

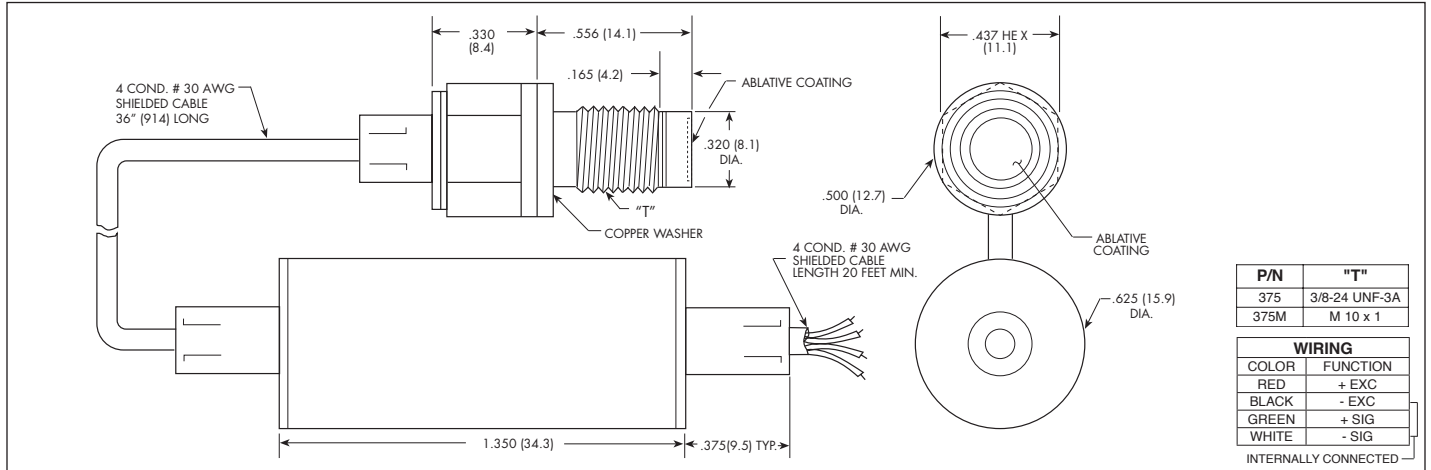


# HIGH PRESSURE 5VDC OUTPUT RUGGEDIZED PRESSURE TRANSDUCER

## ETS-HP-375 (M) SERIES

- 5 VDC Output
- Hybrid Microelectronic Regulator-Amplifier
- Very High Natural Frequency
- Designed For Shock Pressure Applications
- Silicon on Silicon Integrated Sensor VIS®

Designed for high pressure, high shock environments, this range of transducers is widely used in shock pressure applications, now mated with an external in-line amplifier for a high level 5 Volt DC output



| P/N  | "T"           |
|------|---------------|
| 375  | 3/8-24 UNF-3A |
| 375M | M 10 x 1      |

| WIRING |          |
|--------|----------|
| COLOR  | FUNCTION |
| RED    | + EXC    |
| BLACK  | - EXC    |
| GREEN  | + SIG    |
| WHITE  | - SIG    |

INTERNALLY CONNECTED

| INPUT                         | Pressure Range  | 35<br>500  | 70<br>1000                        | 140<br>2000          | 350<br>5000  | 700<br>10000                    | 1400<br>20000 | 2100 BAR<br>30000 PSI |  |                      |  |                      |  |
|-------------------------------|---|--|-----------------------------------|----------------------|--------------|---------------------------------|---------------|-----------------------|--|----------------------|--|----------------------|--|
|                               | Operational Mode  | Sealed Gage  |                                   |                      |              |                                 |               |                       |  |                      |  |                      |  |
|                               | Over Pressure   | 70<br>1000   | 100<br>1500                       | 210<br>3000          | 510<br>7500  | 1000<br>15000                   | 1700<br>25000 | 2450 BAR<br>35000 PSI |  |                      |  |                      |  |
|                               | Burst Pressure  | 210<br>3000  | 210<br>3000                       | 420<br>6000          | 840<br>12000 | 1400<br>20000                   | 2100<br>30000 | 2800 BAR<br>40000 PSI |  |                      |  |                      |  |
|                               | Pressure Media  | Any Liquid or Gas Compatible With 15-5 PH, 316 Stainless Steel and Silicone RTV (All Media May Not Be Suitable With Crush Ring Supplied) |                                   |                      |              |                                 |               |                       |  |                      |  |                      |  |
|                               | Maximum Electrical Current  | 25 mA  |                                   |                      |              |                                 |               |                       |  |                      |  |                      |  |
|                               | Rated Electrical Excitation                                       | 12 ± 4 VDC   |                                   |                      |              | 28 ± 4 VDC                      |               |                       |  |                      |  |                      |  |
| OUTPUT                        | Full Scale Reading  | 5 VDC ± 150mV  |                                   |                      |              | 5 VDC ± 150mV or 10 VDC ± 300mV |               |                       |  |                      |  |                      |  |
|                               | Output Impedance  | 200 Ohms (Max.)  |                                   |                      |              |                                 |               |                       |  |                      |  |                      |  |
|                               | Bandwidth (-3dB) Amplifier Only                                   | DC Up to 150 KHz   |                                   |                      |              |                                 |               |                       |  |                      |  |                      |  |
|                               | Residual Unbalance  | 500 mV ± 50 mV   |                                   |                      |              |                                 |               |                       |  |                      |  |                      |  |
|                               | Combined Non-Linearity, Hysteresis and Repeatability              | ± 0.1% FSO BFSL (Typ.) ± 0.5% FSO (Max.)   |                                   |                      |              |                                 |               |                       |  |                      |  |                      |  |
|                               | Resolution  | Infinitesimal  |                                   |                      |              |                                 |               |                       |  |                      |  |                      |  |
|                               | Natural Frequency of Sensor Without Ablative Coating (KHz) (Typ.) | 720  |                                   | 900                  |              | 1120                            |               | 1350                  |  | 1600                 |  | 1800                 |  |
|                               | Acceleration Sensitivity % FS/g Perpendicular                     | 6.2x10 <sup>-5</sup>   |                                   | 2.7x10 <sup>-5</sup> |              | 1.5x10 <sup>-5</sup>            |               | 1.3x10 <sup>-5</sup>  |  | 8.6x10 <sup>-6</sup> |  | 6.0x10 <sup>-6</sup> |  |
|                               | Insulation Resistance   | 100 Megohm Min. @ 50 VDC   |                                   |                      |              |                                 |               |                       |  |                      |  |                      |  |
|                               | ENVIRONMENTAL   | Operating Temperature Range  | -65°F to +250°F (-55°C to +120°C) |                      |              |                                 |               |                       |  |                      |  |                      |  |
| Compensated Temperature Range |   | 0°F to +212°F (-18°C to +100°C)  |                                   |                      |              |                                 |               |                       |  |                      |  |                      |  |
| Thermal Zero Shift            |   | 2% FS/100°F (Typ.)   |                                   |                      |              |                                 |               |                       |  |                      |  |                      |  |
| Thermal Sensitivity Shift     |   | 2% /100°F (Typ.)   |                                   |                      |              |                                 |               |                       |  |                      |  |                      |  |
| Linear Vibration              |   | 20g Peak, Sine 10 to 2000 Hz   |                                   |                      |              |                                 |               |                       |  |                      |  |                      |  |
| MECHANICAL SHOCK              | 20g Half Sine Wave 11 msec. Duration                              |  |                                   |                      |              |                                 |               |                       |  |                      |  |                      |  |
| PHYSICAL                      | Electrical Connection   | 4 Conductor 30 AWG Shielded Cable  |                                   |                      |              |                                 |               |                       |  |                      |  |                      |  |
|                               | Weight  | 10 Grams (Nom.) Excluding Cable and Amplifier  |                                   |                      |              |                                 |               |                       |  |                      |  |                      |  |
|                               | Pressure Sensing Principle  | Fully Active Four Arm Wheatstone Bridge Dielectrically Isolated Silicon on Silicon   |                                   |                      |              |                                 |               |                       |  |                      |  |                      |  |
|                               | Mounting Torque   | 80-120 Inch-Pounds (Max.)  |                                   |                      |              |                                 |               |                       |  |                      |  |                      |  |
|                               | Diaphragm Coating   | Ablative Coating Standard  |                                   |                      |              |                                 |               |                       |  |                      |  |                      |  |

Note: Custom pressure ranges, accuracies and mechanical configurations available. Dimensions are in inches. Dimensions in parenthesis are in millimeters. All dimensions nominal. (Q) Continuous development and refinement of our products may result in specification changes without notice. Copyright © 2014 Kulite Semiconductor Products, Inc. All Rights Reserved. Kulite miniature pressure transducers are intended for use in test and research and development programs and are not necessarily designed to be used in production applications. For products designed to be used in production programs, please consult the factory.