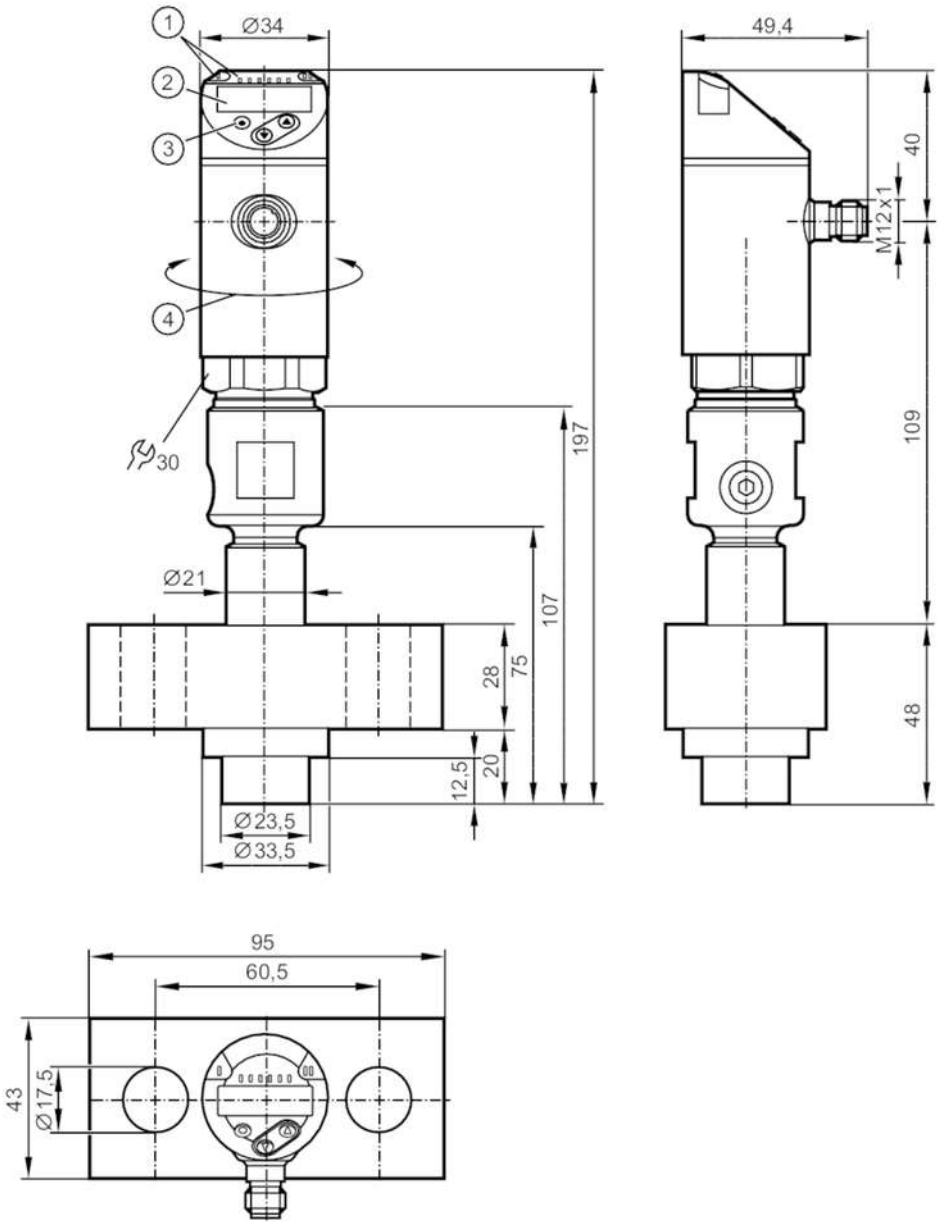
PY9071

Pressure sensor with display

PN-250-SE MFRKG/US/



1 alphanumeric display 4-digit red/green
2 LEDs Display unit / switching status
3 programming button

CE EC 1935/2004 FCM FDA IO-Link UKCA

Product characteristics			
Number of inputs and outputs	Number of digital outputs: 2; Number of analogue outputs: 1		
Measuring range	0...250 bar	0...3625 psi	0...25 MPa
Process connection	homogeniser connection		

Application	
Special feature	Gold-plated contacts
Measuring element	diaphragm seal
Application	flush mountable for the food and beverage industry

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Media		liquids and gases		
Medium temperature	[°C]	5...125; (150 maximum 1h)		
Min. bursting pressure		1000 bar	14500 psi	100 MPa
Pressure rating		500 bar	7250 psi	50 MPa
Vacuum resistance		-1000 mbar	-0.1 MPa	
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		
Power-on delay time	[s]	0.3		
Integrated watchdog		yes		
Inputs / outputs				
Number of inputs and outputs		Number of digital outputs: 2; Number of analogue outputs: 1		
Outputs				
Total number of outputs		2		
Output signal		switching signal; analogue signal; IO-Link; (configurable)		
Electrical design		PNP/NPN		
Number of digital outputs		2		
Output function		normally open / normally closed; (parameterisable)		
Max. voltage drop switching output DC	[V]	2		
Permanent current rating of switching output DC	[mA]	250		
Switching frequency DC	[Hz]	< 500		
Number of analogue outputs		1		
Analogue current output	[mA]	4...20; (scalable 1:5)		
Max. load	[Ω]	500		
Analogue voltage output	[V]	0...10; (scalable 1:5)		
Min. load resistance	[Ω]	2000		
Short-circuit protection		yes		
Type of short-circuit protection		pulsed		
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
Analogue start point		0...200 bar	0...2900 psi	0...20 MPa
Analogue 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		< ± 0,4; (Turn down 1:1)		

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[% of the span]		
Repeatability [% of the span]		< ± 0,1; (with temperature fluctuations < 10 K; Turn down 1:1)
Characteristics deviation [% of the span]		< ± 1; (linearity, incl. hysteresis and repeatability; limit value setting to DIN EN IEC 62828-1)
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; (5...80 °C)
Temperature coefficient span [% of the span / 10 K]		0,2; (5...80 °C)
Response times		
Response time [ms]		< 1.5
Delay time programmable dS, dr [s]		0...50
Damping process value dAP [s]		0...4
Damping for the analogue output dAA [s]		0...4
Max. response time analogue output [ms]		3
Software / programming		
Parameter setting options		hysteresis / window; normally open / normally 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 type		A
Process data analogue		1
Process data binary		2
Min. process cycle time [ms]		2.3
Supported DeviceIDs	**Type of operation**	**DeviceID**
	default	460
Operating conditions		
Ambient temperature [°C]		5...80
Storage temperature [°C]		-40...100
Protection		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)

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Vibration resistance		DIN EN 60068-2-6	10 g (10...2000 Hz)
MTTF	[years]	142	

Mechanical data

Weight	[g]	1447	
Housing		cylindrical	
Dimensions	[mm]	Ø 34 / L = 197	
Materials		stainless steel (630/1.4542/17-4 PH); stainless steel (316L/1.4404); stainless steel (316L/1.4435); PBT+PC-GF30; PBT-GF20; PC	
Materials (wetted parts)		stainless steel (316L/1.4435)	
Min. pressure cycles		60 million; (at 1.2 times nominal pressure)	
Process connection		homogeniser connection	

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

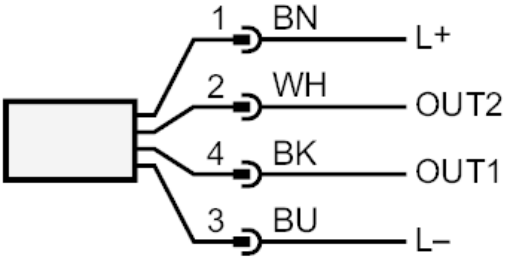
Remarks

Pack quantity		1 pcs.	

Electrical connection

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





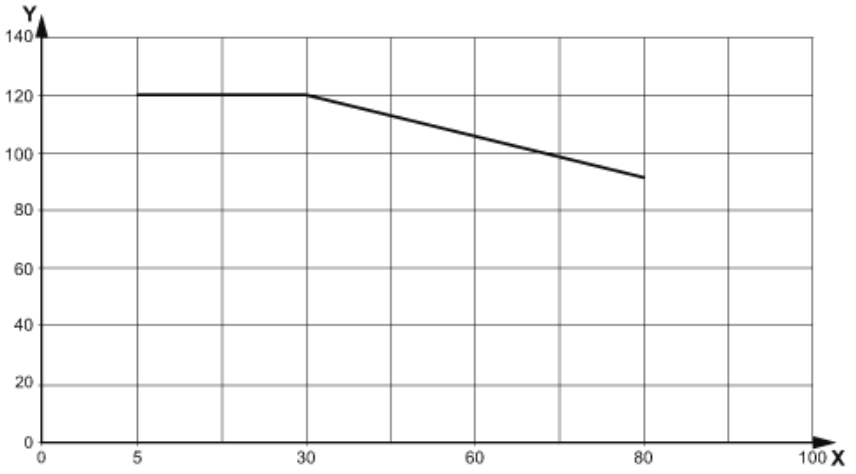
OUT1	switching output or IO-Link
OUT2	switching output or analogue output
	colours to DIN EN 60947-5-2
	Core colours :
BK =	black
BN =	brown
BU =	blue
WH =	white

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Diagrams and graphs



X Ambient temperature

Y Medium temperature