Model G2 Pressure Transducer

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APPLICATONS

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*

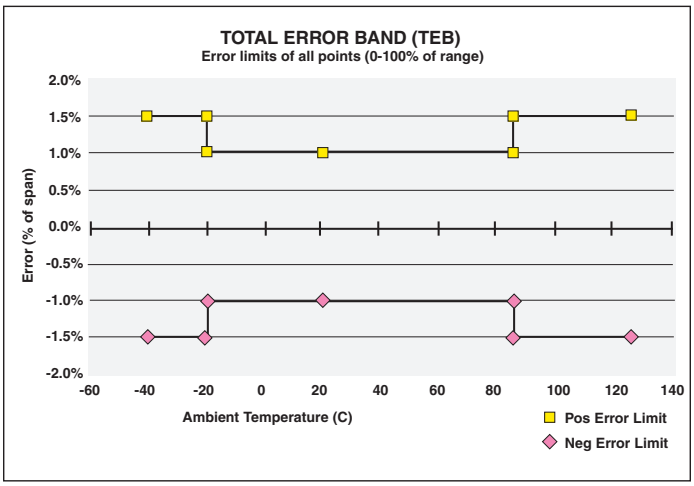
FEATURES

- *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 repeatabilty, zero offset and span setting errors

±1% of Span: From –20 to 85ºC (–4 to 185ºF)

±1.5% of Span: From –40 to –20ºC (–40 to –4ºF)

±1.5% of Span: From 85 to 125ºC (185 to 257ºF)

Note: Static accuracy ±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 ±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
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)

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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):
⅛ NPT, ¼ BSP, ¼ NPT, G¼ B, 7/16-20 UNF-2A
For other connections consult factory
Ingress Rating:

- IP67, NEMA 4X:
  - Metri-Pack I50 series*
  - Shielded cable
  - Flying leads
- IP65, NEMA 4X:
  - Hirschman G series**
- Deutsch DT Series DT04-3P
- Deutsch DTM Series DTM04-3P
- AMP Superseal

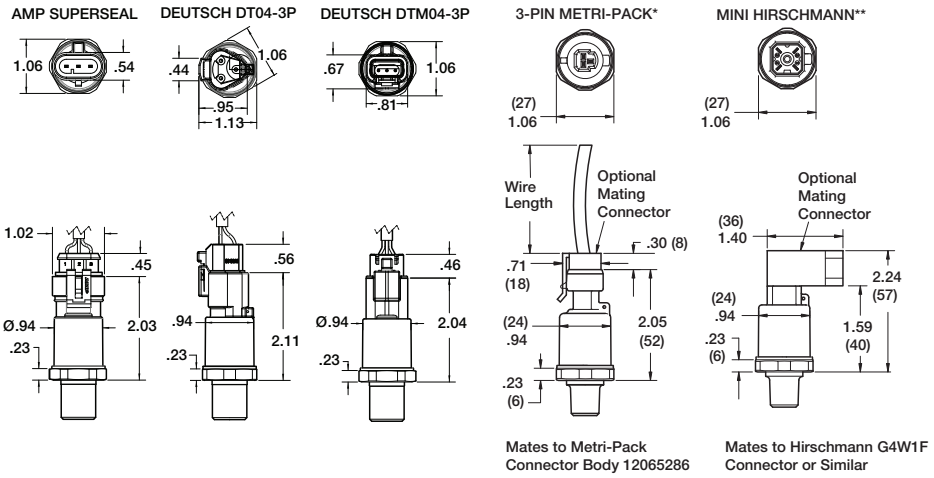
ELECTRICAL TERMINATION

- 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

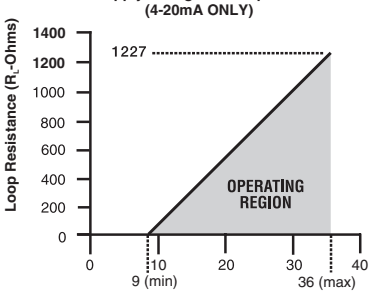
**Trade Mark of Richard Hirschmann of America, Inc.

DIMENSIONS



Mates to Metri-Pack Connector Body 12065286

Mates to Hirschmann G4W1F Connector or Similar



VdcMIN = 9V + [0.022A X (R_L]

$R_L = R_S + R_W$

R_L = Loop Resistance (ohms)

R_S = Sense Resistance (ohms)

R_W = Wiring Resistance (ohms)

How To Order

G 2 — **Type Configuration** (G2)

7 — **Accuracy**
1.0% Total Error Band –20°C/+85°C
1.5% Total Error Band –40°C/-20°C, 85/125°C

Pressure Connection
M01 ⅛ NPT-male
M02 ¼ NPT-male
MEK 7/16-20 SAE-male w/Buna-N O-ring
MS2 ¼-19 bsp male
MG2 G ¼ B male
M76 7/16-20 UNJF-3A (w/37°cone seat)
M38 ⅜-20 SAE-male
MEV 9/16-18 SAE-male
M33 ⅜-24 UNJF3A (w/37°cone seat)
Consult factory for other connections

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.
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

Deutsch DT Series DT04-3P
DT = w/out mating conn.
T2 = w/1m, 3ft cable
T3 = w/3m, 10ft cable
T1 = w/mating conn. cable customer defined length

Deutsch DTM Series DTM04-3P
DS = w/out mating conn.
S2 = w/1m, 3ft cable
S3 = w/3m, 10ft cable
S1 = w/mating conn. cable customer defined length

AMP Superseal
AP = w/out mating conn.
A2 = w/1m, 3ft cable
A3 = w/3m, 10ft cable
A1 = w/mating conn. cable customer defined 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
400# = 300 psi
500# = 500 psi
750# = 750 psi
1000# = 1000 psi
1500# = 1500 psi
2000# = 2000 psi
3000# = 3000 psi
5000# = 5000 psi
6000# = 6000 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

X — **Optional X-Variations**
Consult Factory for Available Options

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