

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

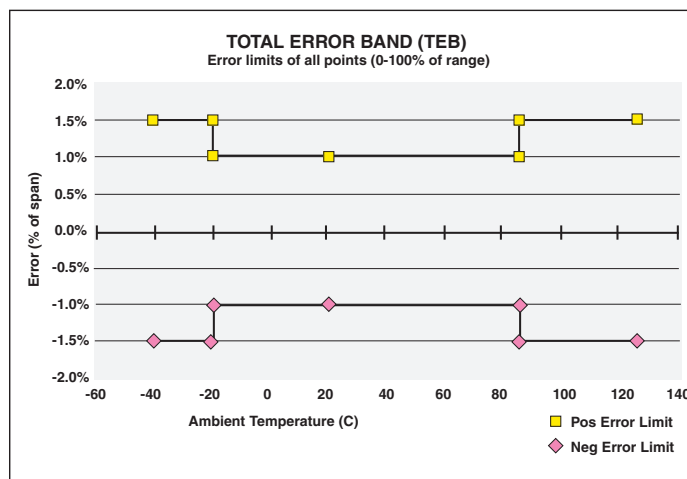
FEATURES

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

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

A ±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 ±1°C (72°F ±2°F)

Accuracy:

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

±1% of Span: From -20 to 85°C (-4 to 185°F)

±1.5% of Span: From -40 to -20°C (-40 to -4°F)

±1.5% of Span: From 85 to 125°C (185 to 257°F)

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

Stability: Less than ±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 ±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 ±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

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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.

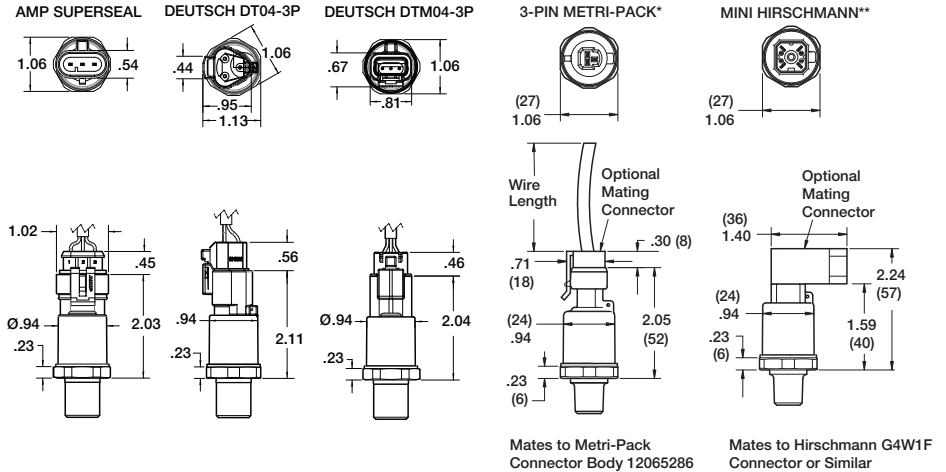
Ingress Rating:

- 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

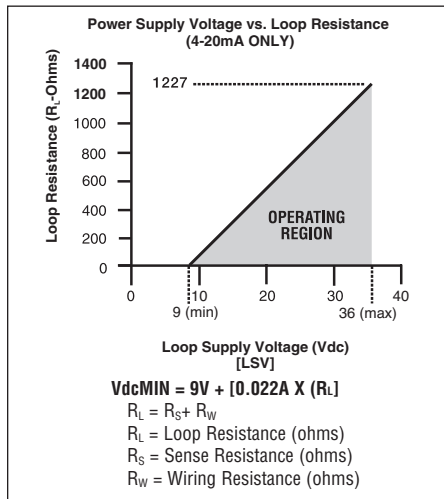
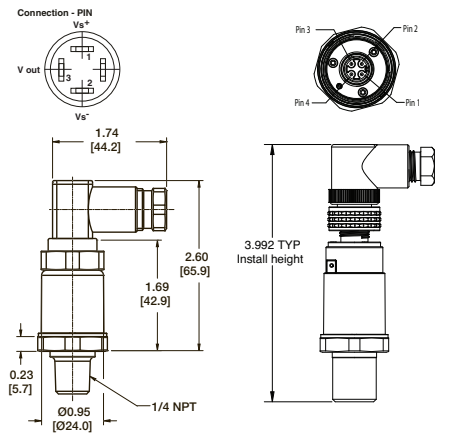


Mates to Metri-Pack Connector Body 12065286

Mates to Hirschmann G4W1F Connector or Similar

EN 175301-803, Form C (DIN 43650, Form C)

M12 4-POLE PLUG



How To Order

| | | | | | | | | |
|--------------------------------|--|--|--|--|-------------------------|---------------------------------------|--|----------|
| G 2 | 7 | | | | | | | X |
| Type Configuration (G2) | Accuracy | Output Signal | Electrical Termination | Pressure Ranges | Measurement Type | Optional X-Variations | | |
| | 1.0% Total Error Band -20°C/+85°C 1.5% Total Error Band -40°C/-20°C, 85/125°C | 05 = 0-5 Vdc 10 = 0-10 Vdc 15 = 1-5 Vdc 16 = 1-6 Vdc 42 = 4-20mA 45 = 0.5-4.5Vdc 9-36Vdc supply RM = 0.5-4.5 Vdc Ratio Metric to 5Vdc supply | Metri-Pack* GN = no mating conn. G2 = mating conn. 3' cable G3 = mating conn. 10' cable G1 = mating conn. w/customer specified length Hirschmann G Series** HM = no mating conn. M1 = with mating conn. no cable M2 = mating conn. 3' cable P9 = mating conn. w/customer specified length Flying Leads W2 = 3' flying leads W9 = customer specified length Shielded Cable F2 = 3' shielded cable F3 = 10' shielded cable P1 = customer specified length M12 - Mates to Hirschmann 933 172-100 or similar EW = w/o mating conn. E0 = w/mating conn. no cable E2 = w/mating conn. & 3' shielded cable E1 = w/mating conn. & customer defined length | 30# = 30 psi 50# = 50 psi 60# = 60 psi 100# = 100 psi 150# = 150 psi 200# = 200 psi 300# = 300 psi 400# = 400 psi 500# = 500 psi 750# = 750 psi 1000# = 1000 psi 1500# = 1500 psi 2000# = 2000 psi 3000# = 3000 psi 4000# = 4000 psi 5000# = 5000 psi 6000# = 6000 psi 7500# = 7500 psi 10000# = 10000 psi 15000# = 15000 psi 20000# = 20000 psi | G = Gauge Pressure | Consult Factory for Available Options | | |
| | | Pressure Connection M01 1/8 NPT-male M02 1/4 NPT-male MEK 1/4-20 SAE-male w/Buna-N O-ring M38 3/4-24 SAE-male w/Buna-N O-ring MEV 3/8-18 SAE-male w/Buna-N O-ring M33 3/4-24 UNJF3A (w/37° cone seat) M76 1/4-20 UNJF-3A (w/37° cone seat) MS2 1/4-19 bsp male MG2 G 1/4 B male | Deutsch DT Series DT04-3P DT = w/out mating conn. T2 = w/1m, 3' cable T3 = w/3m, 10' cable Deutsch DTM Series DTM04-3P DS = w/out mating conn. S2 = w/1m, 3' cable S3 = w/3m, 10' cable S1 = w/mating conn. cable customer defined length AMP Superseal AP = w/out mating conn. A2 = w/1m, 3' cable A3 = w/3m, 10' cable A1 = w/mating conn. cable customer defined length EN 175301-803, Form C (DIN 43650, Form C) DC = no mating conn. N1 = with mating conn. no cable N2 = with mating conn. 3' cable N3 = mating conn. 10' cable N9 = mating conn. w/customer specified length | Compound Ranges 30#&vac = 30 psi/-14.7 psi 45#&vac = 45 psi/-14.7 psi 60#&vac = 60 psi/-14.7 psi 85#&vac = 85 psi/-14.7 psi 100#&vac = 100 psi/-14.7 psi 150#&vac = 150 psi/-14.7 psi 200#&vac = 200 psi/-14.7 psi 300#&vac = 300 psi/-14.7 psi | | | | |
| | | Consult factory for other connections | | | | | | |