

Product Bulletin

83HP Series Hermetic Pressure Transducer

**Voltage Output, High Accuracy,
Piezoresistive Technology**

www.tisensors.com



The 83HP Series is ideally suited for severe industrial OEM applications. This is a high accuracy, high level Vdc output that requires no end user

amplification. Housed in corrosion resistant stainless steel, the 83HP includes a hermetic front end with a variety of electrical connectors. This

transducer is available in sealed gage and vented gage from 15 psi up to 30,000 psi with several package options.

Features

High accuracy +/- 0.25% F.S. typ.....
Static Error Band
Low total error band.....
(-20°C to 100°C)
Stainless steel housing.....
EMC protected to 300V/m.....
Wide operating temperature range.....
(-40°C up to +125°C)
Reverse polarity protection.....
Small size.....
Repeatability <0.05%.....

Benefits

Precise measurement for severe industrial OEM applications
High accuracy over wide operating temperature range
Media Compatible
High reliability in noisy environments
Wide range of applications
Robust installation
More mounting options
Measurement confidence

Applications

- Process Control & Automation
- Compressors & Pumps
- Hydraulics & Pneumatics
- Agriculture & Construction Equipment
- Transportation & Off Road Vehicles
- Engine Controls & Monitors
- HVAC /Refrigeration
- Alternative Energy Management
- Load Management

Technical Specifications

Pressure Ranges

0-15 psig through 0-500 psig
0-500 psis through 0-30,000 psis

Performance

Accuracy... +/- 0.25% F.S. typ
(static error band @ 25°C)
Total Thermal Effect
Standard:
+/- 0.01% F.S. / °C typ
(-20°C to +100°C)
Operating Temperature:
-40°C to +125°C
Storage Temperature:
-40°C to +150°C

Electrical

Ratiometric Output
Vs... 4.5 – 5.5Vdc Vo... 0.5 – 4.5Vdc
Vs... 4.75 – 5.25Vdc Vo... 0.25 – 4.75Vdc
Voltage Regulated Output
Vs... 9 – 32Vdc Vo... 0.5 – 4.5Vdc
** Vs... 9 – 32Vdc Vo... 1 – 6Vdc
* ** Vs... 12 – 32Vdc Vo... 0 – 10Vdc
** Vs... 9 – 32Vdc Vo... 1 – 5Vdc
* Operating Temperature: -40°C to +100°C
** Sink: 0.2mA
Supply current..... 8 - 15mA
Output current
Source..... 1.1 mA
Sink..... 0.1 mA
Pull Down Load Resistor..... 5.0K ohms min.
Output Response Time..... 1ms
Overvoltage Protection..... Yes
Reverse Voltage Protection..... Yes
Short Circuit Protected..... Yes

Physical

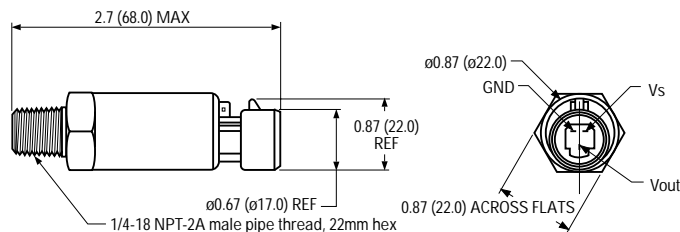
Proof Pressure Up to 1,500 psi..... 2X
Up to 7,000 psi..... 1.5X
Up to 30,000 psi..... 1.2X
Burst Pressure 3X minimum
Cycle Life 100M F.S. cycles,
25-80°C
Random Vibration 35g's rms
(20-2800Hz)
Drop (any axis) 1m
Electrical Connection Packard Metri-Pack™
Hirschman DIN
Wire leads
Hirschman Mini DIN
Truncated cone cable

83HP Series

Hermetic Pressure Transducer

Dimensions (Typical)

in (mm)



Ordering Information

EXAMPLE:

Series	83HP	06	2	X	00500	S	S	0	A
Pressure Connection	1/4-18NPT-2A male pipe								
Electrical Connection	Standard Packard Metri-Pack								
Voltage Input-Output	Power Input: 4.5-5.5Vdc, Device Output 0.5-4.5Vdc								
Pressure Range	0-500 psi								
Pressure Reference	sealed gage								
EMC	standard-(300v/m, 1MHz-400MHz)								
Potted Wire Lead Length	0								
Total Thermal Effect Standard									

STANDARD OPTIONS

Series	83HP			
Pressure Connection	05	3/8 - 24UNF-2A male o-ring per SAE J514		
	06	1/4 - 18NPT-2A male pipe		
	07	7/16 - 20UNF-2A male o-ring per SAE J514		
	13	1/4" SAE tube fitting, female flare, 7/16-20 UNF-2B		
	14	1/8-27 NPT-2A male pipe		
	15	7/16-20 UNF-2B female with Schraeder deflator		
	16	M18 x 1.5 male w/sealing cone (+10K psi applications)		
	17	M14 x 1.5 male per ISO 261		
Electrical Connection	2	Standard Packard Metri-Pack™	6	Hirschman DIN
	3	Hirschman Mini DIN	7	Truncated cone cable
	4	Wire leads (24 AWG)		
Voltage Input - Output	X	Vs... 4.5-5.5Vdc	Vo... 0.5-4.5Vdc	} Ratiometric
	Z	Vs... 4.75-5.25Vdc	Vo... 0.25-4.75Vdc	
	T	Vs... 9-32Vdc	Vo... 0.5-4.5Vdc	} Non-Ratiometric
	S	Vs... 9-32Vdc	Vo... 1-6Vdc	
	W	Vs... 12-32Vdc	Vo... 0-10Vdc	
	R	Vs... 9-32Vdc	Vo... 1-5Vdc	
Pressure Ranges	0-15 psig through 0-500 psig 0-500 psis through 0-30,000 psis (psig = sealed gage) (psig = vented gage) Metric ranges in bar (M 0010 = 10 bar)			
Pressure Reference	S	Sealed Gage (Specify for > 500 psi)		
	G	Vented gage (Specify for <= 500 psi)		
EMC	S	300v/m, 1MHz-400Mhz		
	B	Meets Level 1 requirement of GMW 3097GS, radiated immunity Level 1 requirement of GMW 3097GS, bulk current injection noise		
	C	Meets Level 2 requirement of GMW 3097GS, radiated immunity Class B requirement of GMW 9112P, bulk current injection noise		
Wire Leads	0	no wire (Packard, DIN)		
	1	1 meter length		
	2	2 meter length		
Total Thermal Effect	A	+/-0.01% F.S./°C typ (-20°C to +100°C)		

SPECIAL OPTIONS

(Contact factory
for availability)

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