



## FEATURES

- Wide Pressure Range – 1psi to 500psi
- Stainless Steel Material
- -40-125°C Operating Temperature
- Compact Size
- 1% Accuracy (.25% Linearity FS)
- Absolute, Gauge or Sealed Gauge
- Media – Liquid, Air, & Gas
- IP65 Environmental Rating
- Packard Connector
- **Manufactured in the United States of America**

## DESCRIPTION

The PPT82U is manufactured in the USA and was designed for challenging applications with high operating temperatures & high pressure ranges. 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 PPT82U 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

- Process Control Systems
- Industrial Automation
- Refrigeration & HVAC Systems
- Aircraft & Aviation Systems
- Biomedical Instruments
- Automotive

## Maximum Environmental Ratings

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

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

## PPT82U Operational Characteristics

PARAMETER	SYMBOL	MIN	TYP	MAX	UNITS
Supply (Option 1)	V <sub>DD</sub>	2.7	5	5.5	VDC
Supply (Option 2)	V <sub>DD</sub>	9		32	VDC
Output (Option 0)	V <sub>OUT</sub>	0.5		4.5	V
Output (Option 1)	V <sub>OUT</sub>	0		5	V
Output (Option 2)	V <sub>OUT</sub>	4		20	mA
Output (Option 3)	V <sub>OUT</sub>	0		100	mV
Output (Option 4)	V <sub>OUT</sub>	0		10	V
Linearity	±%FS	-0.15		0.15	%FS
Hysteresis	±%FS	-0.05		0.05	%FS
Repeatability	±%FS	-0.05		0.05	%FS
Temperature Error	±%FS	-1	0.5	1	°C
Accuracy (Total Error Band)	±%FS	-1	0.5	1	%FS
Response Time	t <sub>R</sub>		5		ms
Current Consumption	I		5		mA
Operating Temperature Range	°C	-40		125	°C
Compensated Temperature Range	°C	0		85	°C
Pressure Ranges	PSI	0		500	PSI
Proof Pressure	V <sub>over</sub>		1.5X		FS
Burst Pressure	V <sub>burst</sub>		3X		FS
Environmental Rating	IP		IP65		IP

**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 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.

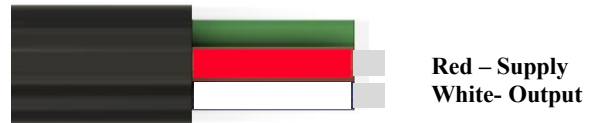
### Wetted parts

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

### Pressure ranges

Standard pressure ranges are 100, 300, 500, 1,000, 5,000 & 10,000 psi in absolute and gauge. Custom pressure ranges are available for OEM customers.

PPT82U-CBL-5ft-2 Color Code



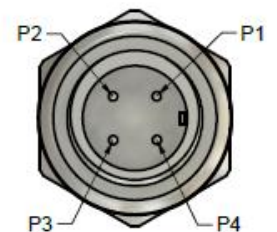
PPT82U-CBL-5ft-1 Color Code



## Electrical Pinout

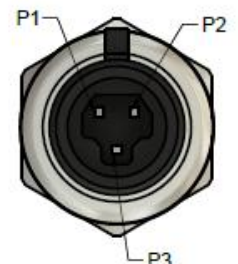
PINOUT (M12 Connector)	
P1	RED
P2	WHITE
P3	BLACK

PINOUT (M12 Connector) 4-20mA	
P1	RED
P3	BLACK

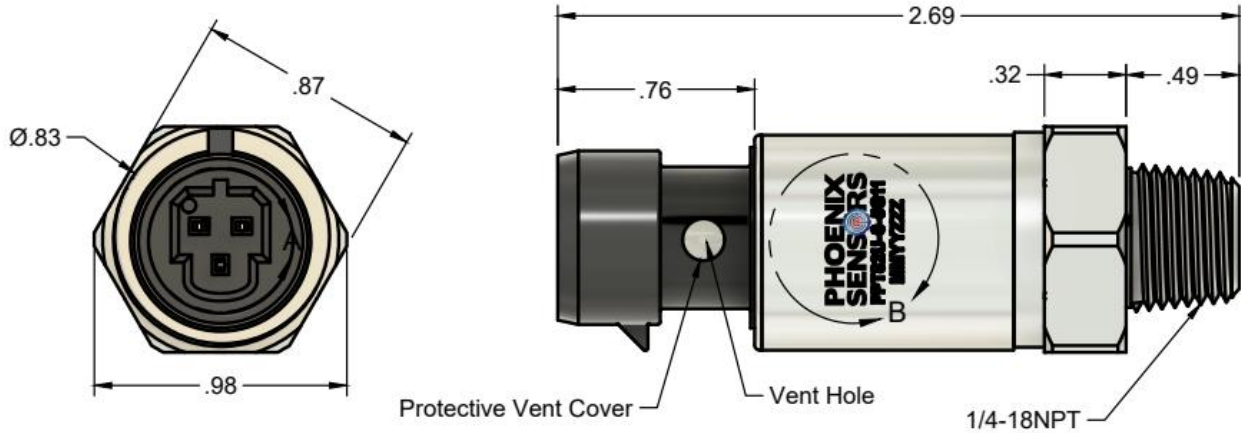


PINOUT (Packard Connector)	
P1	-SUPPLY
P2	+SUPPLY
P3	OUTPUT

PINOUT (Packard Connector) 4-20mA	
P1	+VCC
P2	-OUTPUT



## Mechanical Dimensions (inches)



## Part Number Configuration

Phoenix Sensors Nomenclature					
Model	Output	Pressure Range	Pressure Type	Port	Power Supply
PPT82U	0 = 0.5-4.5V	1 = 100 PSI	G = Gauge	1 = 1/4" NPT Male	1 = 5V
	1 = 0-5V	....	A = Absolute	2 = 1/8" NPT Male	2 = 9-32VDC
	2 = 4-20mA	500 = 500 PSI	C = Compound (Vacuum)	3 = 7/16"-20 UNF Male	
	3 = 0-100mV		S = Sealed Gauge	4 = 1/4" BSPP Male	
	4 = 0-10V			5 = 9/16"-18 UNF Male	
Example: PPT82U-0-500G11 0.5-4.5V Output, 500PSI, Gauge, 1/4"NPT Male, IP65, 5V Supply, Packard Connector					

Ph: (480) 462-1810 [sales@phoenixsensors.com](mailto:sales@phoenixsensors.com)

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