



## CERAMIC CAPACITIVE PRESSURE SENSOR

### 70CP Series

6-30 VDC Supply, 4-20 mA or Voltage Output

### WORLD CLASS PERFORMANCE

The 70CP Series sensors are ideally suited for environmentally demanding OEM industrial applications. This series accommodates a wide range of input voltages (6-30 Vdc) and provides several output options including 4-20 mA. Housed in stainless steel, plated steel or brass the 70CP Series offers performance and economy.

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

### Features & Benefits

- Enhanced accuracy over wide operating range.
- Housing options are compatible with most media.
- EMC protection to 100 V/m.
- Broad operating temp. range (-40°C to +135°C).
- Exceptional shake and vibration tolerance.
- Overvoltage and reverse polarity protection.
- Small size and simple installation.

### Applications

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

### Technical Specifications

#### Pressure Range

0-15, 50, 100, 150, 250, 500 psi  
 0-750, 1000, 1500, 2000, 3000 psi

#### Physical

##### Proof Pressure

0-15 psi through 0-75 psi ..... 5X  
 0-100 psi through 0-250 psi ..... 3X  
 0-500 psi ..... 2X  
 0-750 psi through 0-3000 psi ..... 1.5X

##### Burst Pressure

0-15 psi through 0-500 psi ..... 1700 psi min  
 0-750 psi through 0-2000 psi ..... 5000 psi min  
 0-3000 psi ..... 8000 psi min

##### Cycle Life

0-15 psi through 0-500 psi ..... 10M F.S. cycles typ.  
 0-750 psi through 0-2000 psi ..... 5M F.S. cycles typ.  
 0-3000 psi ..... consult factory

Random Vibration (50-2000 Hz) ..... 10 g  
 Mechanical Shock (6 Hz, ½ sine) ... 100 g  
 Drop (any axis) ..... 1.5 m

#### Performance

Accuracy ..... ±0.6% F.S. typ.  
 (linearity, hysteresis, repeatability, calibration)  
 Total Error Band  

	Voltage	4-20 mA
-20°C to +85°C	1.2% F.S. Typ.	1.6% F.S. typ.
-40°C to +135°C	2.0% F.S. Typ.	

(Values are typical. Higher accuracies are possible, consult factory).

##### Operating Temperature:

Current Output: ..... -40°C to 100°C  
 Voltage Output: ..... -40°C to 125°C

#### Electrical

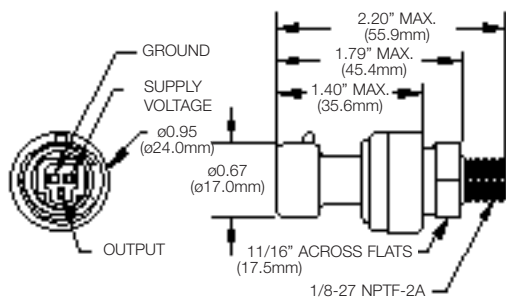
Supply Voltage (V<sub>in</sub>)..... 6-30 Vdc  
 Output Voltage (V<sub>out</sub>)..... 0.5-4.5 Vdc  
 Output Current ..... 4-20 mA  
 Output Load, Voltage Output ..... 10K ohms  
 Output Load, Current Output ..... (V<sub>s</sub>\*-6)/0.02 ohms  
 Overvoltage Protection ..... 40 Vdc  
 Reverse Voltage Protection ..... -40 Vdc  
 Output Response Time..... 10 ms MAX.  
 EMC (512 MHz-1GHz) ..... 100 V/m  
 EMC (10 MHz-512 MHz) ..... 50 V/m  
 4-20 mA version ..... 30 V/m  
 ESD (CDF-AEC-Q100-002) ..... 15 kV  
 \* V<sub>s</sub> = actual supply voltage

# CERAMIC CAPACITIVE PRESSURE SENSOR

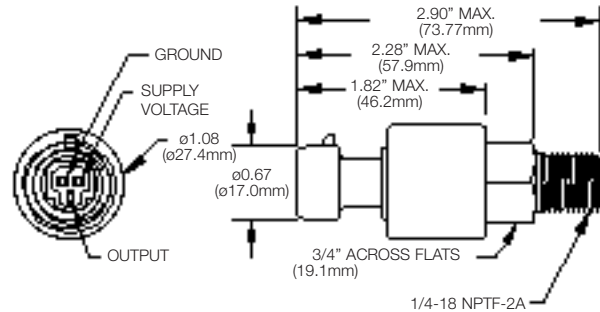
70CP Series, 6-30 VDC Supply, 4-20 mA or Voltage Output

## Dimensions

77CP Dimensional Drawing w/ 1/8" front end

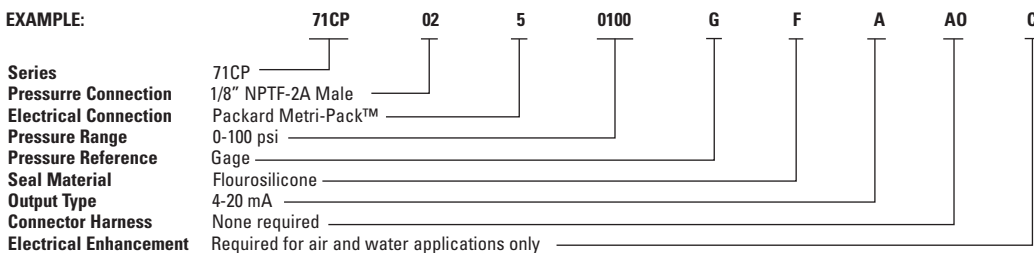


75CP Dimensional Drawing w/ 1/4" front end



## Ordering Information

EXAMPLE:



## STANDARD OPTIONS

Series	71CP Stainless Steel 75CP Plated Steel (High P)	73CP Plated Steel (Low P) 77CP Brass													
Pressure Connection	<b>(11/16" Hex - under body)</b> 02 1/8" NPTF-2A Male	03 1/4" NPTF-2A Male	Consult the factory for other pressure connections												
Electrical Connection	5 Packard Metri-Pack™														
Pressure Ranges	<table border="1"> <tr> <td>71CP, 73CP, 77CP</td> <td>0015 (psi)</td> <td>0050 (psi)</td> <td>0100 (psi)</td> </tr> <tr> <td></td> <td>0150 (psi)</td> <td>0250 (psi)</td> <td>0500 (psi)</td> </tr> </table>		71CP, 73CP, 77CP	0015 (psi)	0050 (psi)	0100 (psi)		0150 (psi)	0250 (psi)	0500 (psi)	Consult the factory for other pressure ranges				
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75CP	1000 (psi)	1500 (psi)	2000 (psi)												
	3000 (psi)														
Pressure Reference	A Absolute	G Gage	S Sealed Gage												
Seal Material	E Ethylene Propylene F Fluorosilicone <i>(Use seal compatibility guide for temperature ranges)</i>	H HNBR N Neoprene	V Viton™	B Nitrile (BUNA-N, NBR)											
Output Type	A 4-20 mA	B 1-4 Vdc	D 1-4.9 Vdc	Consult the factory for other output types											
Connector Harness	(Wire Lead) A No wire	(Wire Length) O No Length	(Wire Lead) A No wire		(Wire Length) O No length			<table border="1"> <tr> <td>B Standard wire<sup>(1)</sup></td> <td>1</td> <td>1 meter</td> </tr> <tr> <td>F UL 1015, 105°C rated wire<sup>(2)</sup></td> <td>2</td> <td>2 meter</td> </tr> </table>		B Standard wire <sup>(1)</sup>	1	1 meter	F UL 1015, 105°C rated wire <sup>(2)</sup>	2	2 meter
B Standard wire <sup>(1)</sup>	1	1 meter													
F UL 1015, 105°C rated wire <sup>(2)</sup>	2	2 meter													
Electrical Enhancement	(blank) Not required			C Required for air and water applications only											

## Seal Compatibility Guide

Type	Seal Material	Media Compatibility <i>(Contact Sensata for more information)</i>	Maximum Seal Temperature Range
B	Nitrile (BUNA-N, NBR)	petroleum oils, lubricants, detergent solutions, helium	-20°C to +100°C
H	HNBR (Hydrogenated Nitrile)	petroleum oils, lubricants, detergent solutions	-20°C to +135°C
E	Ethylene Propylene	steam, soaps, polar solvents, brake fluid, acetone, Skydrol™	-40°C to +135°C
F	Fluorosilicone	chlorinated solvents, oils, fuels, air	-40°C to +135°C
N	Neoprene	refrigerants, (freons, ammonia)	-40°C to +120°C
V	Fluorocarbon (Viton™)	fertilizers, freons, butanes, oils, trichlorethylene	-35°C to +135°C

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