

Model G2⁺ Pressure Transducer



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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
- Compressor Control
- HVAC and Refrigeration
- Agricultural Implements
- Process Automation and Control
- Hydraulic & Pneumatic Sensing
- Pump Monitoring

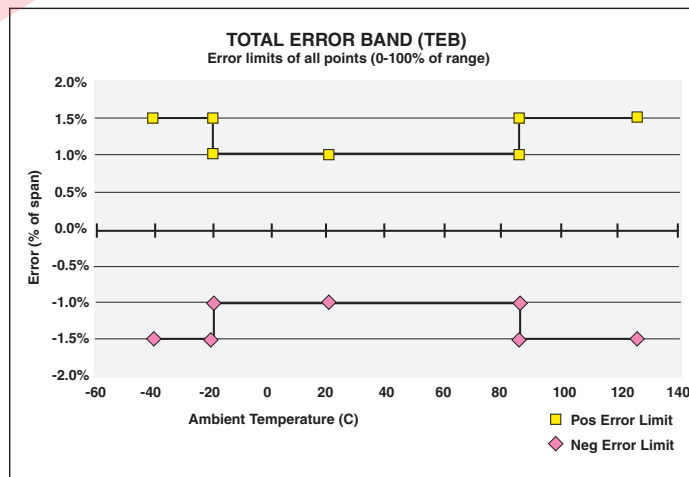
FEATURES

- 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⁺ 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: Non-linearity, hysteresis and non-repeatability combined less than .15% of span typical (Best Fit Straight Line)

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" below.

Overpressure (F.S.): Proof Burst

Pressure Range	Proof	Burst
750 psi & below	200% FS	1000% FS
1500 psi	200% FS	500% FS
3000 psi	200% FS	500% FS
5000 psi	150% FS	500% FS
7500 psi	120% FS	500% FS
10,000 psi	120% FS	240% FS
20,000 psi	120% FS	240% FS

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

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 Compliance: Per EN 61326: 1997+ A1: 1998 + A2: 2001, Annex A (Heavy Industrial)

Model G2[†] Pressure Transducer

PHYSICAL SPECIFICATIONS

Pressure Connection: 304 stainless steel

Sensor Material: 17-4PH SS

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

Available Process Connections (Male):

1/8 NPT, 1/4 BSP, 1/4 NPT, G1/8 B, 1/16-20 UNF-2A

For other connections consult factory

Ingress Rating: IP67

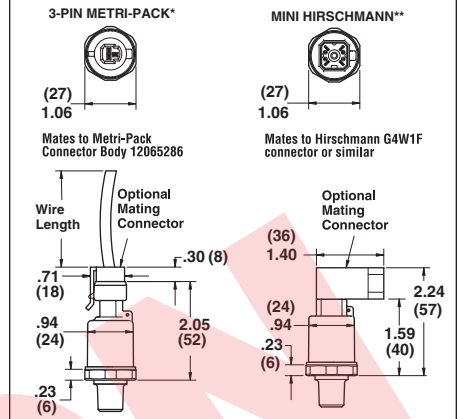
ELECTRICAL TERMINATION

- Shielded Cable: 3' standard, 24 AWG, PVC Jacket
- Flying Lead: 3' standard, 18 AWG
- Metri-Pack 150 series*
- Hirschmann G series**

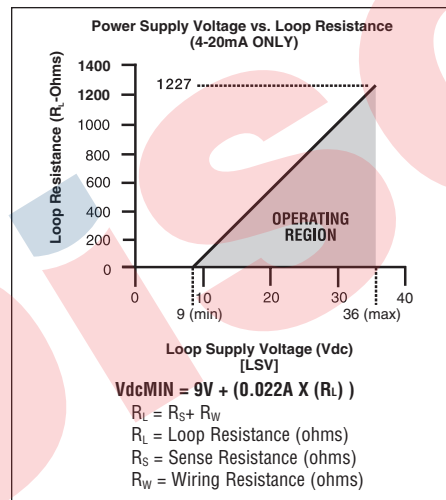
*Metri-Pack is a trademark of Delphi Packard Electric Systems

**Trade Mark of Richard Hirschmann of America, Inc.

DIMENSIONS



Shielded cable and flying lead designs share similar dimensions to those shown.



†Patent Pending

How To Order

G 2	7							X
Type Configuration (G2)	Accuracy 1.0% Total Error Band -20°C/+85°C 1.5% Total Error Band -40°C/-20°C, 85/125°C	Output Signal 05 = 0-5 Vdc 10 = 0-10 Vdc 15 = 1-5 Vdc 16 = 1-6 Vdc 42 = 4-20mA RM = 0.5-4.5 Vdc Ratio Metric to 5Vdc supply	Electrical Termination Metri-Pack GN = no mating conn. GO = mating conn. no cable G2 = mating conn. 3' 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	Pressure Ranges psi Ranges 30# = 30 psi 50# = 50 psi 60# = 60 psi 100# = 100 psi 150# = 150 psi 200# = 200 psi 300# = 300 psi 500# = 500 psi 750# = 750 psi 1000# = 1000 psi 1500# = 1500 psi 2000# = 2000 psi 3000# = 3000 psi 5000# = 5000 psi 7500# = 7500 psi 10000# = 10000 psi 20000# = 20000 psi	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	Measurement Type G = Gauge Pressure	Optional X-Variations Consult Factory for Available Options	
Pressure Connection M01 1/8 NPT-male M02 1/4 NPT-male MEK 1/16-20 SAE-male w/Buna-N O-ring MS2 1/4-19 bsp male MG2 G 1/8 B male		Consult Factory Other Connections						