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SPT81Au Gold Plated Pressure Sensor

Features

- Pressure range:-1...0 ~ 0.1...1000bar
- Gauge, absolute, sealed gauge
- Isolated construction, enable to measure various media
- $\Phi 19$ mm standard OEM pressure sensor
- Corrugated diaphragm with gold plated



Application

- Hydrogen pressure measurement instrument
- Hydrogen production and purification equipment
- Hydrogen storage and transportation equipment

Introduction

SPT81Au gold plated pressure sensor is a measuring element specially developed for hydrogen measurement applications. The sensor is flat membrane structure and adopts gold plating techniques on the membrane to effectively prevent "hydrogen embrittlement" and "hydrogen penetration". It improves the working life of the sensor as well as ensure the site safety. SPT81Au pressure sensor selects the high-precision and high stability diffusion silicon piezoresistive pressure sensitive chip produced by famous international manufacturer. The pressure sensitive component is automatically tested by computer and fabricated with zero point correction and temperature compensation. With high accuracy and good stability, it can be widely used in various hydrogen pressure measurement applications.

Electric Specification

- Power supply: ≤ 2.0 mA DC
- Electric connection: $\Phi 0.5$ mm gold-plated Kovar pin or 100mm flexible silicone rubber wires
- Common mode voltage output: 50% input (typ.)
- Input impedance: $3\text{k}\Omega \sim 8\text{k}\Omega$
- Output impedance: $3\text{k}\Omega \sim 6\text{k}\Omega$
- Response (10%~90%): < 1 ms
- Insulation resistor: $100\text{M}\Omega @ 100\text{VDC}$
- Overload: 2 times FS

Construction

- Diaphragm: stainless steel 316L with gold plated
- Housing: stainless steel 316L

- Vented tube: Stainless steel 316L
- Pin: Gold-plated Kovar
- Net weight: ~16g

Environment Condition

- Shock: No change at 10gRMS,(20~2000)Hz
- Impact: 100g, 11ms
- Media compatibility: High purity hydrogen or mixed gas with high hydrogen content

Basic Condition

- Media temperature: (35±1)℃
- Environment temperature: (35±1)℃
- Shock: 0.1g (1m/s²) Max
- Humidity: (50±10)%RH
- Local air pressure: (0.86 ~ 1.06)bar
- Power supply: (1.5±0.0015)mADC

Basic Specification

Specification*	Min.	Typ.	Max.	Units
Linearity**		±0.15	±0.25	%FS,BFSL
Repeatability		±0.05	±0.075	%FS
Hysteresis		±1.0	±0.075	%FS
Zero output		±1.0	±2.0	mVDC
FS output	60			mVDC
Zero thermal error***		±0.75	±1.0	%FS,@35℃
Span thermal error		±0.75	±1.0	%FS,@35℃
Compensated temp. range	0 ~ 70			℃
Working temp. range	-40 ~ 125			℃
Storage temp. range	-55 ~ 125			℃
Stability error		±0.2	±0.3	%FS/year
*testing at basic condition; ** For range code 0AG, Linearity ≤ ±0.3%FS; *** For range code 0A, Zero thermal error ≤ 1.5%FS.				

SPT81Au Gold Plated Pressure Sensor Datasheet

				1	Kovar pin(default)	
				2	100mm flexible silicone rubber wires	
					Code	Special measurement
					Y	Gauge sensor to measure Vacuum (0bar ~ 1bar)
SPT81Au	07	G	L	1	Y	The whole spec

Order Note:

1. Please pay attention to protect the diaphragm and the compensated board to prevent any damage or bad performance;
2. It can be used for pressure higher or lower than the range code, but generally needs to be controlled within $\pm 30\%FS$;
3. Please check the maximum overload of the system before using the product. The maximum overload of the system should be smaller than the maximum overload of the product. Otherwise, the performance and service life of the product will be affected, and even the product will be damaged.