

87/88CP SERIES | CERAMIC CAPACITIVE PRESSURE SENSOR

6 TO 30 VDC SUPPLY, 4 TO 20 MA OUTPUT

Description

87/88CP series pressure sensors are ideally suited for environmentally demanding OEM industrial applications. This series accommodates a wide range of input voltages (6 to 30 VDC), providing a 4 to 20 mA output. Housed in stainless steel, plated steel or brass, the 87/88CP series offers performance and economy.

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



Features

- Enhanced accuracy over wide operating range
- Housing options are compatible with most media
- EMC protection to 30 V/m
- Broad operating temperature 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

PERFORMANCE CHARACTERISTICS

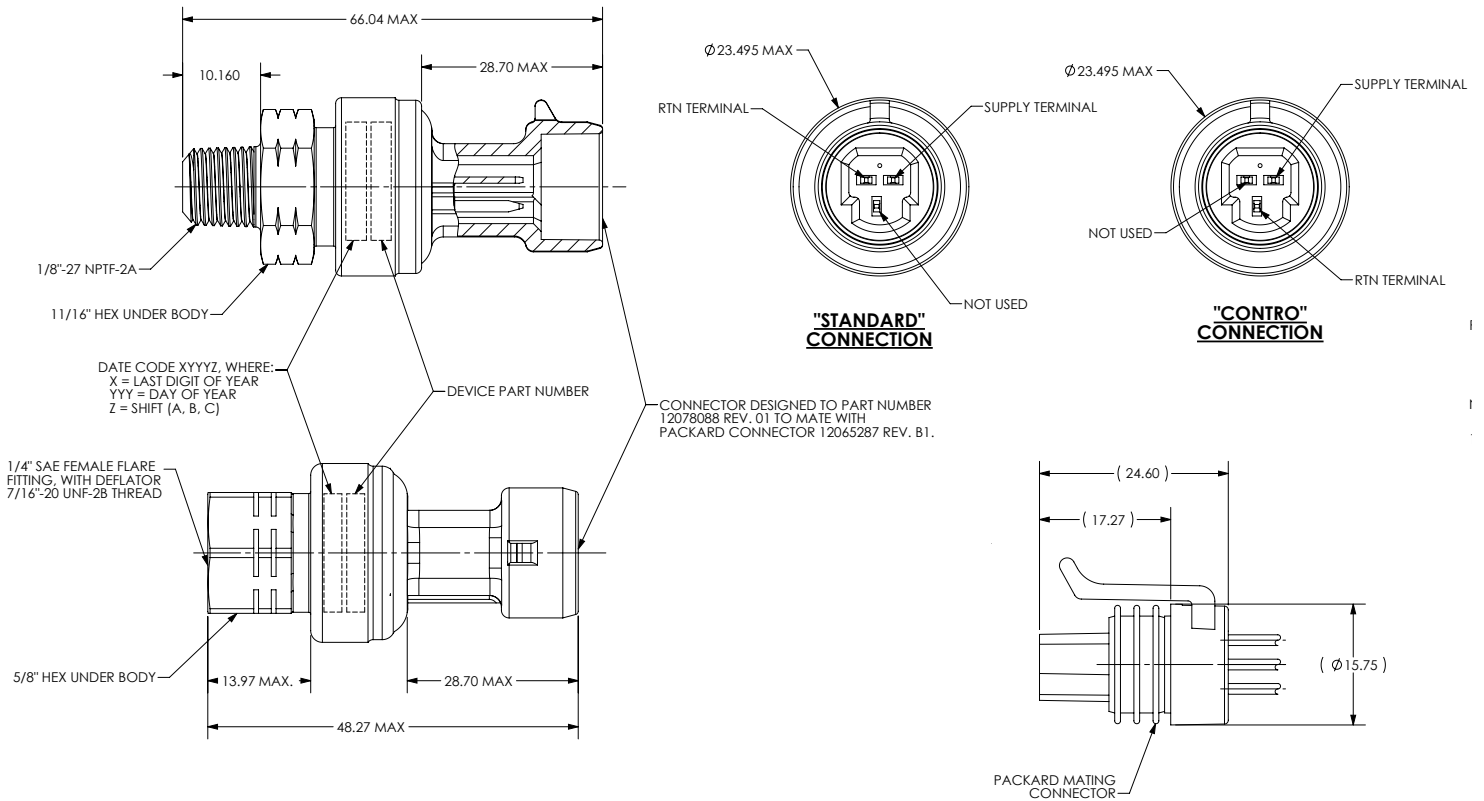
Pressure Ranges	87CP: 1 to 10, 11, 16, 19.2, 20, 31, 35, 45.8, 46, 50 BAR, 0 to 34.5 Bar, -0.8 to 7 Bar, -1 to 11Bar, Negative pressures apply to Gauge devices 88CP: 0 to 15, 18, 30, 34.5, 50 Bar, -1 to 11 Bar, Negative pressures apply to Gauge devices Other pressures available upon request
Accuracy	±0.8% F.S. (linearity, hysteresis, repeatability and calibration)
Total Error Band	+2% / -3.5% F.S. (-20 to 135°C)
Operating Temperature	-40°C to 135°C
Storage Temperature	-40°C to +150°C
Proof Pressure	>1.5 times pressure range
Burst Pressure	>3 times pressure range
Cycle Life	Up to 34.5 BAR = 10M F.S. cycles Beyond 34.5 BAR = 5M F.S. cycles
Random Vibration	10g (25 - 2000 Hz)

Mechanical Shock	100g (6 Hz, ½ sine)
Drop (any Axis)	1.5m
Supply Voltage	6 to 30 VDC
Output	Current Output: 4 to 20 mA
Output Load	(Vs-7)/0.02 Ohms
Overvoltage Protection	39 VDC
Reverse Voltage Protection	-39 VDC
Output Response Time	10mS max
Short Circuit Protected	Yes
EMC (512 MHz to 1GHz)	30 V/m
ESD (EN61000-4-2)	8KV in air, 4KV contact



DIMENSIONAL DRAWINGS FOR 87CP & 88CP

Dimensions in mm





BRASS HEXPORT, 1/8" - 27 NPTF - 2A MALE, TWO TAIL PACKARD CONNECTOR STANDARD, 1 TO 10 BAR, ABSOLUTE (NON VENTED), NEOPRENE INTERNAL O-RING.

87CP - 7 2 5 - M10 A N

Family
87CP: 4 - 20 mA STD ACCURACY
88CP: 4 - 20 mA STD ACCURACY

Hexport Material
7: BRASS
8: PLATED STEEL
9: STAINLESS STEEL

Hex Under Body
2: 1/8" - 27 NPTF-2A, HEX 11/16" UNDER
5: 7/16" - 20 UNF-28 W/DEFLATOR, HEX 5/8" UNDER

Electrical Connector
5: TWO TAIL PACKARD CONNECTOR STANDARD
7: TWO TAIL PACKARD CONNECTOR "CONTRO"

Pressure Range

87CP	88CP
M07: -0.8...7BAR	M11: -1...11BAR
M08: 0.5...8BAR	M35: 0...34.5BAR
M10: 1...10BAR	M15: 0...15BAR
M11: 1...11BAR	M50: 0...50BAR
M12: -1...11BAR	M18: 0...18BAR
M16: 1...16BAR	M30: 0...30BAR
M19: 1...19.2BAR	
M20: 1...20BAR	
M31: 1...31BAR	
M34: 0...34.5BAR	
M35: 1...35BAR	
M45: 1...45.8BAR	
M46: 1...46BAR	

Pressure Reference
A: ABSOLUTE (NO VENT)
G: RELATIVE (VENT)
S: SEALED GAGE (NO VENT)

Pressure Seals
F: FLUOROSILICONE (-45°C TO +135°C)
H: HYDRONEN'D NITRILE (-20°C TO +135°C)
N: NEOPRENE (-37°C TO +120°C)
V: FLUOROCARBON (-26°C TO +135°C)

Seal Compatibility Guide

Seal Material	Media Compatibility	Max Seal Temperature Range
Nitrile (BUNA-N, NBR)	Petroleum oils, lubricants, detergent solutions, helium	-20°C to 100°C
HNBR (Hydrogenated Nitrile)	Petroleum oils, lubricants, detergent solutions	-20°C to +135°C
Ethylene Propylene	Steam, soaps, polar solvents, brake fluids, acetone, Skydrol™	-40°C to +135°C

Seal Material	Media Compatibility	Max Seal Temperature Range
Fluorosilicone	Chlorinated solvents, oils, fuels, air	-40°C to +135°C
Neoprene	Refrigerants (freons/ammonia)	-40°C to +120°C
Fluorocarbon (Viton™)	Fertilizers, freons, butanes, oils, trichlorethylene	-35°C to +135°C



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