



## | 2CP5 & 2CP50 SERIES

HVAC/Refrigeration Pressure Sensor

### Introduction

The 2CP series is ideal for demanding air conditioning and refrigeration applications where long-term reliability and accuracy is a must. The 2CP series provides proven reliability at a competitive price.

Sensata Technologies has been a leading global supplier of pressure sensors and switches for over 50 years. The 2CP has many options, consult the factory to customize a 2CP to meet your application's needs.



### Features

- UL recognized
- Ceramic capacitive sensor
- Durable, compact, low-cost design
- Accurate performance over wide temperatures
- Overvoltage and short circuit protected

### Applications

- Discharge and suction pressure monitoring
- Subcooling and superheat calculations
- Compressor oil pressure monitoring
- Condenser fan control
- Compressor staging and unloading
- Electronic expansion valve control
- Remote systems diagnostics and trending



### SPECIFICATIONS

|                       |   |
|-----------------------|---|
| Pressure Ranges       | 0 to 15 psi, through 0 to 750 psi   |
| Accuracy              | ±0.8% F.S. (linearity, hysteresis, repeatability and calibration)<br>Static error band @ 25°C, 5.0VDC |
| Total Error Band      | ±1.0% (-20°C to +85°C)<br>±1.5% (-40°C to +125°C)   |
| Operating Temperature | -40°C to +135°C   |
| Storage Temperature   | 40°C to +150°C  |
| Proof Pressure        | 5X 15 to 75 psi, 3X 100 to 300 psi, 2X 500+ psi   |
| Burst Pressure        | 2CP5 - 5x operating pressure<br>2CP50 - 3x operating pressure   |
| Cycle Life            | 10M F.S. cycles   |
| Random Vibration      | 11g (50 to 2000 Hz)   |
| Drop (any Axis)       | 1.5m  |
| Electrical Connection | Nema 4X, IP65   |

|                         |                               |
|-------------------------|-------------------------------|
| Supply Voltage          | 4.5 to 5.5 VDC                |
| Output Voltage          | 0.5 to 4.5 VDC typical        |
| Supply Current          | 7 mA (max @ 5.5 VDC no load)  |
| Output Current          | 2.5 mA (max sinked or source) |
| Output Load             | 10K ohms typical              |
| Output Response Time    | 10mS                          |
| Overtoltage Protection  | 16 VDC                        |
| Reverse Voltage         | -14 VDC                       |
| Short Circuit Protected | Yes                           |
| EMC (512MHz to 1 GHz)   | 50 V/m                        |
| EMC (1 MHz to 512 MHz)  | 100 V/m                       |
| ESD (CDF-AEC-Q100-002)  | 15 kV                         |

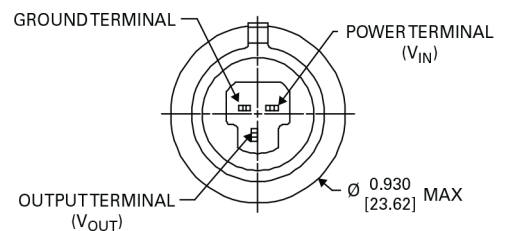
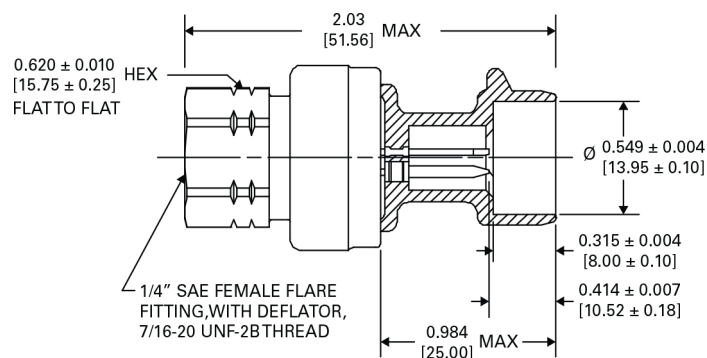
## STANDARDS

| Sample PN       | Production PN  | Description          |
|-----------------|----------------|----------------------|
| 2CP5B0520150ANN | 2CP5-71-46     | Brass, 0 to 150 psia |
| 2CP5B0520200ANN | ANN 2CP5-71-49 | Brass, 0 to 200 psia |
| 2CP5B0520300SNN | NN 2CP5-71-50  | Brass, 0 to 300 psia |
| 2CP5B0520400SNN | N 2CP5-71-51   | Brass, 0 to 400 psia |
| 2CP5B0520500SNN | 2CP5-71-47     | Brass, 0 to 500 psia |
| 2CP5S0520500SNN | 2CP5-71-48     | Steel, 0 to 500 psia |

## SEAL MATERIALS

| Material                       | Refridgerant  | Maximum Seal Temperature Range |
|--------------------------------|---|--------------------------------|
| HNBR<br>(Hydrogenated Nitrile) | R134a, R404a, R407c,<br>R410a, R507                 | -20°C to 135°C                 |
| Neoprene                       | R12, R22, R134a, R404a,<br>R407c, R410a, R502, R507 | -40°C to 120°C                 |

## DIMENSIONAL DRAWINGS



INCHES (MM)



## ORDERING OPTIONS

Example : 2CP5-S-05-2-XXXX-A-N-N

|  |  |          |           |          |             |          |          |          |
|--|--|----------|-----------|----------|-------------|----------|----------|----------|
| <b>Pressure Range</b>                        | <b>2CP5</b>  | <b>S</b> | <b>05</b> | <b>2</b> | <b>XXXX</b> | <b>A</b> | <b>N</b> | <b>N</b> |
| <b>Pressure Range</b>                        | 2CP5 = Up to 500 psi<br>2CP50 = Above 500 psi                                      |          |           |          |             |          |          |          |
| <b>Pressure Connection Material</b>          | S = Plated steel<br>B = Brass (2CP5 only)  |          |           |          |             |          |          |          |
| <b>Pressure Connection</b>                   | 05 = 1/4" SAE female flare with deflator, 7/16"-20 UNF-2B                          |          |           |          |             |          |          |          |
| <b>Electrical Connection</b>                 | 2 = Packard Metri-Pack (Mates with Packard # 12065287)                             |          |           |          |             |          |          |          |
| <b>Connector Harness</b>                     | N = None required<br>Y = Packard wire harness, 1 meter standard wire               |          |           |          |             |          |          |          |
| <b>Seal Material</b>                         | H = HNBR (Hydrogenated Nitrile)<br>N = Neoprene                                    |          |           |          |             |          |          |          |
| <b>Pressure Reference</b>                    | A = Absolute<br>S = Sealed gage<br>G = Vented gage                                 |          |           |          |             |          |          |          |
| <b>Pressure Ranges (see standards below)</b> | From 0-15 psi (0015) to 0-750 psi (0750)<br>From 0-1 bar (M001) to 0-50 bar (M050) |          |           |          |             |          |          |          |



## AGENCY APPROVALS & CERTIFICATIONS



UL recognized file #SA995  
RoHS, REACH available

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Mailing Address: Sensata Technologies, Inc., 529 Pleasant Street, Attleboro, MA 02703, USA.

### CONTACT US

**Americas**  
+1 (800) 350 2727  
[sensors@sensata.com](mailto:sensors@sensata.com)  
**Europe, Middle East & Africa**  
+33 (3) 88 20 8080  
[position-info.eu@sensata.com](mailto:position-info.eu@sensata.com)  
**Asia Pacific**  
[sales.isasia@list.sensata.com](mailto:sales.isasia@list.sensata.com)  
China +86 (21) 2306 1500  
Japan +81 (45) 277 7117  
Korea +82 (31) 601 2004  
India +91 (80) 67920890  
Rest of Asia +886 (2) 27602006 ext 2808