

M5100 Heavy Industrial Pressure Transducer



- CE Compliance
- Wide Temperature Range
- Compact

DESCRIPTION

The M5100 series pressure transducers from the Microfused™ line of MEAS, set a new price performance standard for demanding commercial and heavy industrial applications. This series is suitable for measurement of liquid or gas pressure, even for difficult media such as contaminated water, steam, and mildly corrosive fluids.

The transducer pressure cavity is machined from a solid piece of 17-4 PH stainless steel. The standard version includes a 1/4 NPT pipe thread allowing a leak-proof, all metal sealed system. There are no O-rings, welds or organics exposed to the pressure media. The durability is excellent. The M5100 exceeds the latest heavy industrial CE requirements including surge protection, and is over voltage protected to 16Vdc in both positive and reverse polarity.

This product is geared to the OEM customer who uses medium to high volumes. The standard version is suitable for many applications, but the dedicated design team at our Transducer Engineering Center stands ready to provide a semi-custom design where the volume and application warrants.

FEATURES

- Heavy Industrial CE Approval
- 100 V/m EMI Protection
- Reverse Polarity Protection
- Extended Temperature Range
- 1% Total Error Band
- Compact Outline
- -40°C to +125°C Operating Temperature Range

APPLICATIONS

- Advanced HVAC Systems
- Refrigeration Systems
- Automotive Test Stands
- Industrial Process Control
- Pumps and Compressors
- Hydraulic/Pneumatic Systems
- Agriculture Equipment
- Energy Generation and Management

M5100 Heavy Industrial Pressure Transducer

STANDARD RANGES

Range	psig	Range	Barg
0 to 50	•	0 to 3.5	•
0 to 100	•	0 to 7	•
0 to 200	•	0 to 10	•
0 to 300	•	0 to 20	•
0 to 500	•	0 to 35	•
0 to 1k	•	0 to 70	•
0 to 3k	•	0 to 200	•
0 to 5k	•	0 to 350	•
0 to 10k	•	0 to 700	•

DIN Range	Barg
0 to 4	•
0 to 6	•
0 to 10	•
0 to 16	•
0 to 25	•
0 to 40	•
0 to 60	•
0 to 100	•
0 to 160	•
0 to 250	•
0 to 400	•
0 to 600	•
0 to 1000	•

*Intermediate ranges available upon request.

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PERFORMANCE SPECIFICATIONS

Supply Voltage: 5.0V, Ambient Temperature: 25°C (unless otherwise specified)

PARAMETERS	MIN	TYP	MAX	UNITS	NOTES
Accuracy (combined non linearity, hysteresis, and repeatability)	-0.25		0.25	%F.S.	1
Isolation, Body to any Lead	1			MΩ @ 25Vdc	
Pressure Cycles (Zero to Full Scale)	1.00E+7			FS Cycles	
Proof Pressure	2X			Rated	
Burst Pressure	5X			Rated	
Long Term Stability (1 year)	-0.25		0.25	%Span	
Total Error Band	-1.0		1.0	%F.S.	2
Compensated Temperature	-20		+85	°C	
Operating Temperature	-40		+125	°C	3
Storage Temperature	-45		+125	°C	3
Bandwidth	DC to 1KHz (Typical)				
Vibration (20 to 200Hz)	50g, 11msec Half Sine Shock per MIL-STD-202F, Method 213B, Condition A				
Shock (11ms)	±20g, MIL-STD-810C, Procedure 514.2, Fig 514.2-2, Curve L				

For custom configurations, consult factory.

Notes

1. Best fit straight line at 25°C.
2. TEB includes all accuracy errors, thermal errors, span and zero tolerances.
3. Cable 105°C max.

CE Compliance

- EN55022 Emissions Class A & B
- IEC61000-4-2 Electrostatic Discharge Immunity (6kV contact/8kV air)
- IEC61000-4-3 Electromagnetic Field Immunity (30V/m)
- IEC61000-4-4 Electrical Fast Transient Immunity (1kV)
- IEC61000-4-5 Surge Immunity (1kV)
- IEC61000-4-6 Conducted RF Immunity (10V)
- IEC61000-4-9 Magnetic Field Immunity (100A/m)

Pressure Port Options

- 2 = 1/4-19 BSP Male
- 4 = 7/16-20 UNF Male O-Ring Buna-N 70SH -904
ID8.92mm x W1.83mm
- 5 = 1/4-18 NPT Male
- F = 1/4-19 BSP Female
- P = 7/16-20 UNF Female w/ Integral Valve Depressor
- Q = M10x1
- S = M12x1.5
- U = G1/4B DIN 3852

Others available on request

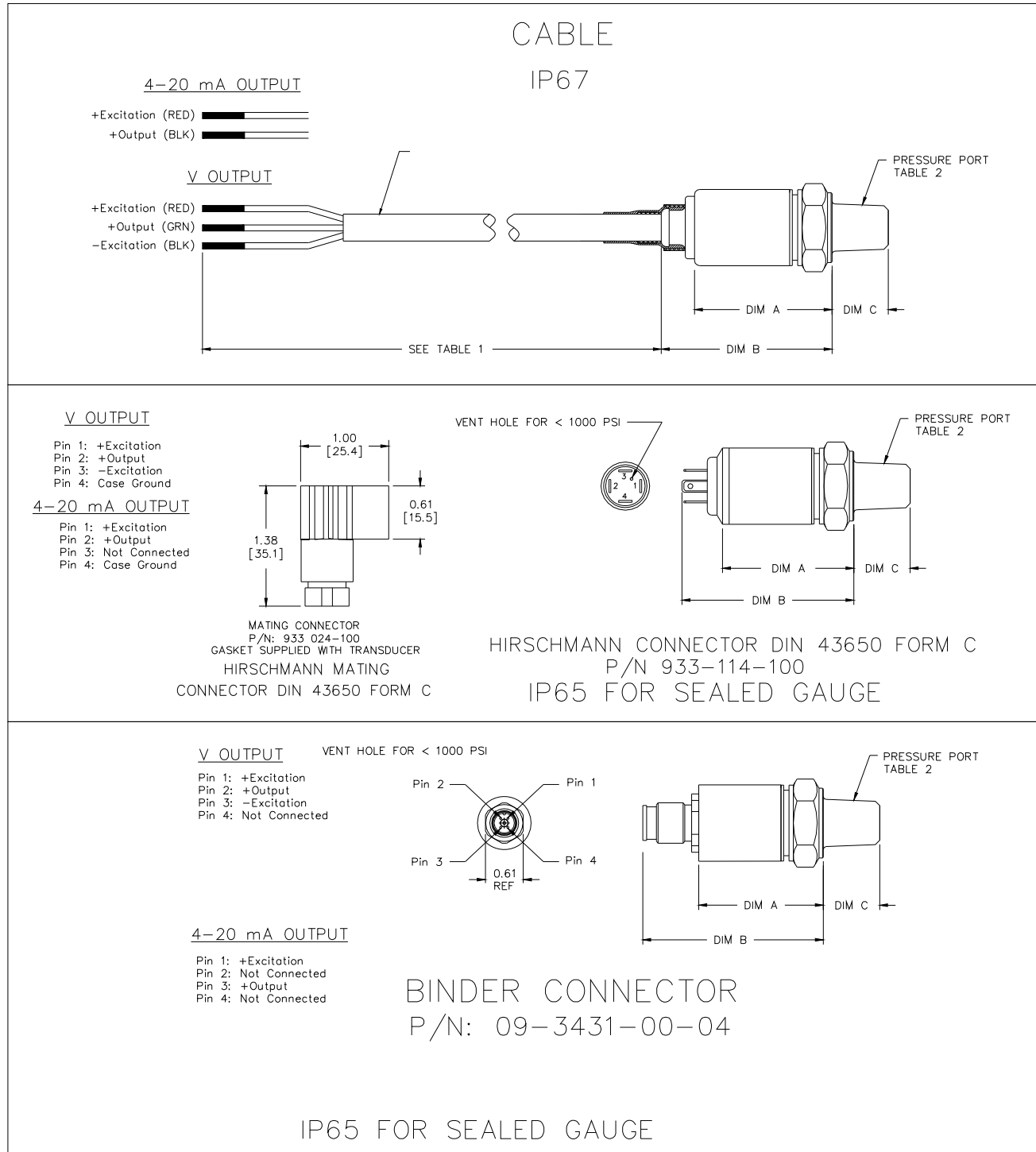
Electrical Connection Options

- 1 = 2 ft cable
- 4 = Packard Connector
- 5 = Bendix Connector
- 6 = Hirschmann Connector DIN Form C
- 7 = Hirschmann Connector DIN Form A
- D = Binder Connector
- M = 1 meter cable
- P = 5 meter cable
- R = 10 meter cable

Others available on request

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DIMENSIONS

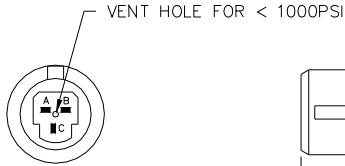


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PACKARD CONNECTOR IP66 FOR SEALED GAUGE

V OUTPUT

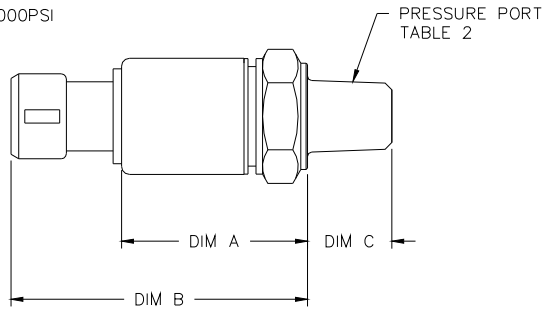
Pin A: +Excitation
Pin B: -Excitation
Pin C: +Output



4-20 mA OUTPUT

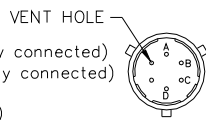
Pin A: +Excitation
Pin B: +Output
Pin C: Not Connected

Mating packard connector
Housing P/N: 12078090
Pin terminal P/N: 1203881
Web site for mating connector:
www.powerandsignal.com



4-20 mA OUTPUT

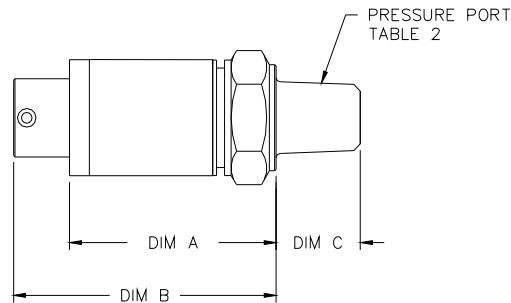
Positive supply Pin A and B (internally connected)
Negative supply Pin C and D (internally connected)
Pin E: Not Connected
Pin F: Vent (Removed for < 1000 psi)



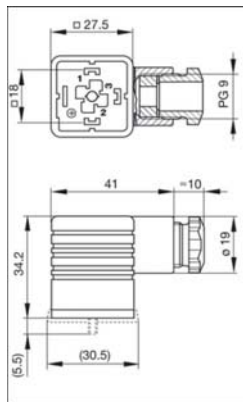
Mating Bendix connector
P/N: PT06A-10-6S
MIL-C-26482

V OUTPUT

Pin A: +Excitation
Pin B: +Output
Pin C: -Excitation
Pin D: -Excitation
Pin E: Not Connected
Pin F: Vent (Removed for < 1000 psi)



BENDIX CONNECTOR IP66 FOR SEALED GAUGE

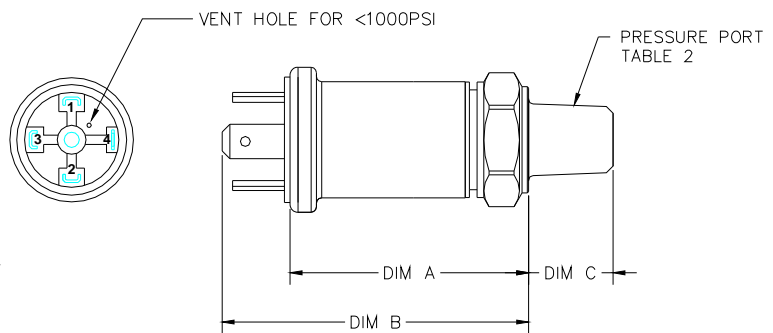


V OUTPUT

Pin 1: +Excitation
Pin 2: +Output
Pin 3: -Excitation
Pin 4: Case Ground

4-20 mA OUTPUT

Pin 1: +Excitation
Pin 2: +Output
Pin 3: Not Connected
Pin 4: Case Ground



MATING CONNECTOR
Dim Unit: MM
P/N: 931 969-100
Gasket(NBR) P/N: 731 800-002
Knurled Screw P/N: 732 574-001
HIRSCHMANN MATING
CONNECTOR DIN 43650 FORM A

HIRSCHMANN CONNECTOR
DIN 43650 FORM A
P/N: 933 376-100

IP65 FOR SEALED GAUGE

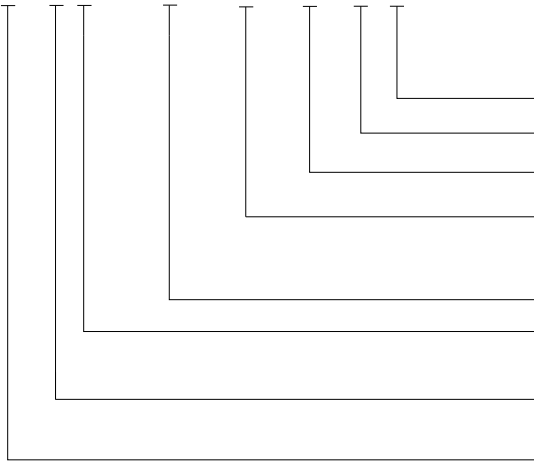
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OUTPUT OPTIONS

Code	Output	Supply(V)		
		MIN	TYP	MAX
3	0.5 – 4.5V (ratiometric)	4.75	5	5.25
4	1 – 5V	8		30
5	4 – 20mA	9		30
6	0 – 5V	8		30
7	0 – 10V	15		30
8	1 – 6V	8		30

ORDERING INFORMATION

M5131-000005-300PG



Type (G = Gage)
 Units (P = psi, B = Bar)
 Pressure Range (See Pressure Range Table)
 Pressure Port (2 = 1/4-19BSP, Q = M10 x 1.0mm
 See Pressure Port Options Table)
 Specials (nnnnn = Custom Drawing)
 Connection (4 = Packard Connector, R = 10 meter cable
 See Electrical Connection Options Table)
 Output (3 = 0.5 to 4.5V, 4 = 1 - 5V, 5 = 4 - 20mA, 6 = 0 - 5V,
 7 = 0 - 10V, 8 = 1 - 6V)
 Model

NORTH AMERICA

Measurement Specialties
 45738 Northport Loop West
 Fremont, CA 94538
 Tel: 1-800-767-1888
 Fax: 1-510-498-1578
 Sales: pfg.cs.amer@meas-spec.com

EUROPE

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 78340 Les Clayes-sous-Bois, France
 Tel: +33 (0) 130 79 33 00
 Fax: +33 (0) 134 81 03 59
 Sales: pfg.cs.emea@meas-spec.com

ASIA

Measurement Specialties
 (China), Ltd.
 No. 26 Langshan Road
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 Nanshan District, Shenzhen 518057
 China
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 Fax: +86 755 3330 5099
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