



83HP/84HP Series

Piezoresistive Pressure Sensor

Voltage Output, High Accuracy, Hermetic

WORLD CLASS PERFORMANCE

The 83HP and 84HP series sensors are ideally suited for severe industrial OEM applications. Housed in corrosion resistant stainless steel, these sensors include a hermetic front end with a variety of electrical and pressure connection options.

Sensata Technologies has been a leading global supplier of pressure sensors & switches for over 50 years.

Features & Benefits

- High accuracy over wide operating temperature range.
- Low total error band
- Media compatible stainless steel housing
- EMI protected to 300 V/M
- Wide operating temperature range
- Small size

Applications

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

Technical Specifications

Pressure Ranges

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

Electrical

Ratiometric Output

Supply Voltage	Output Voltage
4.5-5.5 Vdc	0.5-4.5 Vdc
4.75-5.25 Vdc	0.25-4.75 Vdc

Voltage Regulated Output

Supply Voltage	Output Voltage
9-32 Vdc	0.5-4.5 Vdc
† 9-32 Vdc	1- 6 Vdc
*†12-32 Vdc	0-10 Vdc
† 9-32 Vdc	1 - 5 Vdc

* Operating Temperature: -40°C to +100°C
† Sink: 0.2mA

Supply Current 8-15 mA

Output Current

Source	1.1 mA
Sink	0.1 mA

Pull Down Load resistor..... 5.0K ohms min.

Output Response Time 1 ms

Overshoot Protection Yes

Reverse Voltage Protection Yes

Short Circuit Protected Yes

Performance

Accuracy...±0.25% F.S. typ
(static error band @ 25°C)

Total Thermal Effect (-20°C to 100°C)

83HP

Option A: ±0.02% F.S. / °C typ (Standard Accuracy)

84HP

Option B: ±0.008% F.S./°C typ

Option C: ±0.006% F.S./°C typ

Operating Temperature: -40°C to +125°C

Storage Temperature: -40°C to +150°C

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 20g rms
(up to 1kHz)

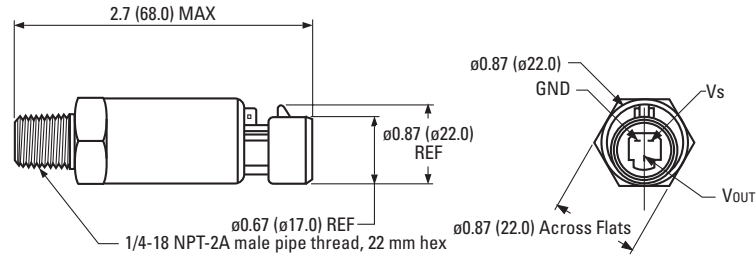
Drop (any axis) 1 m

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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, 22 mm								
Electrical Connection	Standard Packard Metri-Pack								
Device Input-Output	Power Input: 4.5-5.5 Vdc, Device Output 0.5-4.5 Vdc								
Pressure Range	0-0500 psi								
Pressure Reference	Sealed Gage								
EMC	Standard-(300 V/m, 1 MHz-400 MHz)								
Potted Wire Lead Length	1M								
Total Thermal Effect Standard	Standard Accuracy								

STANDARD OPTIONS

Series	83HP Standard Accuracy	84HP High Accuracy
Pressure Connection	05 3/8 - 24 UNF-2A male o-ring thread per SAE J514, 22mm hex 06 1/4 - 18 NPT-2A male pipe, 22mm hex 07 7/16 - 20 UNF-2A male o-ring per SAE J514, 22mm hex	12 M14 x 1.5 male o-ring thread per ISO 6149, 22mm hex 14 1/8 - 27 NPT-2A male pipe, 22mm hex 15 7/16-20 UNF-2B female with Schraeder deflator
Electrical Connection	2 Standard Packard Metri-Pack™ 3 Hirschman Mini DIN (GDSN 307) 4 Wire leads	6 Hirschman DIN (43650) 7 Truncated cone cable
Voltage Input-Output	Ratiometric Supply Voltage Output Voltage X Vs... 4.5-5.5 Vdc Vo... 0.5-4.5 Vdc Z Vs... 4.75-5.25 Vdc Vo... 0.25-4.75 Vdc	Non-Ratiometric Supply Voltage Output Voltage T Vs... 8-32 Vdc Vo... 0.5-4.5 Vdc S Vs... 9-32 Vdc Vo... 0-10 Vdc W Vs... 12-30 Vdc Vo... 0-10 Vdc R Vs... 9-30 Vdc Vo... 1-5 Vdc
Pressure Ranges	0-15 psig through 0-500 psig 0-500 psig 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 (-20°C TO +100°C)	83HP A ±0.01% F.S./°C typ	84HP B ±0.008% F.S./°C typ C ±0.006% F.S./°C typ

SPECIAL OPTIONS

(Contact factory for availability)

Packard Metri-Pack is a trademark of Delphi Packard Electric Systems



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Sensata Technologies

529 Pleasant Street, MS B19
Attleboro, MA 02703-2964
Phone 1-888-438-2214

Fax: 508-236-2349
email: sensors@sensata.com
www.sensata.com

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