

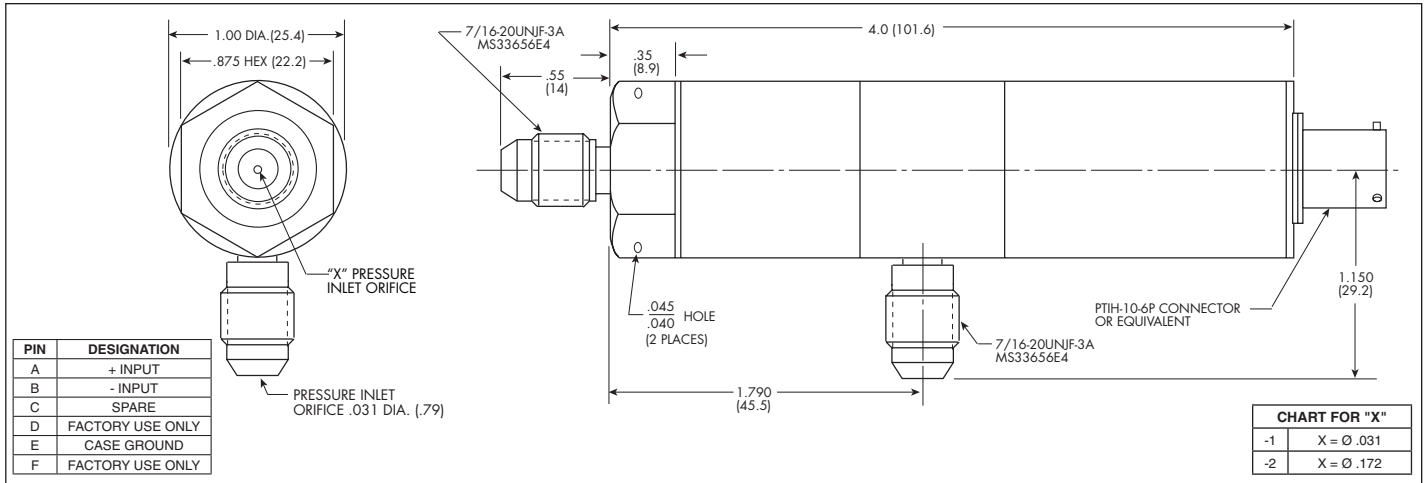


# 4-20mA OUTPUT DIGITALLY CORRECTED DIFFERENTIAL PRESSURE TRANSMITTER

## BMDE-70I-1000 SERIES

- Robust Construction
- Digitally Corrected
- High Accuracy
- Silicon on Silicon Integrated Sensor **VIS®**

The BMDE-70I-1000 digitally corrected transmitter offers high accuracy inclusive of all errors over a wide temperature range of -40°F to +250°F. The ingenious application of modern solid state technology to transducer sensing makes the BMDE-70I-1000 Series the most advanced pressure transducer available. Designed to measure liquid or gas pressure, the transducer is of all-welded stainless steel construction, with integral pressure port and diaphragm.



|                      | 0.35  | 1.0  | 1.7                  | 3.5                  | 7                    | 17                   | 35                   | 70                   | 140                  | 210 BAR              |                      |
|----------------------|---|--|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
|                      | 5   | 15   | 25                   | 50                   | 100                  | 250                  | 500                  | 1000                 | 2000                 | 3000 PSI             |                      |
| <b>INPUT</b>         | Pressure Range                                | 0.35   | 1.0                  | 1.7                  | 3.5                  | 7                    | 17                   | 35                   | 70                   | 140                  | 210 BAR              |
|                      | Operational Mode                              | Differential   |                      |                      |                      |                      |                      |                      |                      |                      |                      |
|                      | Over Pressure                                 | 2 Times Rated Pressure to a Maximum of 5000 PSI (350 BAR)                          |                      |                      |                      |                      |                      |                      |                      |                      |                      |
|                      | Burst Pressure                                | 5 Times Rated Pressure to a Maximum of 5000 PSI (350 BAR)                          |                      |                      |                      |                      |                      |                      |                      |                      |                      |
|                      | Pressure Media                                | Any Media Compatible With 316 SS and 15-5 PH Stainless Steel                       |                      |                      |                      |                      |                      |                      |                      |                      |                      |
|                      | Rated Electrical Excitation                   | 8 - 32 VDC   |                      |                      |                      |                      |                      |                      |                      |                      |                      |
| <b>OUTPUT</b>        | Output  | 4 mA - 20 mA Current Output ("0" D Set at 12mA)                                    |                      |                      |                      |                      |                      |                      |                      |                      |                      |
|                      | Total Error Band (Excluding End Points)       | ± 0.5% FSO (Max.)  |                      |                      |                      |                      | ± 0.25% FSO (Max.)   |                      |                      |                      |                      |
|                      | Residual Unbalance                            | 3.0 VDC ± 0.025 (12 mA ± 0.1 Shunted by a 250 Ω Resistor)                          |                      |                      |                      |                      |                      |                      |                      |                      |                      |
|                      | Sensitivity (Net)                             | ± 2.0 VDC ± 0.025 (± 8 mA ± 0.1 Shunted by a 250 Ω Resistor)                       |                      |                      |                      |                      |                      |                      |                      |                      |                      |
|                      | Bandwidth (-3dB)                              | DC to 1 kHz  |                      |                      |                      |                      |                      |                      |                      |                      |                      |
|                      | Resolution                                    | Infinitesimal  |                      |                      |                      |                      |                      |                      |                      |                      |                      |
|                      | Acceleration Sensitivity % FS/g Perpendicular | 1.5x10 <sup>-3</sup>   | 7.0x10 <sup>-4</sup> | 3.0x10 <sup>-4</sup> | 1.5x10 <sup>-4</sup> | 1.0x10 <sup>-4</sup> | 5.0x10 <sup>-5</sup> | 3.0x10 <sup>-5</sup> | 2.0x10 <sup>-5</sup> | 1.5x10 <sup>-5</sup> | 1.0x10 <sup>-5</sup> |
| <b>ENVIRONMENTAL</b> | Insulation Resistance                         | 100 Megohm Min. @ 50 VDC   |                      |                      |                      |                      |                      |                      |                      |                      |                      |
|                      | Operating Temperature Range                   | -40°F to +265°F (-40°C to +130°C)  |                      |                      |                      |                      |                      |                      |                      |                      |                      |
|                      | Compensated Temperature Range                 | -40°F to +250°F (-40°C to +120°C)  |                      |                      |                      |                      |                      |                      |                      |                      |                      |
|                      | Linear Vibration                              | 50g Peak, Sine 10 to 2000 Hz   |                      |                      |                      |                      |                      |                      |                      |                      |                      |
|                      | Humidity                                      | 100% Relative Humidity   |                      |                      |                      |                      |                      |                      |                      |                      |                      |
| <b>PHYSICAL</b>      | Mechanical Shock                              | 100g half Sine Wave 11 msec. Duration  |                      |                      |                      |                      |                      |                      |                      |                      |                      |
|                      | Electrical Connection                         | PTIH-10-6P Connector or Equivalent   |                      |                      |                      |                      |                      |                      |                      |                      |                      |
|                      | Weight  | 270 Grams Approx.  |                      |                      |                      |                      |                      |                      |                      |                      |                      |
|                      | Pressure Sensing Principle                    | Fully Active Four Arm Wheatstone Bridge Dielectrically Isolated Silicon on Silicon |                      |                      |                      |                      |                      |                      |                      |                      |                      |
| Mounting Torque      | 100 Inch-Pounds (Max.)                        |  |                      |                      |                      |                      |                      |                      |                      |                      |                      |

Note: Custom pressure ranges, accuracies and mechanical configurations available. Dimensions are in inches. Dimensions in parenthesis are in millimeters. All dimensions nominal. (H) Continuous development and refinement of our products may result in specification changes without notice. Copyright © 2014 Kulite Semiconductor Products, Inc. All Rights Reserved.