

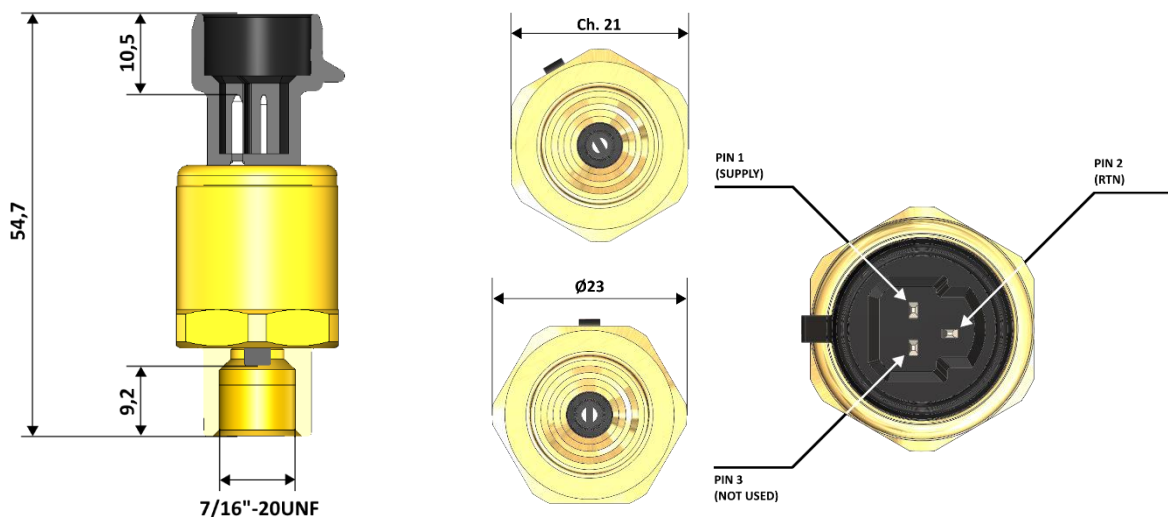
BRIMIND SENSOR, SPECIFIC FOR AIR CONDITIONING AND REFRIGERATION APPLICATION, IS A CURRENT OUTPUT 4...20mA PRESSURE DEVICE BASED ON A PIEZORESISTIVE CERAMIC TECHNOLOGY.

BRIMIND JOINED IN THIS PRODUCT THE TECHNOLOGICAL PERFORMANCE WITH THE OPTIMIZED DESIGN AND THE ECONOMICAL ADVANTAGE.



- \* **PERFORMANCES**  
Resistant to extreme temperatures, excellent hysteresis, high accuracy, fast response time and excellent surge resistance
- \* **COMPATIBILITY**  
Suitable for HVACR refrigerant gases, also for new gas HFO 1234ze and related oils
- \* **RESISTANCE**  
Suitable for critical application with aggressive fluids
- \* **FLEXIBILITY**  
Customizable with different materials, connectors and transfer function
- \* **COMPLIANCE**  
Compliant with Rohs and Reach Regulation

## DIMENSIONS



| GENERAL FEATURES  |   |
|---|---|
| Pressure ranges   | <b>0 bar to 70 bar   0 kPa to 7 MPa   0 psi to 1000 psi</b><br>(other pressure range and transfer function available on request)                          |
| Over pressure <sup>(1)</sup>  | <b>25 bar to 91 bar   2,5 MPa to 9,1 MPa   360 psi to 1300 psi</b><br>(depending on pressure transducer model)  |
| Burst pressure <sup>(2)</sup>   | <b>110 bar min   10,1 MPa min   1600 psi min</b><br>(depending on pressure transducer model)  |
| Pressure connection   | <b>7/16" 20UNF (Male or Female), Welded tube</b><br>(other connections available on request)  |
| Pressure connection materials   | <b>Brass, Nickel-plated brass, Stainless Steel</b><br>(other materials available on request)  |
| Tightening torque   | <b>Brass, 12 to 16 Nm</b><br>(depending on pressure port type)  |
| Electrical connection   | <b>Packard connector, Integrated cable</b><br>(other connections available on request)  |
| Electrical connection material  | <b>PPA GF40</b>   |
| ELECTRICAL FEATURES   |   |
| Power supply (Vdd)  | <b>8...30 Vdc</b>   |
| Output signal   | <b>4...20 mA (typical)</b>  |
| Output signal limitation  | <b>3...23 mA (typical)</b>  |
| Output load   | <b>≤ (Vdd – 8V) / 0,025A</b>  |
| Output response time  | <b>&lt; 10ms (typical)</b>  |
| Overvoltage protection  | <b>+33 Vdc</b>  |
| Reverse voltage protection  | <b>-28 Vdc</b>  |
| Short circuit protected   | <b>Yes</b>  |
| PERFORMANCE FEATURES  |   |
| Operating temperature range <sup>(3)</sup>  | <b>-40°C to 125°C</b>   |
| Storage temperature range   | <b>-40°C to 150°C</b>   |
| Accuracy<br>(Linearity, Hysteresis, Repeatability, Calibration.<br>Static error band @25°C) | <b>± 0,5% F.S.<sup>(5)</sup> max.</b>   |
| Total error band <sup>(4)</sup><br>(Over Operating Temperature range)                       | <b>± 1% F.S.<sup>(5)</sup> max. (0...50°C)</b><br><b>± 1,5% F.S.<sup>(5)</sup> max. (-10...80°C)</b><br><b>± 2% F.S. max.<sup>(5)</sup> (-40...125°C)</b> |
| Cycle life  | <b>10 million F.S.<sup>(5)</sup> cycles</b>   |
| IP Code   | <b>IP67 (with connector female IP67 plugged) or IP67 Hermetic</b>   |
| Fluids compatibility  | <b>HVAC refrigerants, new HFO 1234ze refrigerant and associated oils.</b><br>(other fluids compatibilities available on request)                          |
| Vacuum pressure (referred to refrigerant circuit)   | <b>0 bar (abs)   0 kPa (abs)   0 psi (abs)</b>  |
| Drop (any axis)   | <b>1,5m</b>   |
| Vibration: IEC 60068-2-64:2008  | <b>10g (from 5 to 2000Hz)</b>   |
| Shock: IEC 60068-2-27:2008  | <b>75g, 11ms</b>  |

- (1) Overpressure: The absolute maximum rating for pressure which may be safely applied to the product for it to remain in specification once pressure is returned to the operating pressure range. Exposure to higher pressure may cause permanent damage to the product.
- (2) Burst Pressure: The maximum pressure that may be applied to the product without causing escape of the pressure media. The product should not be expected to function after exposure to any pressure beyond the rated burst pressure. This rating is also the case burst rating of the product.
- (3) See Figure 1.
- (4) Total Error Band: The maximum deviation from the ideal transfer function over the entire compensated temperature and pressure range. Includes all errors due to offset, pressure non-linearity, pressure hysteresis, repeatability, thermal effect on offset, and thermal hysteresis. See Figure 2. and Figure 3.
- (5) F.S. (Full Scale): MAX output – min output = 16mA

| EMC FEATURES<br>(standards CEI EN 61326-1:2013 and CEI EN 61326-2-3:2014) |   |
|---|---|
| Electrostatic discharge: CEI EN 61000-4-2:2011                            | ±4KV contact<br>±8KV air  |
| Radiated immunity: CEI EN 61000-4-3:2007                                  | 10V/m (80MHz ÷ 1GHz)<br>3V/m (1,4GHz ÷ 2GHz)<br>1V/m (2GHz ÷ 2,17GHz) |
| Electrical fast transient/Burst: CEI EN 61000-4-4:2013                    | ±1KV  |
| Surge: CEI EN 61000-4-5:2007  | ±2KV  |
| Conducted immunity: CEI EN 61000-4-6:2014                                 | 10V (0,15kHz ÷ 80MHz)   |

Figure 1.

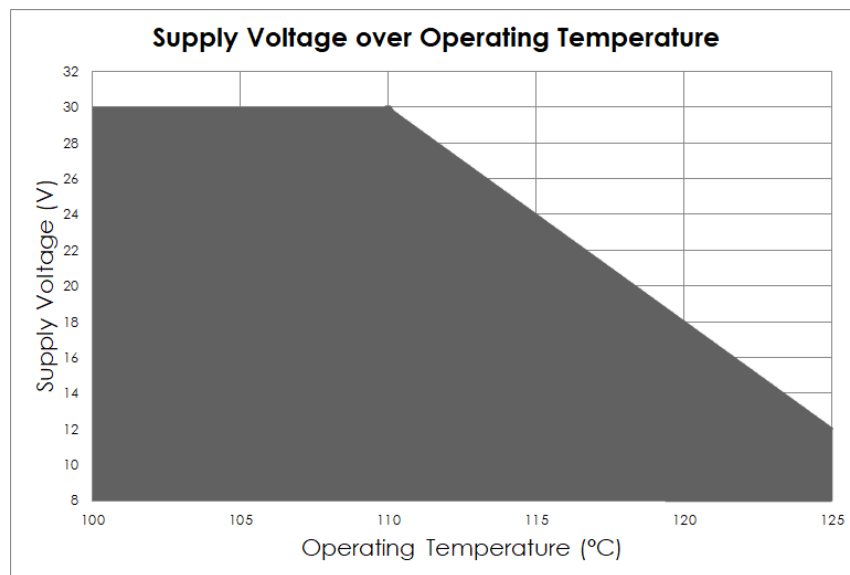


Figure 2.

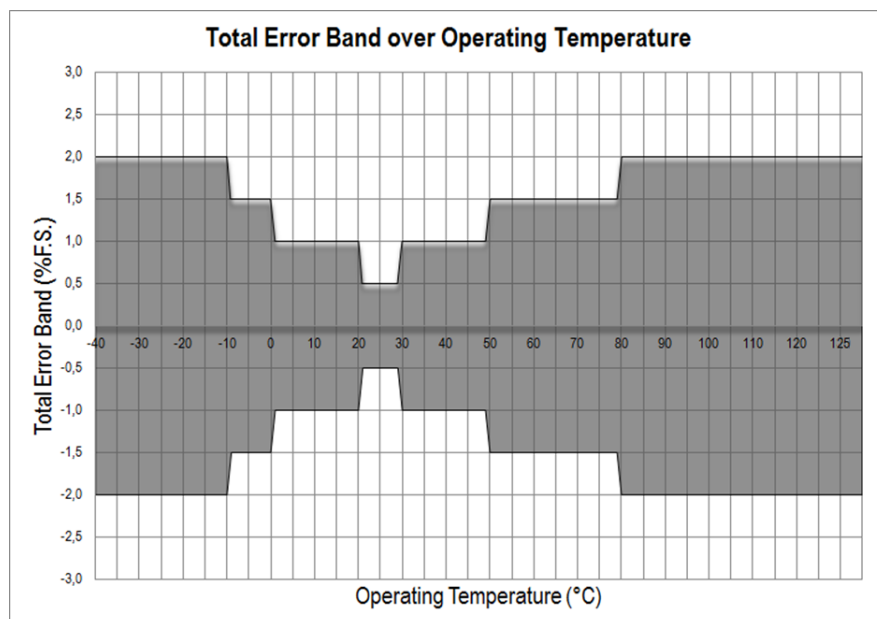
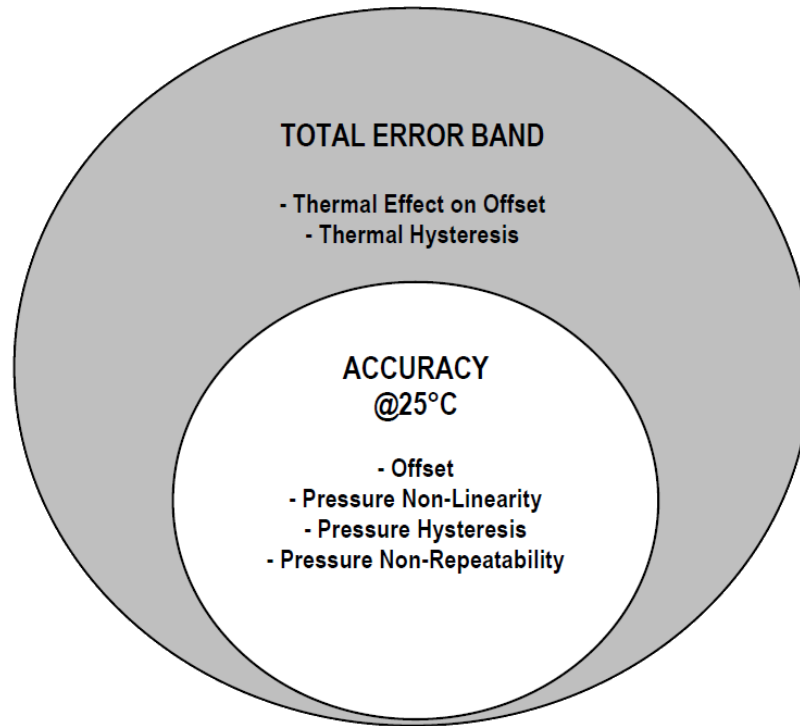


Figure 3.



Example of Transfer function:

TRANSFER FUNCTION AT TEMPERATURE 1

$$I_{out} \text{ (mA)} = K2 * P[\text{bar abs}] + K1$$

