

## Model G2 Pressure Transducer



### APPLICATIONS

*The G2 pressure transducer combines performance with value to meet the demanding needs of the original equipment manufacturer in applications found in:*

- Off-road Equipment
- Construction Machinery
- Performance Racing
- Railroad/Transportation
- Compressor Control
- HVAC and Refrigeration
- Agricultural Implements
- Process Automation and Control
- Hydraulic & Pneumatic Sensing
- Pump Monitoring

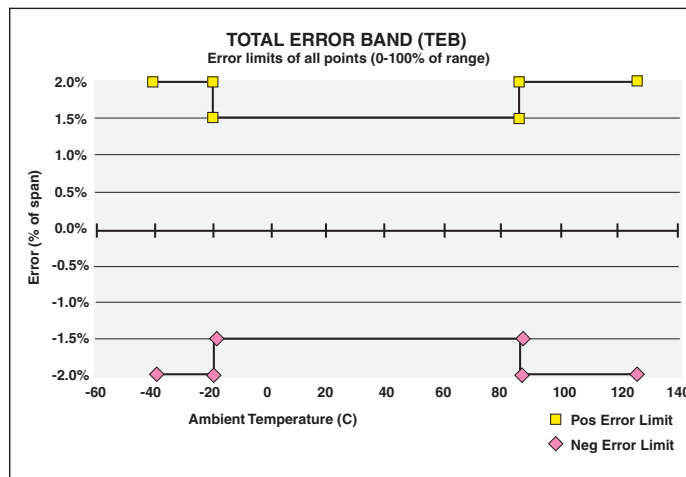
### FEATURES

- 1% Total Error Band Accuracy
- Broad Temperature Capability
- All-welded pressure construction
- High EM/RFI rating
- Ranges 30 psi through 20,000 psi
- IP 67 Ingress rating
- Diagnostic rails

The Ashcroft® Type G2<sup>+</sup> pressure transducer has been specifically designed with the high volume OEM in mind.

A  $\pm 1\%$  Total Error Band accuracy is accomplished by marrying a high performance ASIC to a very stable, field proven polysilicon thin film pressure sensor. The sensor is electron beam welded to a pressure fitting of stainless steel, which provides excellent overpressure capability and outstanding durability in the presence of shock and vibration.

The circuitry is held within an internal cage and housed in an enclosure of reinforced Nylon.



### PERFORMANCE SPECIFICATIONS

Ref. Condition 21°C  $\pm 1^\circ\text{C}$  (72°F  $\pm 2^\circ\text{F}$ )

#### Accuracy:

Total Error Band includes combined effects of temperature, non-linearity (Terminal Point Method), hysteresis, non repeatability, zero offset and span setting errors

**$\pm 1\%$  of Span:** From -20 to 85°C (-4 to 185°F)

**$\pm 1.5\%$  of Span:** From -40 to -20°C (-40 to -4°F)

**$\pm 1.5\%$  of Span:** From 85 to 125°C (185 to 257°F)

**Note:** Static accuracy  $\pm 0.25\%$  of span BFSL (Best Fit Straight Line Method); includes non-linearity, hysteresis and non-repeatable effects at reference temperature 72°F (21°C)

**Stability:** Less than  $\pm 0.25\%$  span/year

**Durability:** Tested to 50 million cycles

### ENVIRONMENTAL SPECIFICATIONS

#### Temperature:

Compensated -40 to 125°C (-40 to 257°F)

Operating -40 to 125°C (-40 to 257°F)

Storage -40 to 125°C (-40 to 257°F)

**Humidity:** 0 to 100% R.H., no effect

### FUNCTIONAL SPECIFICATIONS

Select from over 25 pressure ranges starting at 30 psi and running through 20,000 psi gauge.

Compound (vacuum & pressure) ranges are also available, see "To Order" on back.

#### Overpressure (F.S.): Proof Burst

|                 |           |            |
|-----------------|-----------|------------|
| 750 psi & below | 200% F.S. | 1000% F.S. |
| 1500 psi        | 200% F.S. | 500% F.S.  |
| 3000 psi        | 200% F.S. | 500% F.S.  |
| 5000 psi        | 150% F.S. | 500% F.S.  |
| 7500 psi        | 120% F.S. | 500% F.S.  |
| 10,000 psi      | 120% F.S. | 240% F.S.  |
| 20,000 psi      | 120% F.S. | 240% F.S.  |

**Vibration:** Random vibration (20 g) over temperature range (-40° to 125°C). Exceeds typical MIL-STD. requirements

**Shock:** 100gs, 6 ms

**Drop Test:** Withstands 1 meter on concrete 3 axis

**Response Time:** Less than 1 msec

**Warm-up Time:** Less than 500 msec typical

**Position Effect:** Less than  $\pm 0.01\%$  span, typical

### ELECTRICAL SPECIFICATIONS

#### Output Signals Available:

| Voltage Output     | Excitation | Supply Current |
|--------------------|------------|----------------|
| 0-5 Vdc, 3 wire    | 9-36 Vdc   | 5mA            |
| 0-10 Vdc, 3 wire   | 14-36 Vdc  | 5mA            |
| 1-5 Vdc, 3 wire    | 9-36 Vdc   | 4mA            |
| 1-6 Vdc, 3 wire    | 9-36 Vdc   | 4mA            |
| 0.5-4.5Vdc, 3 wire | 9-36Vdc    | 4mA            |

#### Ratiometric Output:

0.5-4.5 Vdc, 3 wire 5 Vdc  $\pm 0.5$  Vdc 3.5mA

#### Current Output:

4-20mA, 2 wire 9-36 Vdc

**Reverse Polarity & Miswired Protected:** Yes

**Insulation Breakdown Voltage:** 100 Vac

**Insulation Resistance:** Greater than 100 megohms at 100 Vdc

**CE Marked:** Per DoC

**EMC Directive 2004/108/EC**

IEC/EN 61326-1: Edition 1.0 Industrial

IEC/EN 61326-2-3: Edition 1.0 Annex BB Industrial

**PED Directive**

## Model G2 Pressure Transducer

UL Recognized component per UL-61010-1, CSA 22.2 6101-1 Electrical Equipment for Measurement, Control and Laboratory use.

### PHYSICAL SPECIFICATIONS

**Wetted Materials:** 304SS pressure connection and 17-4PH SS sensor diaphragm

**Housing:** 20% Glass Reinforced Nylon, Fire retardant to UL94 V1

#### Available Process Connections (Male):

See "How To Order" section below. For other connections consult factory.

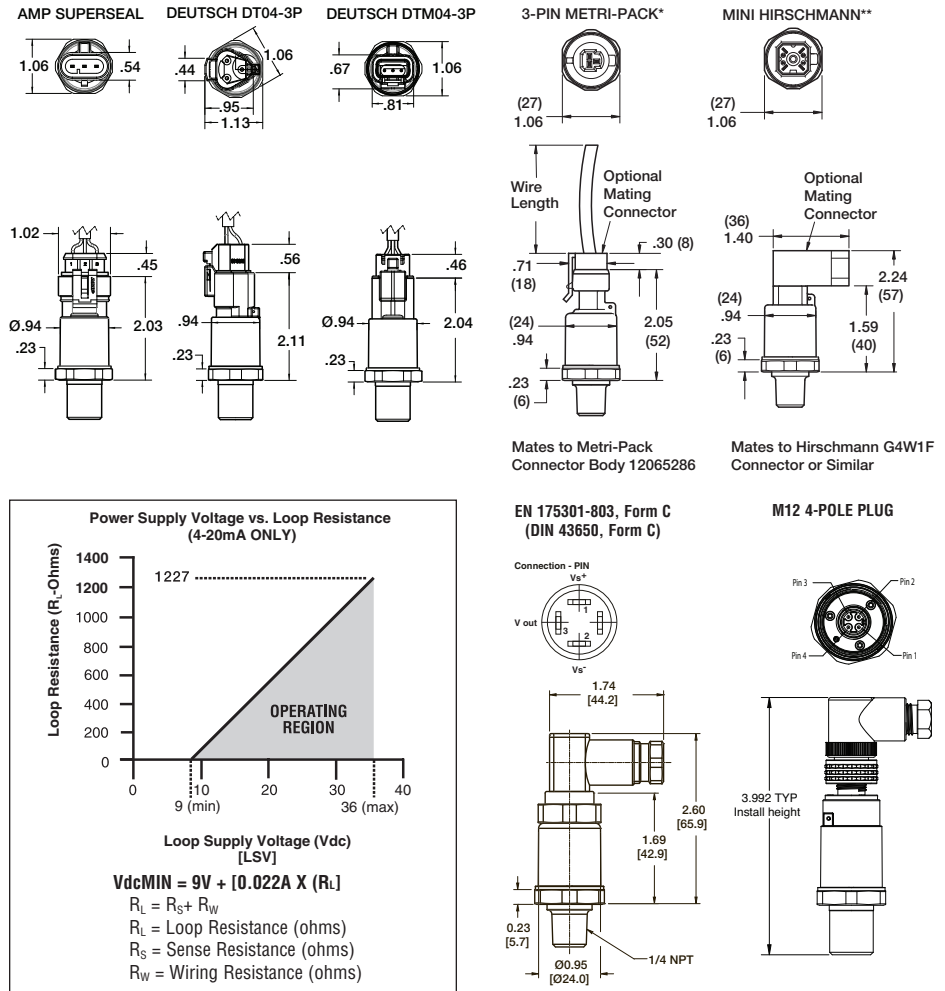
#### Ingress Rating:

- IP67, NEMA 4X:
  - Metri-Pack I50 series\*
  - Shielded cable
  - Flying leads
  - Deutsch DT Series DT04-3P
  - Deutsch DTM Series DTM04-3P
  - AMP Superseal
  - M12 - Mates to Hirschmann 933 172-100 or similar
- IP65, NEMA 4X:
  - Hirschmann G series\*\*
  - EN 175301-803, Form C (DIN 43650, Form C)

### ELECTRICAL TERMINATION

See "How To Order" section below for electrical termination options.

### DIMENSIONS



### How To Order

|  |  |  |  |  |  |                              |                                       |  |          |  |
|--|--|--|--|--|--|------------------------------|---------------------------------------|--|----------|--|
| <b>G 2</b>   | <b>7</b>   |  |  |  |  |                              |                                       |  | <b>X</b> |  |
| <b>Type Configuration (G2)</b>   | <b>Accuracy</b>  | <b>Output Signal</b>   | <b>Electrical Termination</b>  | <b>Pressure Ranges</b>   | <b>Measurement Type</b>  | <b>Optional X-Variations</b> |                                       |  |          |  |
|  | 1.0% Total Error Band<br>-20°C/+85°C<br>1.5% Total Error Band<br>-40°C/-20°C, 85/125°C | 05 = 0-5 Vdc<br>10 = 0-10 Vdc<br>15 = 1-5 Vdc<br>16 = 1-6 Vdc<br>42 = 4-20mA<br>45 = 0.5-4.5Vdc<br>9-36Vdc supply<br>Ratio Metric to 5Vdc supply   | <b>Metri-Pack*</b><br>GN = no mating conn.<br>G2 = mating conn. 3' cable<br>G3 = mating conn. 10' cable<br>G1 = mating conn. w/customer specified length<br><b>Hirschmann G Series**</b><br>HM = no mating conn.<br>M1 = with mating conn. no cable<br>M2 = mating conn. 3' cable<br>P9 = mating conn. w/customer specified length<br><b>Flying Leads</b><br>W2 = 3' flying leads<br>W9 = customer specified length<br><b>Shielded Cable</b><br>F2 = 3' shielded cable<br>F3 = 10' shielded cable<br>P1 = customer specified length<br>M12 - Mates to Hirschmann 933 172-100 or similar<br>EW = w/o mating conn.<br>E0 = w/mating conn. no cable<br>E2 = w/mating conn. & 3' shielded cable<br>E1 = w/mating conn. & customer defined length | <b>Deutsch DT Series DT04-3P</b><br>DT = w/out mating conn.<br>T2 = w/1m, 3' cable<br>T3 = w/3m, 10' cable<br>T1 = w/mating conn. cable customer defined length<br><b>Deutsch DTM Series DTM04-3P</b><br>DS = w/out mating conn.<br>S2 = w/1m, 3' cable<br>S3 = w/3m, 10' cable<br>S1 = w/mating conn. cable customer defined length<br><b>AMP Superseal</b><br>AP = w/out mating conn.<br>A2 = w/1m, 3' cable<br>A3 = w/3m, 10' cable<br>A1 = w/mating conn. cable customer defined length<br><b>EN 175301-803, Form C (DIN 43650, Form C)</b><br>DC = no mating conn.<br>N1 = with mating conn. no cable<br>N2 = mating conn. 3' cable<br>N3 = mating conn. 10' cable<br>N9 = mating conn. w/customer specified length | 30# = 30 psi<br>50# = 50 psi<br>60# = 60 psi<br>100# = 100 psi<br>150# = 150 psi<br>200# = 200 psi<br>300# = 300 psi<br>400# = 400 psi<br>500# = 500 psi<br>750# = 750 psi<br>1000# = 1000 psi<br>1500# = 1500 psi<br>2000# = 2000 psi<br>3000# = 3000 psi<br>4000# = 4000 psi<br>5000# = 5000 psi<br>6000# = 6000 psi<br>7500# = 7500 psi<br>10000# = 10000 psi<br>15000# = 15000 psi<br>20000# = 20000 psi | G = Gauge Pressure           | Consult Factory for Available Options |  |          |  |
|  |  | <b>Pressure Connection</b><br>M01 1/2 NPT-male<br>M02 1/4 NPT-male<br>MEK 1/4-20 SAE-male w/Buna-N O-ring†<br>M38 3/4-24 SAE-male w/Buna-N O-ring<br>MEV 3/8-18 SAE-male w/Buna-N O-ring†<br>M33 3/4-24 UNJF3A (w/37° cone seat)<br>M76 1/4-20 UNJF-3A (w/37° cone seat)<br>MS2 1/4-19 bsp male†<br>MG2 G 1/4 B male |  |  | <b>Compound Ranges</b><br>30#&vac = 30 psi/-14.7 psi<br>45#&vac = 45 psi/-14.7 psi<br>60#&vac = 60 psi/-14.7 psi<br>85#&vac = 85 psi/-14.7 psi<br>100#&vac = 100 psi/-14.7 psi<br>150#&vac = 150 psi/-14.7 psi<br>200#&vac = 200 psi/-14.7 psi<br>300#&vac = 300 psi/-14.7 psi   |                              |                                       |  |          |  |
| Consult factory for other connections<br>† Not UL recognized above 10,000 psi range. |  |  |  |  |  |                              |                                       |  |          |  |

All specifications are subject to change without notice.  
All sales subject to standard terms and conditions.  
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