ASHCROFT®

Type T2 – High Performance Pressure Transducer for General Industrial Applications

APPLICATIONS:

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

- *Process automation*
- *Compressor control*
- *Hydraulic systems*
- *Engine monitoring*
- *Pump control*
- *Pneumatics*
- *Refrigeration equipment*
- *Presses*
- *Machine Tools*
- *Other general industrial applications*

Important features include:

- *0.25% accuracy class*
- *Ranges 30 psi through 20,000 psi*
- *Broad temperature capability*
- *All-welded pressure construction*
- *Proven polysilicon thin film sensor*
- *Precision ASIC based electronics*
- *High EMI/RFI immunity rating*
- *Highly configurable*
- *Voltage and current outputs*
- *Choice of electrical connections*

PERFORMANCE CHARACTERISTICS

Ref. Condition 21°C ±1°C (72°F ±2°F)
Accuracy: 0.25% Accuracy Class
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)

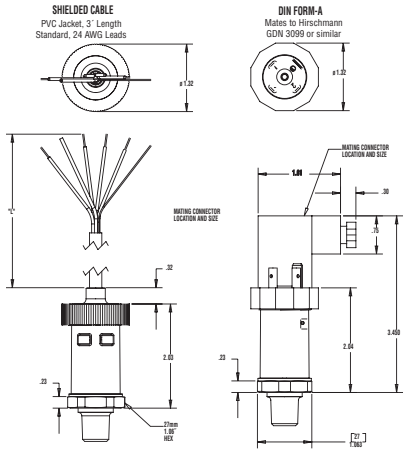
PHYSICAL CHARACTERISTICS

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

- Pigtail: 3 feet of shielded cable, PVC jacket, 24 AWG leads
- DIN 43 650-A
- Bendix style 4 pin, PTO 2A-8-4P or similar
- M12 x 1, 4 pin, Circular style

DIMENSION DRAWINGS



M12 and Bendix style termination designs share similar dimensions to those shown above.

TO ORDER THE T2 PRESSURE TRANSDUCER:

T 2 — **Type Configuration** (T2)

7 — **Accuracy ±0.25% Static Accuracy Class (BFSL)**
±1.00% Total Error Band –20°C to +85°C
±1.50% Total Error Band –40°C to –20°C, 85°C 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 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
DIN 43 650-A – Mates to Hirschmann GDM 3099 or similar
DN = no mating conn.
D0 = w/mating conn., no cable
D2 = w/mating conn. 3´ shielded cable
D1 = w/mating conn. w/customer defined cable length
M12 – Mates to Hirschmann 933 172-100 or similar
EW = no mating conn.
E0 = w/mating conn. no cable
E2 = w/mating conn. & 3´ shielded cable
E1 = w/mating conn. w/customer defined cable length
Circular 4 Pin – Mates to Amphenol Bendix PTO6A-8-4S-SR or similar
B4 = no mating conn.
H1 = w/mating conn., no cable
L1 = w/mating conn. 3´ shielded cable
P2 = w/mating conn. w/customer defined cable length
Pigtail – Shielded cable with PVC Jacket and 24 AWG leads
F2 = w/3´ cable length
P1 = w/3´ cable length
F3 = w/6´ cable length
F8 = w/20´ cable length

Pressure Ranges

psi Ranges

30#	=	30 psi
45#	=	45 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/-14.7psi
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

Ranges in bar, kPa and MPa are also available

Pressure Type
G = Gauge pressure, vented housing
For sealed housing (PSIS) consult factory

X — **Optional X-Variations**
Consult factory for available options

DRESSER Instruments