

M5100 Heavy Industrial Pressure Transducer



- CE Compliance
- Wide Temperature Range
- Compact
- Variety of Pressure Ports and Electrical Configurations

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



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STANDARD RANGES

Range	psig	Range	Barg
0 to 50	•	0 to 3.5	•
0 to 100	•	0 to 7	•
0 to 200	•	0 to 14	•
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

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	-40		+125	°C	3
Load Resistance (R _L)	R _L > 100k			Ω	4
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

- Best fit straight line at 25°C.
- TEB includes all accuracy errors, thermal errors, span and zero tolerances.
- Cable 105°C max.
- Voltage output.

CE Compliance

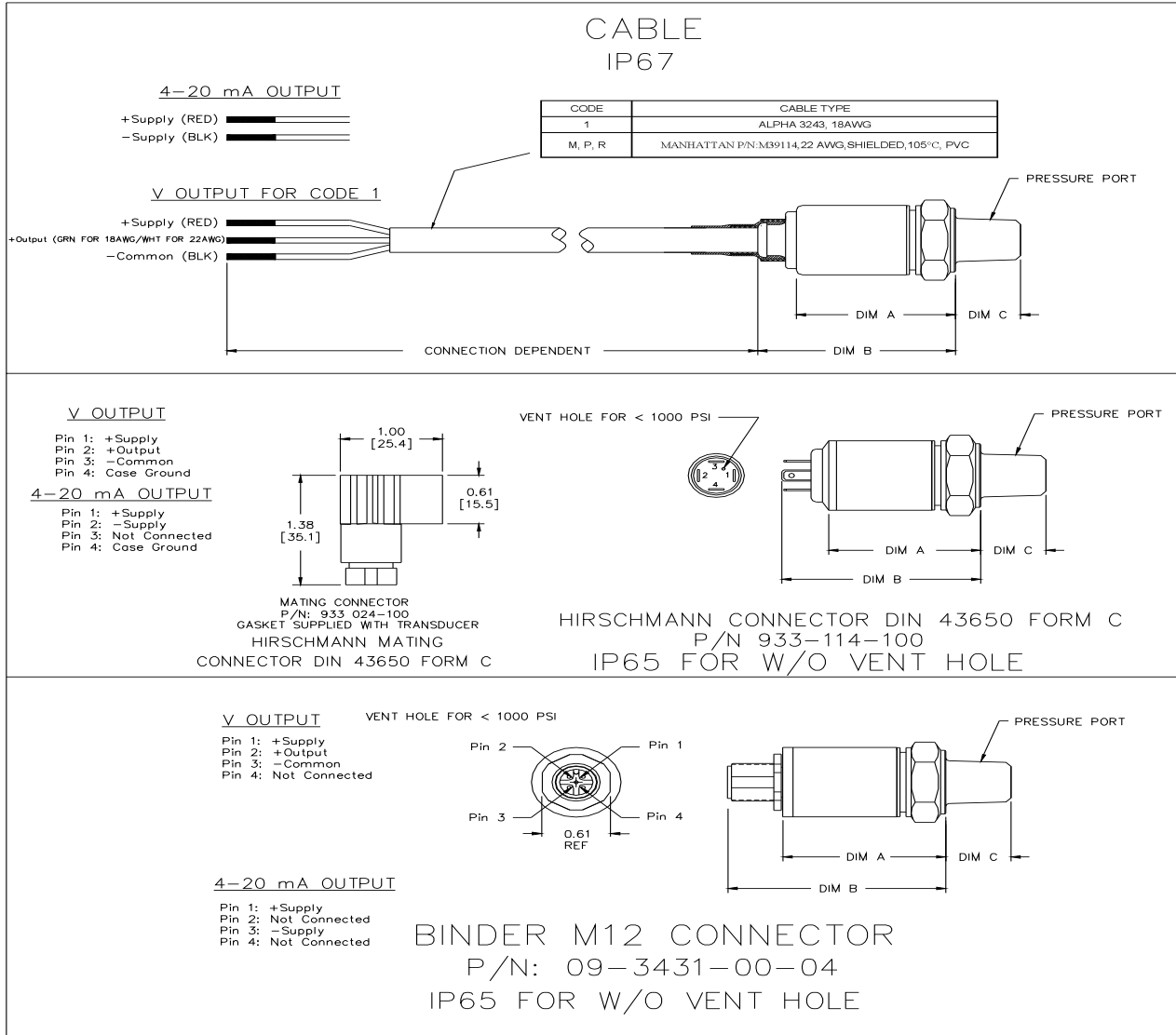
- IEC 55022 Emissions Class A & B
- IEC 61000-4-2 Electrostatic Discharge Immunity (6kV contact/8kV air)
- IEC 61000-4-3 Electromagnetic Field Immunity (30V/m)
- IEC 61000-4-4 Electrical Fast Transient Immunity (1kV)
- IEC 61000-4-5 Surge Immunity (1kV)
- IEC 61000-4-6 Conducted RF Immunity (10V)
- IEC 61000-4-9 Magnetic Field Immunity (100A/m)

CODE	CONNECTION		<1000 PSI	
			<070 BAR	≥1000 PSI
1	CABLE 2 FEET ALPHA#3243,18AWG	DIM A	1.71 [43.5]	1.92 [48.6]
		DIM B	2.71 [68.9]	2.37 [60.2]
4	PACKARD CONNECTOR	DIM A	1.71 [43.5]	1.92 [48.6]
		DIM B	2.52 [63.9]	2.72 [69.0]
5	BENDIX PTIH-10-6P CONNECTOR	DIM A	1.74 [44.2]	1.93 [49.0]
		DIM B	2.17 [55.0]	2.36 [59.8]
6	HIRSCHMANN CONNECTOR DIN 43650 FORM C	DIM A	1.67 [42.3]	1.86 [47.1]
		DIM B	2.12 [53.8]	2.31 [58.6]
7	HIRSCHMANN CONNECTOR DIN 43650 FORM A	DIM A	1.81 [45.9]	2.01 [51.0]
		DIM B	2.32 [59.0]	2.52 [64.1]
D	BINDER M12 09-3431-00-04 CONNECTOR	DIM A	1.88 [47.8]	1.88 [47.8]
		DIM B	2.41 [61.2]	2.41 [61.2]
M	CABLE 1 METER MANHATTAN#M39114,22AWG	DIM A	1.71 [43.5]	1.92 [48.6]
		DIM B	2.71 [68.9]	2.37 [60.2]
P	CABLE 5 METER MANHATTAN#M39114,22AWG	DIM A	1.71 [43.5]	1.92 [48.6]
		DIM B	2.71 [68.9]	2.37 [60.2]
R	CABLE 10 METER MANHATTAN#M39114,22AWG	DIM A	1.71 [43.5]	1.92 [48.6]
		DIM B	2.71 [68.9]	2.37 [60.2]

PRESSURE PORT		
CODE	PORT	DIM C
2	1/4-19 BSPP	0.47 [11.94]
4	7/16-20UNF MALE SAE J514 STRAIGHT THREAD O-RING BOSSE O-RING BUNA-N 703H-904 ID8.92mmXW1.83mm	0.36 [9.14]
5	1/4-18 NPT	0.64 [16.26]
F	1/4-19 BSPP FEMALE	0.70 [17.78]
P	7/16-20UNF FEMALE SAE J514 STRAIGHT THREAD O-RING BOSS WITH INTEGRAL VALVE DEPRESSOR	0.43 [10.92]
Q	M10 X 1.0 mm	0.42 [10.67]
S	M12 X 1.5 mm	0.53 [13.46]
U	G1/4 DIN 3852 FORM E GASKET DIN3869-14	0.47 [12]

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DIMENSIONS



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PACKARD CONNECTOR IP66 FOR W/O VENT HOLE

V OUTPUT
 Pin A: +Supply
 Pin B: -Common
 Pin C: +Output

4-20 mA OUTPUT
 Pin A: +Supply
 Pin B: -Supply
 Pin C: Not Connected

VENT HOLE FOR < 1000PSI

Pressure Port

Mating packard connector
 Housing P/N: 12078090
 Socket 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)

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

VENT HOLE

Pressure Port

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

BENDIX PTIH-10-6P CONNECTOR IP66 FOR W/O VENT HOLE

V OUTPUT
 Pin 1: +Supply
 Pin 2: -Common
 Pin 3: +Output
 Pin 4: Case Ground

4-20 mA OUTPUT
 Pin 1: +Supply
 Pin 2: -Supply
 Pin 3: Not Connected
 Pin 4: Case Ground

VENT HOLE FOR <1000PSI

Pressure Port

HIRSCHMANN CONNECTOR DIN 43650 FORM A P/N: 933 376-100 IP65 FOR W/O VENT HOLE

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



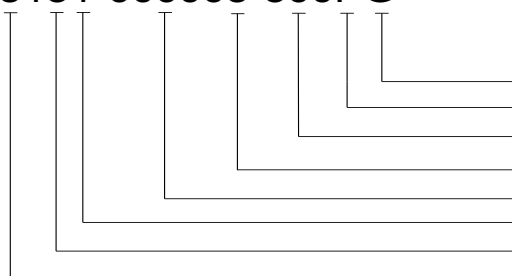
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OUTPUT OPTIONS

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 (See Pressure Port Options Table)
 Specials (nnnnn = Custom Drawing)
 Connection (See Electrical Connections Table)
 Output (See Output Options Table)
 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

Measurement Specialties
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 26 Rue des Dames
 78340 Les Clayes-sous-Bois, France
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 Fax: +33 (0) 134 81 03 59
 Sales: pfg.cs.emea@meas-spec.com

ASIA

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 (China), Ltd.
 No. 26 Langshan Road
 Shenzhen High-Tech Park (North)
 Nanshan District, Shenzhen 518057
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 Tel: +86 755 3330 5088
 Fax: +86 755 3330 5099
 Sales: pfg.cs.asia@meas-spec.com

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