



**E507778**



- Low Pressure
- Media Isolated –SS316
- -20-125°C Operating Temperature
- Compact Size
- TEB 1% (.25% Linearity FS)
- Ratio 0.5 - 4.5V, 1-5V, 4-20mA, RS485
- 50-15000 psi pressure ranges
- Compound or Gauge
- Media – Liquid, Air, & Gas
- IP65 (IP67 Option Available)

### DESCRIPTION

The PPT81 is a pressure transducer manufactured for a high operating temperature range for the most challenging of applications. This silicon pressure transducer was designed for industrial and commercial applications. The stainless steel design and high temperature analog component selection allows the sensor to be used in high temperature applications.

The PPT81 series utilizes MEMS piezo-resistive sensors pressurized on the passive backside of the SS housing which has superior long term stability and accuracy (TEB 1%).

The design is simple, cost effective, and proves reliable for OEM customers. Please contact us for Custom design availability.

### APPLICATIONS

- Consumer products
- Industrial Automation
- HVAC
- Automotive Engine
- Compressor
- Pneumatic

## Maximum Environmental Ratings

Operating Temperature ..... -20°C to 125°C  
 Storage Temperature Range ..... -40°C to 125°C

Proof pressure ..... 3x full scale pressure  
 Burst pressure ..... 5x full scale pressure

### CE Compliance Specifications:

- IEC 61000-4-2 Electrostatic Discharge Immunity (8kV contact/15kV air)
- IEC 61000-4-3 Radiated, Radio-Frequency Electromagnetic Field Immunity (10V/m, 80M-1GHz)
- IEC 61000-4-4 Electrical Fast Transient Immunity (1kV)
- IEC 61000-4-5 Surge Immunity (V+ to V-: ±2KV/42Ω; L to Case: ±1KV/12Ω; V- to V0: ±1KV/42Ω)
- IEC 61000-4-6 Immunity to Conducted Disturbances Induced by Radio Frequency (10V) Fields (150K~80MHz, 10V level for voltage output models, 3V level for current output model)
- IEC 61000-4-9 Pulse Magnetic Field Immunity (100A/m peak) For all CE compliance tests, max allowed output deviation ±1.5 %Span.

## PPT81 Operational Specifications

V <sub>+</sub> = 5V, V <sub>-</sub> = 0V, Temperature = 25°C					
PARAMETER	SYMBOL	MIN	TYP	MAX	UNITS
Supply Voltage (Note 1)	V <sub>DD</sub>	4.75	5	30	V
Supply Current	I <sub>DD</sub>	.25	1	1.5	mA
Upper Output Voltage (Note 1)	V <sub>OUT</sub>		4.5	5.2	V
Lower Output Voltage	V <sub>OUT</sub>	.18	.5		V
Linearity (Note 2)		-0.25		0.25	%FS
Temperature Error (Null and Span) (Note 3)		-1		+1	%FS
Response Time	t <sub>R</sub>		1	10	ms
Total Error Band (Note 4)		-0.25		.25	%FS
Compensated Temperature Range	C	0		50	C
Operating Temperature Range	C	-25		125	C
Vibration	G	+20g, MIL-STD-810C, 514-2			G
Shock	G	30G, 11msec, MIL-STD-202G, Method 213B, Cond A			G

**Notes:**

- 1) Measured with Supply Voltage at 5V. Output is ratiometric. 9-30V Supply option available for OEM customers. 2) Defined as best straight line 3) Measured from 0°C to 70°C  
 4) Measured over compensated temperature range -25-85°C

## Application Information

### Package

The one piece body design is made of stainless steel (SS316L), which allows for easy manufacturability and long term stability. Automotive grade vibration proof design for engine mount.

### Stability

The silicon MEMS pressure sensor element is mounted to a ceramic base and sealed into the SS housing. The selection of thermally capability materials reduce the mechanical stress on the sensor resulting in greater stability over time and temperature.

Additional stability is gained from factory stabilization of all sensors.

### Pressure port

1/4" -18NPT and 1/8"-18NPT threads are standard SS fittings. Other port fittings such as 7/16-20UNF, and 1/4" BSP are available for OEM customers.

### Media

The pressure port is tolerant to most media including but not limited to oil, air, gas, some corrosive media, and salt water.

### Wetted parts

When checking media capability, the wetted surface is composed of only stainless steel (316).

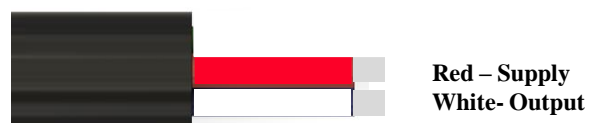
### Pressure ranges

Standard pressure ranges are 50, 100, 150, 200, and 300 psi in compound and gage. Custom pressure ranges are available for OEM customers.

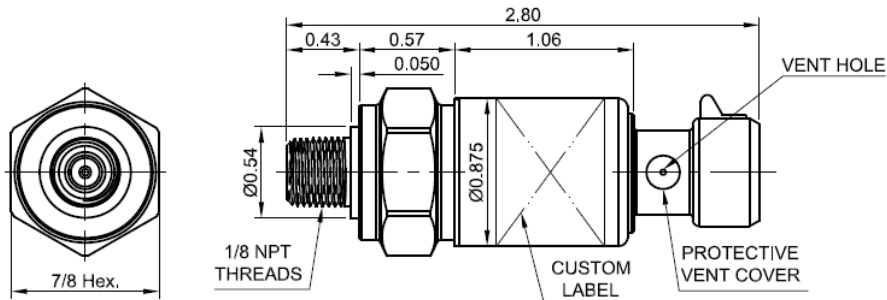
PPT81-CBL-5ft-1 Color Code



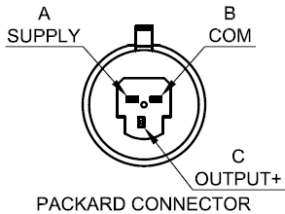
PPT81-CBL-5ft-2 Color Code



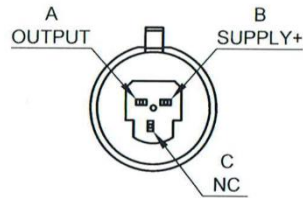
## Mechanical Dimensions (inches)



## Electrical Connections



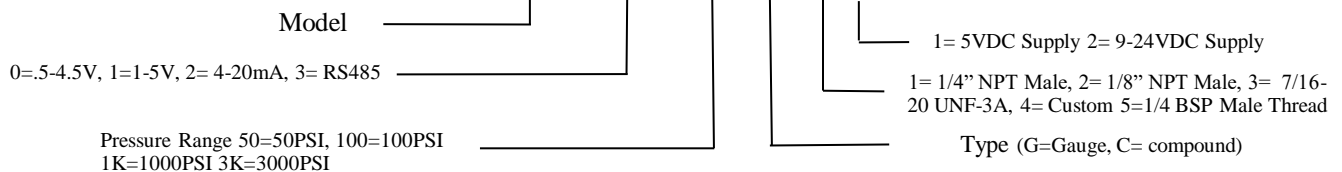
0.5-4.5V/1-5V Output Connection



4-20mA Output Connection

## Part Number Configuration

**PPT81-0 – 50 G 1 1**



## Standard Part Numbers

Model	Pressure Range PSI	Type	Max Over Pressure
PPT81-0-50C1	50	Com/Gage	150
PPT81-0-100C1	100	Com/Gage	300
PPT81-0-300C1	300	Com/Gage	900

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