

SIEMENS

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Pressure and Temperature Transducer (PTX)

Analytical Products and Solutions

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Description

The Siemens PTX is an intrinsically safe and self-contained sensor which can be used to measure the pressure and temperature of fluids flowing through the analyzer sample system – either vapor and liquid. The PTX is built with micro-machining (MEMS) micro-strain sensing technology and uses no welds or fluid filled cavities. This construction technique allows use of a thick diaphragm and is rated with a very high proof pressure for term stability and performance. The PTX has a very high electrical isolation rating and operates at very low power consumption.

These features make the PTX ideal for use in modern process analyzer sample conditioning systems using intrinsically safe bus electronics to minimize cost and maximize the number of measurement points available for designing “smarter” sample conditioning systems.

Features

- Communicates with the Siemens Process Gas Chromatograph via the Maxum's I²C communications bus
- CSA and ATEX certified for use in Division 1 / Zone 1 or Division 2 / Zone 2 hazardous areas
- 316 Stainless steel construction
- Ultra-low power consumption on the Siemens SSSI bus
- Continuous, simultaneous measurement of both pressure and temperature
- Indicator LEDs for network status and module status
- Available with either Viton® or FFKM seal material
- Available in two versions: with down-mount base for mounting in ANSI/ISA 76.00.02-2002 compliant modular construction systems; or, with tube fittings for installation in traditional tube-and-fitting construction systems (SP76 mounting shown above)

Ordering Information

Siemens Part Number	Swagelok Reference Number	Range	Material	Mounting
A5E30277808	7KQ4150-0BC00-0AA0	0-50 psig	Viton®	Tubing
A5E30277809	7KQ4150-1BCC00-AA0	0-50 psig	Viton®	Modular
A5E30277810	7KQ4150-0BC00-OCA0	0-500 psig	Viton®	Tubing
A5E30277811	7KQ4150-1BC00-OCA0	0-500 psig	Viton®	Modular
A5E30329451	7KQ4150-0BC00-0AA1	0-50 psig	FFKM	Tubing
A5E30329452	7KQ4150-1BC00-0AA1	0-50 psig	FFKM	Modular
A5E30329453	7KQ4150-0BC00-OCA1	0-500 psig	FFKM	Tubing
A5E30329454	7KQ4150-1BC00-OCA1	0-500 psig	FFKM	Modular

FKM = Viton®

FFKM = Perfluoroelastomer (Kalrez®)

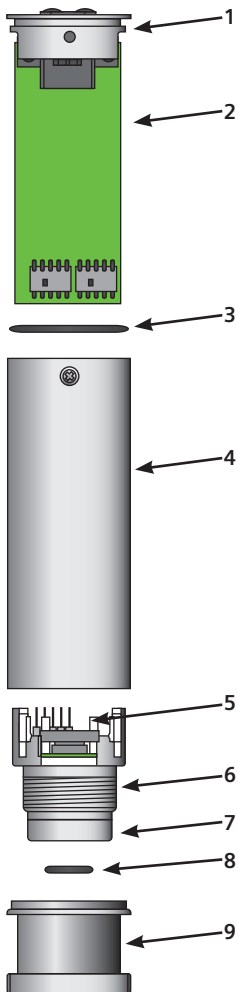
Contact your Siemens Account Manager for current pricing and delivery information.

Specifications

Parameter	Value
Pressure Measurement	
Accuracy (at 25°C), includes: <ul style="list-style-type: none"> • Repeatability • Hysteresis • Nonlinearity 	± 0.5% of Full Scale Pressure
Safe Over-Range Pressure	2 x Full Scale Pressure
Burst Pressure	5 x Full Scale Pressure
Storage Temperature	-40° to +70°C (-40°F to +158°F)
Operating Temperature Range	-20° to +70°C (-4°F to +158°F)
Compensated Temperature Range	0°C to +70°C (+32°F to +158°F)
Calibration	None required (pre-calibrated)
Temperature Measurement	
Measurement Range	-20° to +70°C (-4°F to +158°F)
Accuracy, includes: <ul style="list-style-type: none"> • Repeatability • Hysteresis • Nonlinearity 	± 2% of Full Span
Power Input	
Bus powered	8.5VDC minimum, 9.5VDC maximum
Hazardous Location Certification	
USA	UL Class 1, Division 1, intrinsic safety. Groups A, B, C, and D. Temp code T4. $-5^{\circ}\text{C} \leq \text{Tamb} \leq +70^{\circ}\text{C}$ (per UL 913)
Canada	cUL Class 1, Division 1 intrinsic safety. Groups A, B, C, and D. Temp code T4. $-5^{\circ}\text{C} \leq \text{Tamb} \leq +70^{\circ}\text{C}$ (per CSA 157)
Europe	ATEX Group II Category 1G intrinsic safety, "EEx ia". Groups A, B, C and D. Temp code T4. $-5^{\circ}\text{C} \leq \text{Tamb} \leq +70^{\circ}\text{C}$ (per EN 60079-0 & -11)

Parameters	Value	Value
Intrinsic Safety Entity Parameters	Power Connections	Communication Connections
Ii	1 A	1 A
Ui	9.5 VDC	9.5 VDC
Li	3 uH	0 uH
Ci	0 uF	0 uF
Pi	9.5W	0.57W
Other Design Standards		
Electromagnetic Compatibility	EN61326-1 (2006) <ul style="list-style-type: none"> • RF Emissions: EN 55011 • ESD Immunity: EN 61000-4-2 • RF Immunity: EN 61000-4-3 • EFT Immunity: EN 61000-4-4 • Conducted Immunity: EN 61000-4-6 	
Vibration	Sinusoidal 9-200Hz, 5G acceleration Random 20-500Hz, 15.5G average acceleration	
Shock	Pulse 70 M/sec ² (7.2G)	
Ingress Protection	IP54	

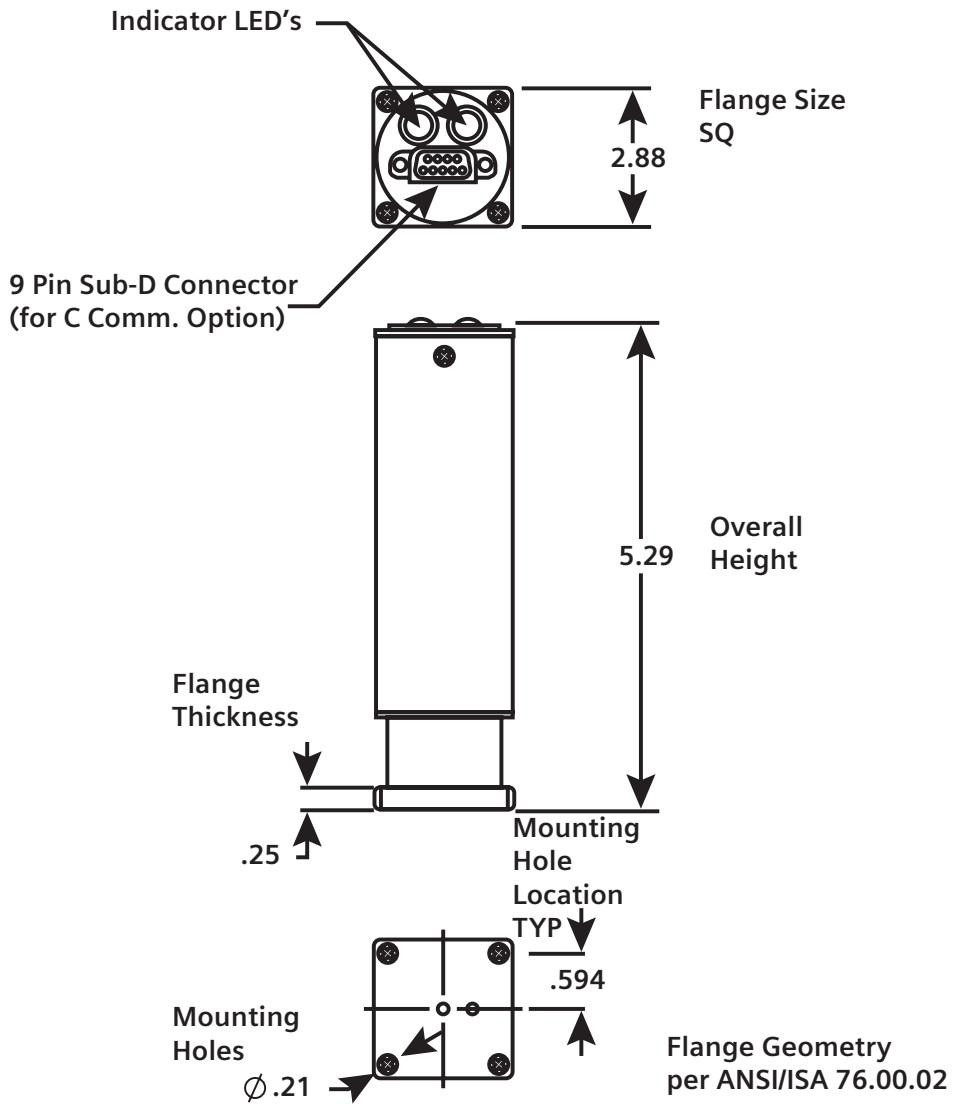
*Note, component carries Intrinsic Safety certifications as indicated. Entity parameters and other component information necessary to use this component in a complete system as also indicated. However, complete system design, system safety certification or other system suitability for installation in any particular instance is the responsibility of the system designer and system owner. Intrinsic Safety certification is valid only when the system configuration is consistent with the entity parameters and other conditions specified in the applicable certificate(s).



Component	Material Grade/ASTM Specification
1. Top Cap	316 SS / A479
2. Communication Interface Circuit Board	FR-4
3. Housing O-Ring	RoHS Compliant
4. Housing	316 SS / A479
5. Sensor Conditioning Circuit Board with Retainer	RoHS Compliant
6. Retaining Screw	316L SS / A479
7. Sensor with sensing element	316L SS / A479
8. Sensor O-ring	Fluorocarbon FKM or Perfluoroelastomer
9. MPC Body	316 SS / A479

Wetted components listed in **bold italics**

Dimensional Data



Dimensions in Inches

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