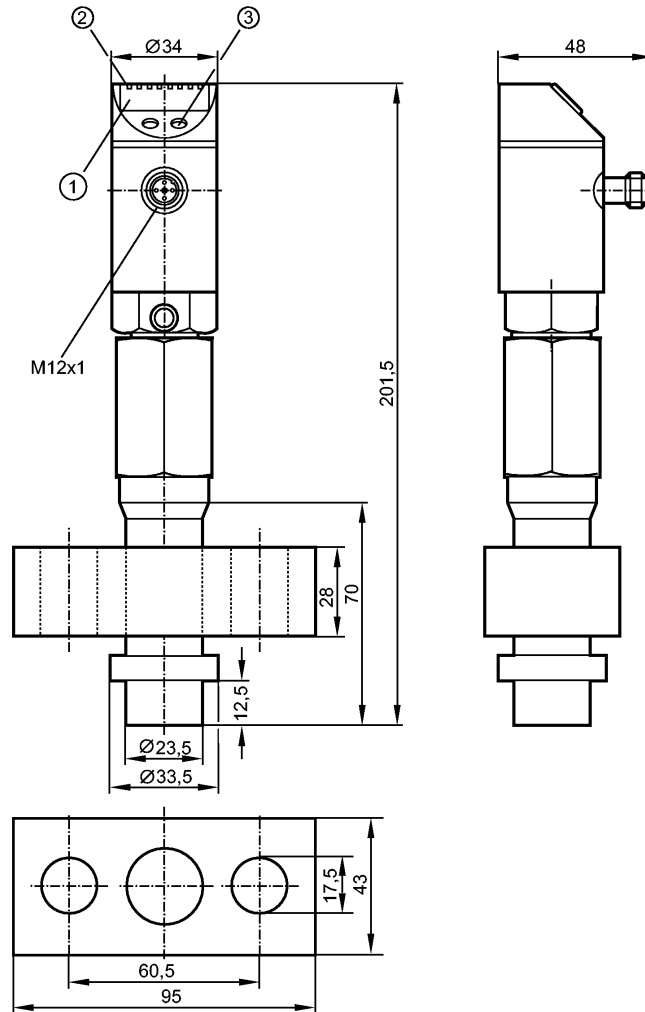


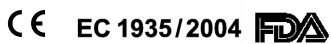
PY9970

PY-400-SDD24-KFPKG/US/ /N

Pressure sensors



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



Product characteristics

Combined pressure sensor

Zero and span adjustable

Function programmable

2 outputs

OUT1 = switching output

OUT2 = switching output or analog output

4-digit alphanumeric display

Measuring range: 0...400 bar / 0...5800 psi / 0...40 MPa

Application

Application	Type of pressure: relative pressure Hygienic systems For gaseous media the application is limited to max. 25 bar		
Pressure rating	600 bar	8700 psi	60 MPa
Bursting pressure min.	1000 bar	14500 psi	100 MPa
Medium temperature [°C]	-10...140		

Electrical data

Electrical design	DC PNP/NPN
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PY9970

PY-400-SDD24-KFPKG/US/ /N

Pressure sensors

Operating voltage	[V]	20...32 DC ¹⁾
Current consumption	[mA]	< 65
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 1:4)
Current rating	[mA]	2 x 250
Voltage drop	[V]	< 2
Short-circuit protection		yes (non-latching)
Overload protection		yes
Switching frequency	[Hz]	≤ 170
Analog output		4...20 mA / 0...10 V
Max. load	[Ω]	4...20 mA: max. (U _b - 10 V) x 50 / 0...10 V: min. 2000

Measuring / setting range

Measuring range	0...400 bar	0...5800 psi	0...40 MPa
Setting range			
Set point, SP	4...400 bar	60...5800 psi	0.4...40.0 MPa
Reset point, rP	2...398 bar	30...5770 psi	0.2...39.8 MPa
Analog start point, ASP	0...160 bar	0...2320 psi	0.0...16.0 MPa
Analog end point, AEP	100...400 bar	1450...5800 psi	10.0...40.0 MPa
in steps of	1 bar	10 psi	0.1 MPa
Factory setting	SP1 = 100 bar; rP1 = 92 bar SP2 = 300 bar; rP2 = 292 bar ASP = 0 bar; AEP = 400 bar		

Accuracy / deviations

Accuracy / deviations (in % of the span)	
Switch point accuracy	< ± 1.0
Characteristics deviation *)	< ± 1.0
Repeatability **)	< ± 0.25
Temperature coefficients (TEMPCO) in the temperature range 0...80° C (in % of the span per 10 K)	
Greatest TEMPCO of the zero point	< ± 0.3
Greatest TEMPCO of the span	< ± 0.3

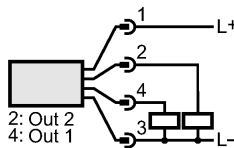
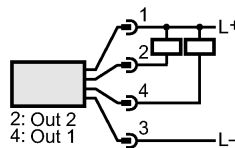
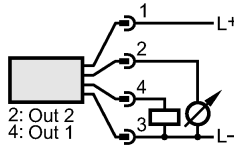
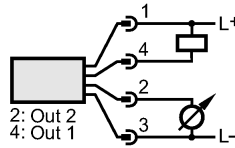
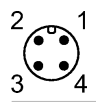
Reaction times

Power-on delay time	[s]	0.2
Min. response time switching output	[ms]	3
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

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Pressure sensors

Environment	
Ambient temperature [°C]	-25...80
Storage temperature [°C]	-40...100
Protection	IP 67
Tests / approvals	
EMC	EN 61000-4-2 ESD: 4 kV CD / 8 kV AD EN 61000-4-3 HF radiated: 10 V/m EN 61000-4-4 Burst: 2 kV EN 61000-4-5 Surge: 0.5/1 kV EN 61000-4-6 HF conducted: 10 V
Shock resistance	DIN IEC 68-2-27: 50 g (11 ms)
Vibration resistance	DIN IEC 68-2-6: 20 g (10...2000 Hz)
MTTF [Years]	173.33
Mechanical data	
Materials (wetted parts)	high-grade stainless steel
Housing materials	stainless steel (304S15); stainless steel 316L / 1.4404; PC (Makrolon); PBT (Pocan); PEI; FPM (Viton)
Switching cycles min.	1 million
Weight [kg]	1.575
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
Electrical connection	
Connection	M12 connector; gold-plated contacts
Wiring	
Programming of the output function (OUT1 / OUT2): Hno = hysteresis / normally open Hnc = hysteresis / normally closed Fno = window function / normally open Fnc = window function / normally closed Complementary outputs: output 1: = Hno, output 2: = Hnc (with the same SP / rP)	 
Programming of the analog output (OUT2): I = current output (4...20 mA) U = voltage output (0...10 V)	 
	
Remarks	
Remarks	1) to EN50178, SELV, PELV **) with temperature fluctuations < 10 K
Pack quantity [piece]	1