



## 70CP Series Ceramic Capacitive Pressure Sensor 6-30 VDC Supply, 4-20 mA or Voltage Output

### WORLD CLASS PERFORMANCE

The 70CP Series transducers 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 & 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) ..... 10g

Mechanical Shock (6 Hz, 1/2 sine) ... 100g

Drop (any axis) ..... 1.5m

Electrical Connection ..... NEMA 4X

Ingress protection ..... IP 65

#### Performance

Accuracy ..... ±0.75% F.S. type.  
(linearity, hysteresis, repeatability)

Temperature Error: ..... ±0.005% F.S./°C

##### Operating Temperature:

Current Output: ..... -40°C to 100°C

Voltage Output: ..... -40°C to 135°C

#### Electrical

Supply Voltage (Vin)..... 6-30 Vdc

Output Voltage (Vout)..... 0.5-4.5 Vdc

Output Current ..... 4-20 mA

Output Load, Voltage Output ..... 10K ohms

Output Load, Current Output ..... (Vs\*-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

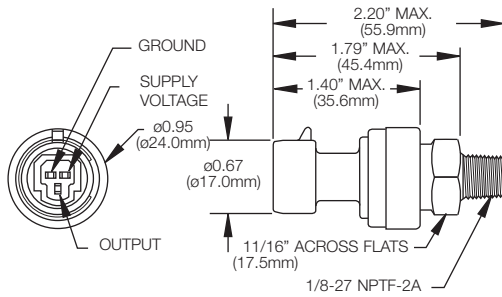
\* Vs = actual supply voltage

# 70CP Series

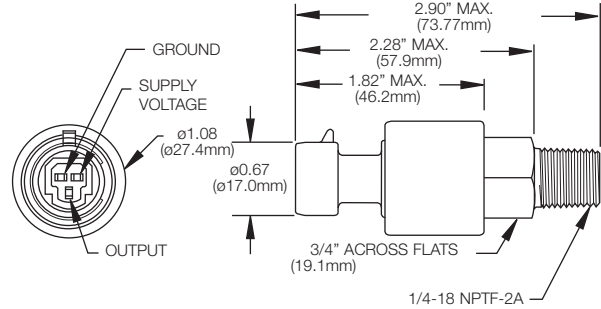
## Ceramic Capacitive Pressure Sensor

### Dimensions

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

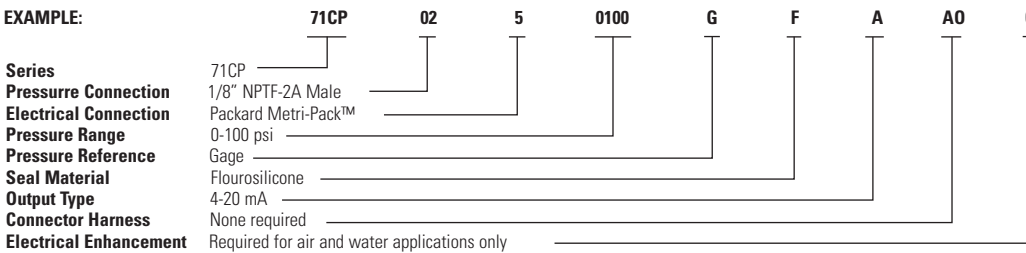


75CP Dimensional Drawing w/ 1/4" front end



### Ordering Information

EXAMPLE:



#### STANDARD OPTIONS

<b>Series</b>	71CP Stainless Steel 75CP Plated Steel (High P)	73CP Plated Steel (Low P) 77CP Brass	
<b>Pressure Connection</b>	<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
<b>Electrical Connection</b>	5 Packard Metri-Pack™		
<b>Pressure Ranges</b>	Consult the factory for other pressure ranges		
<b>71CP, 73CP, 77CP</b>	0015 (psi) 0150 (psi)	0050 (psi) 0250 (psi)	0100 (psi) 0500 (psi)
<b>75CP</b>	1000 (psi) 3000 (psi)	1500 (psi)	2000 (psi)
<b>Pressure Reference</b>	A Absolute	G Gage	S Sealed Gage
<b>Seal Material</b>	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)
<b>Output Type</b>	A 4-20 mA	B 1-4 Vdc	D 1-4.9 Vdc Consult the factory for other output types
<b>Connector Harness</b>	(Wire Lead) A No wire	(Wire Length) O No Length	(Wire Lead) (Wire Length) A No wire 0 No length B Standard wire <sup>(1)</sup> 1 1 meter F UL 1015, 105°C rated wire <sup>(2)</sup> 2 2 meter <sup>(1)</sup> Black, Red, Green <sup>(2)</sup> Black, Red, Blue
<b>Electrical Enhancement</b>	(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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