

PAMS3012 Mini Pressure Transmitter with 4 .. 20mA Output

Übersicht

Die streichholzschachtelgroßen Drucktransmitter der Serie PAMS3012 mit 2-Draht Stromausgang (4 ... 20 mA Stromschleife) haben ein robustes, staub- und wasserdichtes (IP67) Metallgehäuse. Die Druckanschlüsse sind als M5 Innengewinde ausgeführt, der elektrische Anschluss als M5 Ein-b austecker. Die PAMS3012 eignen sich besonders für differentielle Druckmessungen mit hohem Systemdruck. Die kurzschlussfesten und verpolgeschützten Transmitter können mit einer Versorgungsspannung von 8 ... 36 V betrieben werden. Alle PAMS3012 sind kalibriert und in einem Temperaturbereich von -25 ... 85 °C temperaturkompensiert. Damit wird eine hohe Genauigkeit bei Raumtemperatur und ein geringer Gesamtfehler über den gesamten Temperaturbereich erreicht.

Verfügbare Druckbereiche

- Differentieller (relativer) Druck:
0 ... 50 mbar bis zu 0 ... 10 bar
- Bidirektional differentieller Druck:
-25 ... +25 mbar bis zu -1 ... +1 bar
- Absolutdruck:
0 ... 1 bar und 0 ... 2 bar
- Barometrischer Druck:
700 ... 1200 mbar

Kundenspezifische Druckbereiche und Modifikationen sind auf Anfrage erhältlich.

Typische Anwendungen

- Industrielle Prozesskontrolle
- Medizinischer Apparatebau
- Heizung, Klima und Lüftung
- Vakuumüberwachung
- Pneumatische Systemüberwachung
- Prüfstände

Overview

PAMS3012 is a series of matchbox sized pressure transmitters with a 4 .. 20 mA current-loop output in a robust dust- and water-tight (IP67) metal package. The pressure ports are realized by two M5 female threads and the electrical connection by M5 circular sensor connector. The PAMS3012 are especially suitable for differential pressure measurement with large common-mode pressure. The transmitters with short circuit and reverse polarity protected output can be powered within a wide supply voltage range of 8 .. 36 V. All PAMS3012 are calibrated and temperature compensated in a range of -25 .. 85 °C and feature high accuracy at room temperature as well as a low overall error throughout the entire compensated temperature range.

Available Pressure Ranges

- Differential (relative) pressure:
0 .. 50 mbar up to 0 .. 10 bar
- Bidirectional differential pressure:
-25 .. +25 mbar up to -1 .. +1 bar
- Absolut pressure:
0 .. 1 bar and 0 .. 2 bar
- Barometric pressure:
700 .. 1200 mbar

Custom specific pressure ranges or modifications are available on request.

Typical Applications

- Industrial process control
- Medical instrumentation
- HVAC (Heating, Ventilation, Air Conditioning)
- Vacuum monitoring
- Pneumatic system monitoring
- Test benches

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Short Specifications

Excerpt from PAMS3012's datasheet, all parameters apply to $V_S = 24.0\text{ V}$, $R_L = 100\ \Omega$ and $T_{op} = 25\text{ °C}$

Parameter	Minimum	Typical	Maximum	Units
Analog output signal				
@ specified minimum pressure		4		mA
@ specified maximum pressure		20		mA
Full span output (FSO)		16		mA
without pressure (bidirectional differential)		12		mA
Accuracy @ $T = 25\text{ °C}$ (acc. EN 61298)				
Low pressure sensors (50, 100 mbar)		± 0.5	± 1.0	%FSO
Standard pressure sensors (≥ 200 mbar)		± 0.3	± 0.5	%FSO
Overall error (pressure meas.) @ $T = -25 \dots 85\text{ °C}$				
Low pressure sensors (50, 100 mbar)		± 1.0	± 2.0	%FSO
Standard pressure sensors (≥ 200 mbar)		± 0.5	± 1.0	%FSO
Long term stability			< 0.5	%FSO/a
Resolution A/D converter		14		bits
Resolution analog output signal			0.05	%FSO
Nonlinearity (included in accuracy)	-0.3	< 0.1	0.3	%FSO
Supply voltage ($V_{S,min}$ @ $R_L = 100\ \Omega$)	10	24	36	V
Current limitation			22.5	mA
Protection against reverse polarity			40	V
Load resistor (R_L)			600	Ω
Reaction time (10 % .. 90 % rise time)		2.5	4	ms
Common mode pressure			16	bar
Package material	Hard-eloxyd aluminium			
Weight		45		g
Dimensions without tubes and connector ($L \times W \times H$)		35 x 25 x 25		mm

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