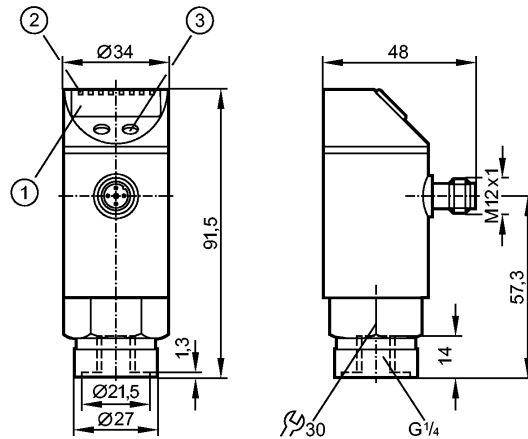


PE7003

PE-025-RDR14-QFRKG/US/ /E

Pressure sensors



- 1: 4-digit alphanumeric display
- 2: LEDs (display unit / switching status)
- 3: Programming button



Product characteristics

Electronic pressure monitor
Connector
Sealing of the measuring cell: EPDM
Function programmable
Process connection: G 1/4 I
2 outputs OUT1 = switching output OUT2 = switching output or diagnostic output
4-digit alphanumeric display
Measuring range: 0...25 bar / 0...363 psi / 0...2.5 MPa

Application

Application	Type of pressure: relative pressure Liquids and gases Cannot be used for oils		
Pressure rating	150 bar	2175 psi	15 MPa
Bursting pressure min.	350 bar	5075 psi	35 MPa
Medium temperature [°C]	-25...80		

Electrical data

Electrical design	DC PNP/NPN
Operating voltage [V]	18...36 DC 1)
Current consumption [mA]	< 50
Insulation resistance [MΩ]	> 100 (500 V DC)
Protection class	III
Reverse polarity protection	yes
Overvoltage protection [V]	up to 40 V

Outputs

Output	2 outputs OUT1 = switching output OUT2 = switching output or diagnostic output
Output function	2 x normally open / closed programmable or 1 x normally open / closed programmable + 1 x normally closed (diagnostic function)

PE7003

PE-025-RDR14-QFRKG/US/ /E

Pressure sensors

Current rating	[mA]	250
Voltage drop	[V]	< 2
Short-circuit protection		pulsed
Switching frequency	[Hz]	≤ 170

Measuring / setting range			
Measuring range	0...25 bar	0...363 psi	0...2.5 MPa
Setting range			
Set point, SP	0.2...25.0 bar	4...362 psi	0.02...2.50 MPa
Reset point, rP	0.1...24.9 bar	2...360 psi	0.01...2.49 MPa
in steps of	0.1 bar	2 psi	0.01 MPa
Factory setting	SP1 = 6.3 bar; rP1 = 5.8 bar SP2 = 18.8 bar; rP2 = 18.3 bar		

Accuracy / deviations	
Accuracy / deviations (in % of the span)	
Switch point accuracy	< ± 0.5
Characteristics deviation *)	< ± 0.25 (BFSL) / < ± 0.5 (LS)
Hysteresis	< ± 0.25
Repeatability **)	< ± 0.1
Long-term stability ***)	< ± 0.05
Temperature coefficients (TEMPCO) in the temperature range -20...80° C (in % of the span per 10 K)	
Greatest TEMPCO of the zero point	0.2
Greatest TEMPCO of the span	0.2

Reaction times	
Power-on delay time	[s] 0.3
Delay time programmable dS, dr	[s] 0; 0.2...50
Integrated watchdog	yes

Software / programming	
Programming options	hysteresis / window function; N.O. / N.C; diagnostic function; output polarity; on delay, off delay; damping; display unit

Interfaces	
IO-Link device	
Transfer type	COM2 (38.4 kBaud)
IO-Link revision	1.1
IO-Link device ID	310 d / 00 01 36 h
Profiles	no profile
SIO mode	yes
Required master port class	A
Process data analogue	1
Process data binary	2
Min. process cycle time	[ms] 2.3

Environment	
Ambient temperature	[°C] -20...80 (UB < 32 V) / -20...60 (UB > 32 V)
Storage temperature	[°C] -40...100
Protection	IP 67

Tests / approvals	
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PE7003

PE-025-RDR14-QFRKG/US/ /E

Pressure sensors

EMC	EN 61000-6-2 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]	237	

Mechanical data

Process connection	G ¼ I	
Materials (wetted parts)	stainless steel 316L / 1.4404; ceramics (99.9 % Al ₂ O ₃); Sealing of the measuring cell; EPDM	
Housing materials	stainless steel (304S15); stainless steel 316L / 1.4404; PC; PBT; PEI; FPM; EPDM/X; PTFE	
Switching cycles min.	100 million	
Weight [kg]	0.264	

Displays / operating elements

Display	Display unit 3 x LED green Switching status 2 x LED yellow Function display 4-digit alphanumeric display Measured values 4-digit alphanumeric display
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Electrical connection

Connection	M12 connector; Gold-plated contacts
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Wiring

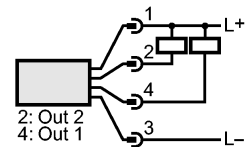
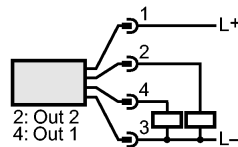
Programming of the output function

-----OUT1-----

Hno = hysteresis / normally open
 Hnc = hysteresis / normally closed
 Fno = window function / normally open
 Fnc = window function / normally closed

-----OUT2-----

Hno = hysteresis / normally open
 Hnc = hysteresis / normally closed
 Fno = window function / normally open
 Fnc = window function / normally closed
 dESI = diagnostic function (normally closed)



Remarks

Remarks	1) to EN50178, SELV, PELV *) BFSL = Best Fit Straight Line / LS = Limit Value Setting **) with temperature fluctuations < 10 K ***) in % of final value of measuring range / 6 months
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Pack quantity [piece]	1
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