ASHCROFT®

Type G2† – High Performance Pressure Transducer for Tough OEM Applications

† Patent Pending

APPLICATIONS:

A new Ashcroft pressure transducer to meet demanding requirements in applications involving:

- ***Off-road equipment***
- ***Construction machinery***
- ***Compressor control***
- ***HVAC and refrigeration***
- ***Agricultural implements***
- ***Process automation and control***
- ***Hydraulic and pneumatic sensing***
- ***Pump monitoring***

Important features include:

- ***1% total error band accuracy††***
- ***Broad temperature capability***
- ***All-welded pressure construction***
- ***High EMI/RFI rating***
- ***Ranges 30 psi through 20,000 psi***
- ***Housing IP67 rating***
- ***Diagnostic rails***
- ***Polysilicon thin film sensor***

††Tighter accuracy performance available, consult factory.

PERFORMANCE CHARACTERISTICS

Ref. Condition 21°C ±1°C (72°F ±2°F)
Accuracy:
Total Error Band including non-linearity, hysteresis, non repeatabilty, and temperature error
±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)
Non-linearity: Less than ±0.1% of span typical **(B.F.S.L.)**
Non-repeatability: Less than ±0.03% of span typical
Hysteresis: Less than 0.01% of span typical
Stability: Less than ±0.25% span/year
Durability: Tested to 50 million cycles

FUNCTIONAL CHARACTERISTICS

Select from over 25 pressure ranges starting at 30 psi and running through 20,000 psi. Compound (vacuum & pressure) ranges are also available, see below.

Overpressure (F.S.):	**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
Position Effect: Less than ±0.01% span, typical

ENVIRONMENTAL CHARACTERISTICS

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

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)

PHYSICAL CHARACTERISTICS

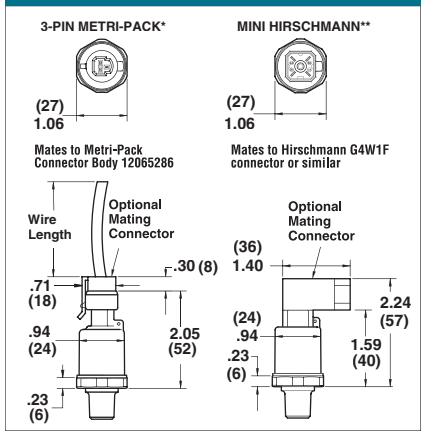
Pressure Connection: 304 stainless steel
Sensor Material: 17-4PH SS
Housing: 20% Glass Reinforced Nylon, Fire retardant to UL94 V1
Available Process Connections (Male):
⅛ NPT, ¼ BSP, ¼ NPT, G¼ B, 7/16-20 UNF-2A
For other connections consult factory

AVAILABLE ELECTRICAL TERMINATION

- Shielded Cable: 1 meter standard, 24 AWG, PVC Jacket
- Flying Lead: 1 meter 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.

DIMENSION DRAWINGS



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

TO ORDER THE G2 PRESSURE TRANSDUCER:

Type Configuration (G2)

Accuracy
±1.0% Total Error Band –20°C to 85°C
±1.5% Total Error Band – 40°C to -20°C, 85 to 125°C

Pressure Connection
M01 ⅛ NPT-male
M02 ¼ NPT-male
MEK 7/16-20 SAE-male
MS2 ¼-19 BSP male
MG2 G ¼ B male
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 Connection
Metri-Pack
GN = no mating conn.
G2 = mating conn. 1m cable
G1 = mating conn. w/customer specified length
Hirschmann G Series
HM = No mating conn.
M1 = with mating conn. no cable
M2 = mating conn. 1m cable
P9 = mating conn. w/customer specified length
Flying Leads
W2 = 1m flying leads
W9 = Customer specified length
Shielded Cable
F2 = 1m shielded cable
P1 = customer specified length

Pressure Ranges

psi Ranges	**Compound Ranges**
30# = 30 psi	**30#&vac** = 30 psi/–14.7 psi
45# = 45 psi	**45#&vac** = 45 psi/–14.7 psi
60# = 60 psi	**60#&vac** = 60 psi/–14.7 psi
100# = 100 psi	**85#&vac** = 85 psi/–14.7 psi
150# = 150 psi	**100#&vac** = 100 psi/–14.7 psi
200# = 200 psi	**150#&vac** = 150 psi/–14.7 psi
300# = 300 psi	**200#&vac** = 200 psi/–14.7 psi
500# = 500 psi	**300#&vac** = 300 psi/–14.7 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	

Measurement Type
G = Gauge Pressure

Optional X-Variations
Consult Factory for Available Options

Refer to Bulletin G2-1