

PE3009



Pressure sensor with display

PE-1-1BRDR14-MFPKG/US/ /E

phase-out article

Alternative articles: PE2099 or PE2599
When selecting an alternative article and accessories please note that technical data may differ!



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



Product characteristics		
Number of inputs and outputs	Number of digital outputs: 1; Number of analogue outputs: 1	
Measuring range	-1...1 bar	-1000...1000 mbar
Process connection	threaded connection G 1/4 internal thread	
Application		
Special feature	Gold-plated contacts	
Application	for industrial applications	
Media	liquids and gases	
Cannot be used for	oils	
Medium temperature [°C]	-25...80	
Min. bursting pressure [mbar]	50000	
Pressure rating [mbar]	20000	
Type of pressure	relative pressure; vacuum	
Electrical data		
Operating voltage [V]	18...36 DC; (to SELV/PELV)	
Current consumption [mA]	< 50	
Min. insulation resistance [MΩ]	100; (500 V DC)	



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Protection class	III
Reverse polarity protection	yes
Overvoltage protection	yes; (< 40 V)
Power-on delay time [s]	0.3
Integrated watchdog	yes

Inputs / outputs

Number of inputs and outputs	Number of digital outputs: 1; Number of analogue outputs: 1
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Outputs

Total number of outputs	2
Output signal	switching signal; analogue signal; (configurable)
Electrical design	PNP
Number of digital outputs	1
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]	< 170
Number of analogue outputs	1
Analogue current output [mA]	4...20
Max. load [Ω]	500
Analogue voltage output [V]	0...10
Min. load resistance [Ω]	2000
Short-circuit protection	yes
Type of short-circuit protection	pulsed

Measuring/setting range

Measuring range	-1...1 bar	-1000...1000 mbar
Set point SP [mbar]	-970...1000	
Reset point rP [mbar]	-980...990	
In steps of [mbar]	10	
Factory setting	SP1 = -500 mbar	rP1 = -540 mbar

Accuracy / deviations

Switch point accuracy [% of the span]	< ± 0,5
Repeatability [% of the span]	< ± 0,1; (with temperature fluctuations < 10 K)
Characteristics deviation [% of the span]	< ± 0,25 (BFSL) / < ± 0,5 (LS); (BFSL = Best Fit Straight Line; LS = limit value setting)
Hysteresis deviation [% of the span]	< ± 0,25
Long-term stability [% of the span]	< ± 0,05; (per 6 months)
Temperature coefficient zero point [% of the span / 10 K]	0,2; (-20...80 °C)
Temperature coefficient span	0,2; (-20...80 °C)

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[% of the span / 10 K]

Response times

Delay time programmable dS, dr [s]	0; 0,2...50
Max. response time analogue output [ms]	3

Software / programming

Adjustment of the switch point	programming button
Parameter setting options	hysteresis / window; normally open / normally closed; switch-on/ switch-off delay; Damping; Display unit; current/voltage output

Operating conditions

Ambient temperature [°C]	-20...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]	213	
Pressure Equipment Directive	Sound engineering practice; can be used for group 2 fluids; group 1 fluids on request	

Mechanical data

Weight [g]	261.5
Materials	stainless steel (1.4301 / 304); stainless steel (316L/1.4404); PC; PBT; PEI; FKM; PTFE
Materials (wetted parts)	stainless steel (316L/1.4404); ceramics (99.9 % Al ₂ O ₃); sealing of the measuring cell: EPDM
Min. pressure cycles	100 million
Process connection	threaded connection G 1/4 internal thread

Displays / operating elements

Display	Display unit	4 x LED, green
	switching status	LED, yellow
	function display	alphanumeric display, 4-digit
	measured values	alphanumeric display, 4-digit
Display unit	mbar; kPa; psi; inHg	

Remarks

Pack quantity	1 pcs.
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Electrical connection

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



Connection

