

# 50P REFRIGERANT PRESSURE TRANSDUCER

## INTRODUCTION

The 50P is designed for long service life and high accuracy in demanding operating environments. Expanding the company's refrigeration pressure sensing portfolio, the 50P platform is engineered to withstand the thermal, mechanical, and chemical stresses commonly found in refrigeration and HVAC systems.

The platform supports a wide range of modern refrigerants and evolving system architectures while delivering stable, repeatable performance over time. Its scalable design approach helps simplify integration, improve system reliability, and support long-term platform standardization across refrigeration and HVAC applications.



## TYPICAL APPLICATIONS



Chillers (commercial and industrial)



Heat pumps (commercial and residential applications)



VRF/VRV and split/package air conditioning systems



Rooftop units (RTUs) and packaged HVAC systems



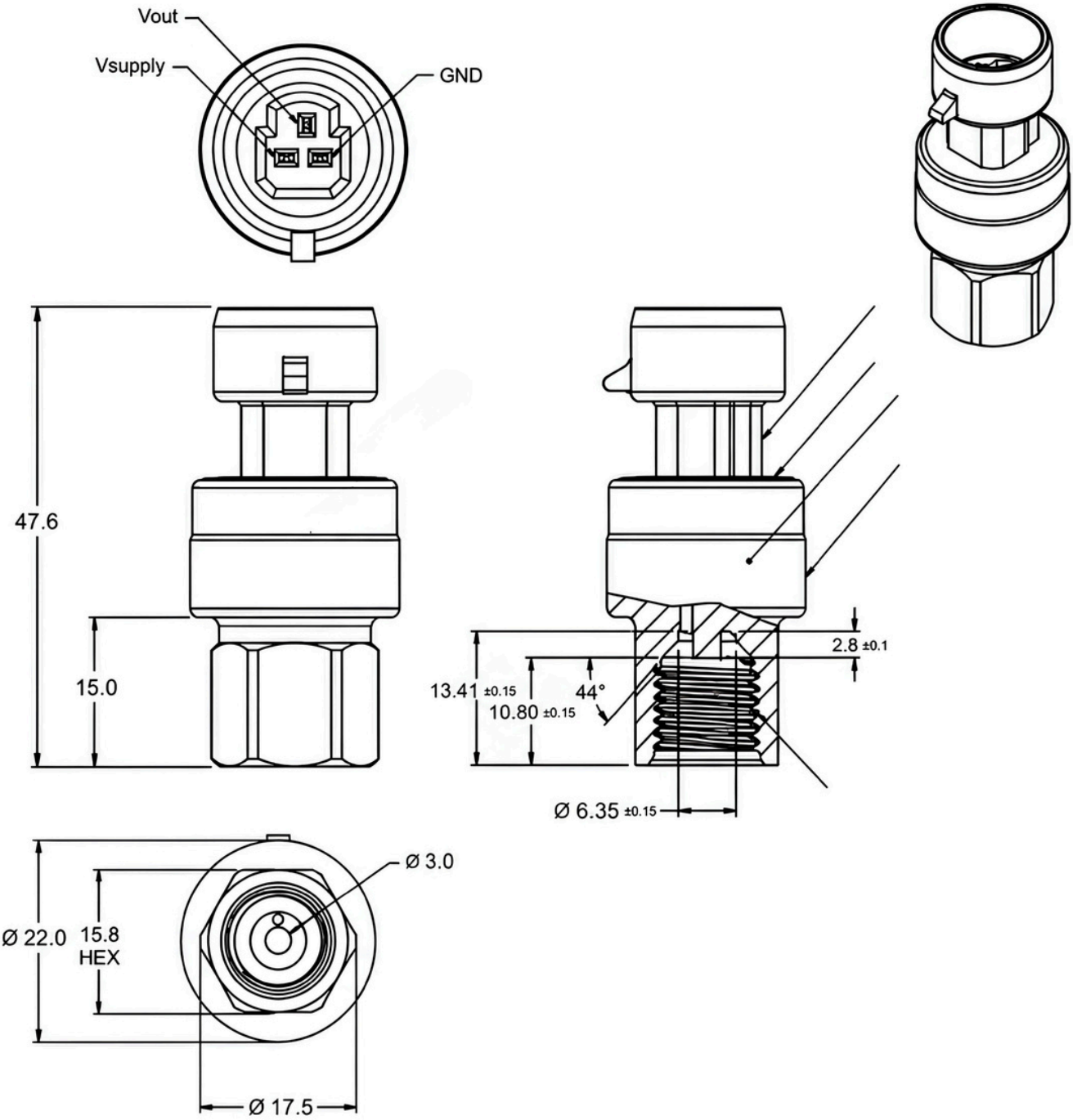
Commercial refrigeration systems (supermarket racks, cold rooms, freezers)



Transport refrigeration systems

## KEY FEATURES

- Long-life, high-accuracy design optimized for refrigeration duty cycles.
- A2L and low-GWP refrigerant ready, supporting evolving regulatory and sustainability requirements.
- Maximum pressure rating of 750 psi to support high-pressure refrigerant systems.
- Assembled in North America & China, supporting supply-chain resilience and regional manufacturing requirements.
- Configurable and customizable options to meet specific customer and application needs.



TECHNICAL SPECIFICATIONS



|                      |                                                             |
|----------------------|-------------------------------------------------------------|
| Technology           | Ceramic Piezoresistive                                      |
| Pressure Range       | Up to 750 psi (51.7 bar)                                    |
| Configurable         | Yes                                                         |
| Accuracy             | +/-0.8% FS                                                  |
| Pressure Type        | Sealed Gage                                                 |
| Lifecycle            | 10M Cycles FS                                               |
| Supply Voltage       | 4.75V to 5.25V                                              |
| Output               | 0.5-4.5V Ratiometric & 4-20 mA                              |
| Temperature Range    | 40°C to 135°C (40°F to 275°F)                               |
| Pressure Connection  | ¼" SAE Female Flare & Braze in Fitting                      |
| Thermal Compensation | Yes                                                         |
| Country of Origin    | Mexico & China                                              |
| MCA Compliance       | Yes                                                         |
| Ingress              | IP65                                                        |
| Response Time        | 10ms                                                        |
| Burst Pressure       | 3x Rated Pressure                                           |
| Shell Material       | Aluminum, Brass, Plated Steel, Stainless Steel, Copper Tube |

AGENCY APPROVALS AND CERTIFICATIONS









## ORDERING OPTIONS



|                                             | 750 - 0 | 2 | 0 | 0 | 0 | 0 | 1 |
|---------------------------------------------|---------|---|---|---|---|---|---|
| <b>Pressure Range</b>                       | ↑       | ↑ | ↑ | ↑ | ↑ | ↑ | ↑ |
| 750 = Up to 750 PSI                         |         |   |   |   |   |   |   |
| <b>Pressure Connection</b>                  | ↑       | ↑ | ↑ | ↑ | ↑ | ↑ | ↑ |
| 0 = ¼" SAE Female Flare & Braze in Fitting  |         |   |   |   |   |   |   |
| <b>Pressure Connection Material</b>         | ↑       | ↑ | ↑ | ↑ | ↑ | ↑ | ↑ |
| 0 = Aluminum                                |         |   |   |   |   |   |   |
| 1 = Plated Steel                            |         |   |   |   |   |   |   |
| 2 = Brass                                   |         |   |   |   |   |   |   |
| 3 = Stainless Steel                         |         |   |   |   |   |   |   |
| 4 = Stainless Steel w/ Braze Copper Fitting |         |   |   |   |   |   |   |
| <b>Connector Harness</b>                    | ↑       | ↑ | ↑ | ↑ | ↑ | ↑ | ↑ |
| 0 = Analog voltage – 3 wires cable          |         |   |   |   |   |   |   |
| 1 = Analog current – 2 wires cable          |         |   |   |   |   |   |   |
| <b>Electrical Connection</b>                | ↑       | ↑ | ↑ | ↑ | ↑ | ↑ | ↑ |
| 0 = Packard Metri-Pack (PA66-GF33)          |         |   |   |   |   |   |   |
| <b>Seal Material</b>                        | ↑       | ↑ | ↑ | ↑ | ↑ | ↑ | ↑ |
| 0 = Neoprene                                |         |   |   |   |   |   |   |
| <b>Pressure Reference</b>                   | ↑       | ↑ | ↑ | ↑ | ↑ | ↑ | ↑ |
| 0 = Sealed Gage                             |         |   |   |   |   |   |   |
| <b>Output</b>                               | ↑       | ↑ | ↑ | ↑ | ↑ | ↑ | ↑ |
| 0 = 0.5 - 4.5 Ratiometric                   |         |   |   |   |   |   |   |
| 1 = 4-20 mA                                 |         |   |   |   |   |   |   |

## ABOUT US

Sensience is a global leader in highly engineered sensing, control, and sealing technologies, providing mission-critical protection and intelligent data solutions across a wide range of industries, including energy, food and beverage, HVACR systems, appliances, industrial equipment, automotive platforms, and aerospace technologies.

Backed by a broad portfolio of proven products, deep engineering expertise, and dedicated customer support, we help customers innovate with confidence-delivering advanced technologies, technical capabilities, and tailored solutions that enhance performance, reliability, and efficiency in the most demanding environments.

## LET'S CONNECT



**Americas** : +1 419-525-8500  
**Asia** : +86-756-363-2500  
**EMEA** : +31-546-815520



[solutions-support@sensience.com](mailto:solutions-support@sensience.com)



[www.sensience.com](http://www.sensience.com)



570 Polaris Parkway  
Westerville, OH 43082 USA

### Important Notice:

Technical information provided by Sensience, Inc. is for evaluation only. Accuracy is believed as of publication, but performance depends on specific operating conditions. Users are solely responsible for determining product suitability, system design, validation, and regulatory compliance. Refer to official Application Notes for full documentation. Sensience reserves the right to modify products or documentation without notice. Datasheet specifications reflect standard laboratory conditions; testing is limited to what is explicitly documented.

**EXCEPT AS STATED IN SENSIENCE'S TERMS AND CONDITIONS OF SALE, ALL PRODUCTS AND INFORMATION ARE PROVIDED "AS IS." SENSIENCE DISCLAIMS ALL WARRANTIES, EXPRESS OR IMPLIED, INCLUDING MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, NON-INFRINGEMENT, AND ACCURACY.** Sensience is not liable for any damages arising from product use or information inaccuracies. No intellectual property licenses are granted herein. Sensience's warranty is voided by misuse, neglect, unauthorized modification, improper installation, or operation outside specified limits. All sales are subject to Sensience's standard terms and conditions.

