

## Product Bulletin

# 83HP Series

## Hermetic Pressure Transducer

### Voltage Output, High Accuracy, Enhanced Package



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. Contact the factory regarding agency approvals.

## Features

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

## Benefits

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

## Applications

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

## Technical Specifications

### Pressure Ranges

15psig - 500psig  
50psis -30,000psis

### Performance

Accuracy... +/-0.25% F.S. typ  
(static error band @ 25°C)  
  
Total Thermal Effect  
Standard:  
+/- 0.007% F.S. / °C typ  
(-20°C to +100°C)  
  
Operating temperature:  
-40°C to 125°C  
  
Storage temperature:  
-40°C to 150°C

### Electrical

Vs... 4.5-5.5Vdc  
Vs... 8-30Vdc  
Vs... 9-32Vdc  
Vs... 12-30Vdc  
Vs... 4.75-5.25Vdc  
Vs... 9-30Vdc  
  
Supply current.....8 - 13mA  
  
Output current  
Source.....1.1 mA  
Sink..... 0.1 mA  
  
Output Load Range..... 4.0K ohms - no load  
Output Response Time..... 1ms  
Overvoltage protection..... 30 VDC  
Reverse Voltage Protection..... -5 VDC  
EMC(1MHz - 400 MHz)..... 300 V/m  
(400MHz-1GHz)..... 200 V/m  
Short Circuit Protected ..... Yes

### Physical

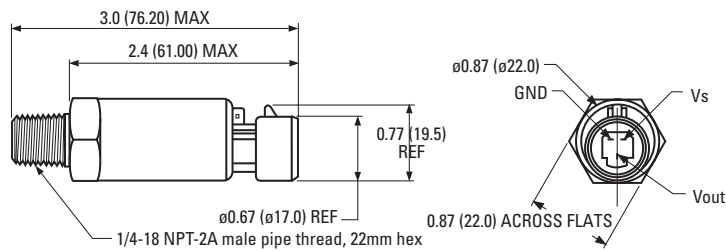
Proof Pressure  
Up to 1,500 psi..... 2X  
Up to 7,000 psi..... 1.5X  
Up to 30,000 psi..... 1.2X  
  
Burst Pressure  
3X  
  
Cycle Life  
100M F.S. cycles,  
25-80°C  
  
Random Vibration  
(up to 1kHz)  
20g's  
  
Drop (any axis)  
1m  
  
Electrical Connection  
Packard Metri-Pack™  
Hirschman DIN  
wire leads

# 83HP Series

## Hermetic Pressure Transducer

### Dimensions (Typical)

in (mm)



### Ordering Information

<b>EXAMPLE:</b>	<b>83HP</b>	<b>06</b>	<b>2</b>	<b>X</b>	<b>00500</b>	<b>S</b>	<b>S</b>	<b>0</b>	<b>A</b>
<b>Series</b>	83HP								
<b>Pressure Connection</b>	1/4-18NPT-2A male pipe, 22mm hex								
<b>Electrical Connection</b>	Standard Packard Metri-Pack								
<b>Voltage Input-Output</b>	Power Input: 4.5-5.5Vdc, Device Output 0.5-4.5Vdc								
<b>Pressure Range</b>	0-500psi								
<b>Pressure Reference</b>	sealed gage								
<b>EMC</b>	standard-(300v/m 1MHz-400MHz)								
<b>Potted Wire Lead Length</b>	0								
<b>Total Thermal Effect Standard</b>									

#### STANDARD OPTIONS

<b>Series</b>	<b>83HP</b>
<b>Pressure Connection</b>	<b>05</b> 3/8 - 24UNF-2A male o-ring per SAE J514,22mm hex <b>06</b> 1/4 - 18NPT-2A male pipe, 22mm hex <b>07</b> 7/16 - 20UNF-2A male o-ring per SAE J514, 22mm hex M10 x 1.0 male o-ring per ISO 6149, 22mm hex <b>12</b> M14 x 1.5 male o-ring thread per ISO 6149, 22mm hex <b>14</b> 1/8-27 NPT-2A male pipe, 22mm hex
<b>Electrical Connection</b>	<b>2</b> Standard Packard Metri-Pack™ <b>3</b> Hirschman DIN <b>4</b> Wire leads
<b>Voltage Input - Output</b>	<b>X</b> Vs... 4.5-5.5Vdc Vo... 0.5-4.5Vdc <b>T</b> Vs... 8-30Vdc Vo... 0.5-4.5Vdc <b>S</b> Vs... 9-32Vdc Vo... 1-6Vdc <b>W</b> Vs... 12-30Vdc Vo... 0-10Vdc <b>Z</b> Vs... 4.75-5.25Vdc Vo... 0.25-4.75Vdc <b>R</b> Vs... 9-30Vdc Vo... 1-5Vdc
<b>Pressure Ranges</b>	15psig - 500psig 50psis - 30,000psis (psis = sealed gage) (psig = vented gage)
<b>Pressure Reference</b>	<b>S</b> Sealed Gage <b>G</b> Vented gage
<b>EMC</b>	<b>S</b> 300v/m 1MHz-400Mhz <b>B</b> Meets Level 1 requirement of GMW 3097GS, radiated immunity Level 1 requirement of GMW 3097GS, bulk current injection noise <b>C</b> Meets Level 2 requirement of GMW 3097GS, radiated immunity Class B requirement of GMW 9112P, bulk current injection noise
<b>Total Thermal Effect</b>	<b>A</b> +/-0.007% F.S./°C typ (-20°C to +100°C)

#### SPECIAL OPTIONS

(Contact factory for availability)

Important Notice: Texas Instruments (TI) reserves the right to make changes to or discontinue any product or service identified in this publication without notice. TI advises its customers to obtain the latest version of the relevant information to verify, before placing any orders, that the information being relied upon is current. TI assumes no responsibility for infringement of patents or rights of others based on TI applications assistance or product specifications since TI does not possess full access concerning the use or application of customers' products. TI also assumes no responsibility for customers' product designs.

Packard Metri-pack is a trademark of Delphi Packard Electric Systems.