



M5800

Pressure Transducer with Rotatable Display

SPECIFICATIONS

- ◆ **Wide Temperature Range**
- ◆ **Compact**
- ◆ **Variety of Pressure Ports and customized Electrical Configurations**
- ◆ **Optional Stainless Steel Snubber**
- ◆ **CE Compliant and Weatherproof**
- ◆ **Gage, Compound**
- ◆ **Continuous pressure display with zero setting**

Difficulty reading pressure measurements in awkward spaces throughout your process can compromise your operational efficiency. TE's M5800 digital display transducer offers visualized pressure value readings for demanding, harsh applications. The 310° rotatable display enables easy viewing and on-demand adjustment.

Offering precise measurements at a superior value, this sensor can be easily configured based on your specific requirements including pressure range, pressure fitting, analog output, and electrical connection. Its display zero tare feature enables the local user to precisely set the display to zero and offers a more precise pressure measurement and true control of your processes.

FEATURES

- ◆ CE Compliance
- ◆ Reverse Polarity Protection on Input
- ◆ Short Circuit Protection on Output
- ◆ $\pm 0.25\%$ Accuracy within compensation temperature
- ◆ $\pm 1.0\%$ Total Error Band within compensation temperature
- ◆ $\pm 0.25\%$ of Rdg ± 1 count for display accuracy
- ◆ Compact Outline
- ◆ -40°C to $+85^{\circ}\text{C}$ Operating Temperature
- ◆ IP67 Weatherproof
- ◆ Continuous display rotation

APPLICATIONS

- ◆ Food & Beverage systems
- ◆ Pharmaceutical & Medical systems
- ◆ Pumps and Compressors
- ◆ Hydraulic/Pneumatic Systems

STANDARD RANGES

Range (psi)	Range (Bar)	Gage	Compound
0 to 050	0 to 3.5	◆	◆
0 to 100	0 to 007	◆	◆
	0 to 010	◆	◆
0 to 200		◆	◆
0 to 300	0 to 020	◆	◆
0 to 500	0 to 035	◆	◆
0 to 01k	0 to 070	◆	◆
0 to 03k	0 to 200	◆	◆
0 to 05k	0 to 350	◆	◆
0 to 07k	0 to 500	◆	◆
0 to 10k	0 to 700	◆	◆
0 to 15k	0 to 01k	◆	◆

Intermediate pressure ranges available upon request

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. BFSL	
Isolation, Body to any Lead	100			MΩ	@500VDC
Dielectric Strength			2	mA	@500VAC, 1min
Pressure Cycles	1.00E+6			0~FS Cycles	
Proof Pressure	2X			Rated	
Burst Pressure	5X		20k psi	Rated	
Long Term Stability (1 year)	-0.25		0.25	%F.S.	
Total Error Band (17-4PH, all range)	-1.0		1.0	%F.S.	
Total Error Band (316L, ≤3k psi)	-1.5		1.5	%F.S.	Over Compensated Temperature
Total Error Band (316L, >3k psi)	-2.0		2.0	%F.S.	
Compensated Temperature (CT)	-20		+85	°C	
Operating Temperature	-40		+85	°C	
Storage Temperature	-40		+90	°C	
Load Resistance (R _L)		R _L > 100k		Ω	Voltage Output
Load Resistance (R _L)		< (Supply Voltage -12V) / 0.02A		Ω	Current Output
Current Consumption			30	mA	Voltage Output
Rise Time (10% to 90%)	<2ms (Voltage Output); <3ms (Current Output); Without Snubber				
Wetted Material	17-4PH or 316L Stainless Steel Port, 316L Stainless Steel Snubber				
Gage Pressure Reference Vent	VIA Cable				
Bandwidth	DC to 1KHz (Typical)				
Shock	50g, 11msec Half Sine Shock per MIL-STD-202G, Method 213B, Condition A				
Vibration	±20g, MIL-STD-810C, Procedure 514.2, Fig 514.2-2, Curve L				

For custom configurations, consult factory.

Notes

1. Compensated Temperature: The temperature range over which the product will produce an output proportional to pressure within the specified performance limits.
2. Operating Temperature: The temperature range over which the product will produce an output proportional to pressure but may not remain within the specified performance limits.
3. Storage Temperature: The temperature range over which the product can be stored safely in occasions without pressure applied or power input and remains rated performance. Beyond this temperature range may cause permanent damage to the product.
4. All configurations are built with supply voltage reverse and output short-circuit protections.
5. For all CE compliance tests, MAX allowed output deviation is ±1.5% F.S.
6. IP rating: IP67

CE Compliance

EN 55022 Emissions Class A & B

IEC 61000-4-2 Electrostatic Discharge Immunity (4kV contact/8kV air)

IEC 61000-4-3 Radiated, Radio-Frequency Electromagnetic Field Immunity (10V/m, 80M-1GHz)

IEC 61000-4-4 Electrical Fast Transient Immunity (1kV)

IEC 61000-4-5 Surge Immunity (V+ to V-: ±1KV/42Ω; L to Case: ±1KV/42Ω; V- to V₀: ±1KV/42Ω)

IEC 61000-4-6 Immunity to Conducted Disturbances Induced by Radio Frequency Fields (150K~80MHz, 3V level)

For all CE compliance tests, max allowed output deviation ±1.5 %F.S.

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Display Specification

Digits Display	Within range: -XXX to XXXX Overload(>110%FS): OP
Type	7 Segment Blue LED
Polarity	Automatic (-) Display
Display Accuracy (excluding transducer output)	+/-0.25% of Rdg +/- 1 Count
Character Size	0.24" height
Display Rotation Range	Continuous 310°
Zero Setting	Push down zero button for 5 seconds at ambient pressure. Disabled if output exceeds 3%FS (5% for FS ≤100PSI or 7BAR Safety warning: Display is for reference only since its zero can be adusted.

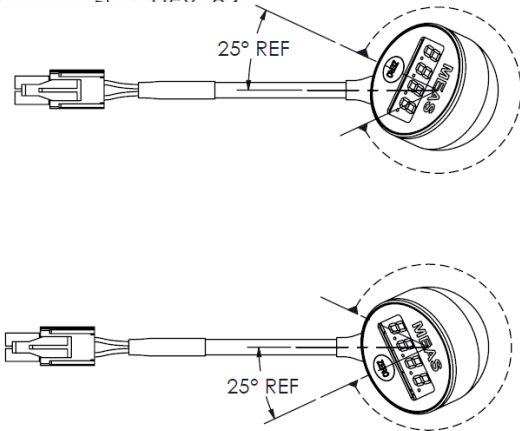
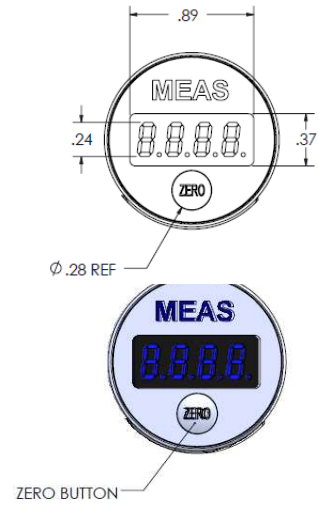
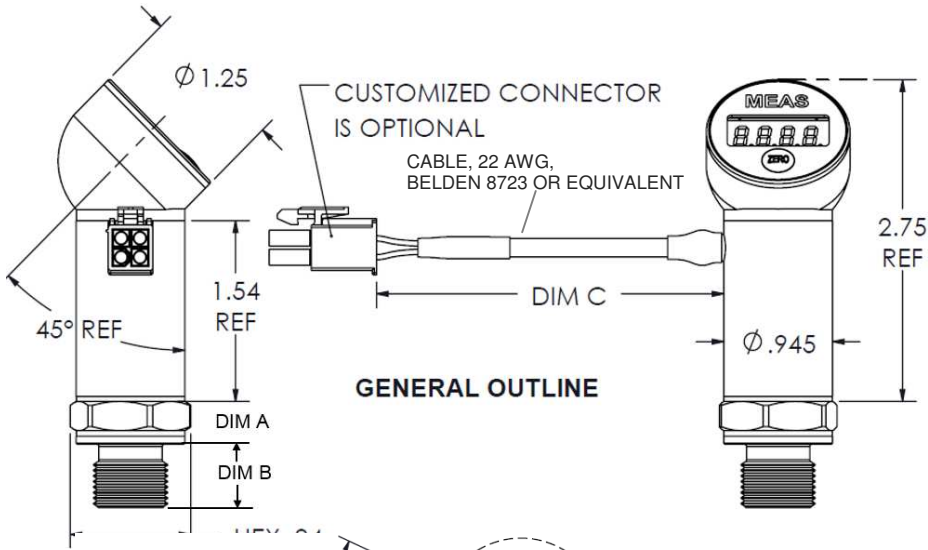
Display Digital Resolution

PRESSURE UNIT	PRESSURE RANGE	DISPLAY DIGIT	DECIMAL PLACE	NEGATIVE PRESSURE	EXAMPLE
PSI	050 to 99.9	3	1	Shows "-"	01.0~99.9, -13.7,
	100 to 999	3	NA	Shows "-"	101~999, -013
KPSI	01 to 9.999	4	NA	Shows "-"	1000~9999, -013
	10 to 15	4	2	NA	10.00 - 15.00
BAR	3.5B to 01K	4	1	Shows "-"	003.5~700.0, -000.1, 1000

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DIMENSIONS



DISPLAY ROTATION ALLOWANCE ABOUT 310°

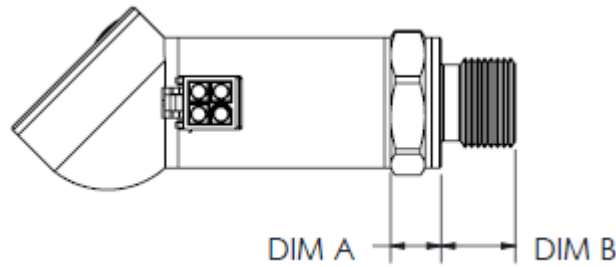
*Dimensions are in inches unless otherwise specified

CODE	DIM C
1	CABLE 2 FT
E	CABLE 3 FT
2	CABLE 4 FT
3	CABLE 10 FT
M	CABLE 1 M
N	CABLE 2 M
P	CABLE 5 M
R	CABLE 10 M
X	Cable special Length with customized connector (must fit 22 AWG size cable)

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CODE	PORT	DIM B	DIM A REF.	Recommended Torque (N.m)
2	1/4-19 BSPP	0.472	0.366	30~35
		[11.94]	[9.3]	
3	G3/8 JIS B2351	0.540	0.366	35~40
		[13.72]	[9.3]	
4	7/16-20UNF MALE SAE J1926-2 STRAIGHT THREAD O-RING BUNA-N 90SH-904	0.433	0.366	18~20
		[11.0]	[9.3]	
5	1/4-18 NPT	0.600	0.366	2~3 TFFT
		[15.24]	[9.3]	
6	1/8-27 NPT	0.390	0.366	2~3 TFFT
		[9.91]		
B	G1/4 JIS B2351	0.472	0.366	30~35
		[11.94]	[9.3]	
E	1/4-19 BSPT	0.500	0.366	2~3 TFFT
		[12.7]	[9.3]	
F	1/4-19 BSPP FEMALE (without snubber)	0.621	0.366	30~35
		[15.77]	[9.3]	
P	7/16-20UNF FEMALE SAE J513 STRAIGHT THREAD WITH INTEGRAL VALVE DEPRESSOR	0.430	0.444	15~16
		[10.92]	[11.28]	
N	7/16-20UNF FEMALE SAE J513 STRAIGHT THREAD	0.430	0.444	15~16
		[10.92]	[11.28]	
Q	M10 x 1.0 mm ISO 6149-2	0.374	0.366	15~16
		[9.5]	[9.3]	
S	M12 x 1.5 mm ISO 6149-2	0.433	0.366	25~30
		[11.0]	[9.3]	
U	G/14 DIN 3852 FORM E GASKET DIN3869-14 NBR	0.472	0.445	30~35
		[11.94]	[11.3]	
W	M20 x 1.5 mm ISO 6149-2	0.551	0.366	40~45
		[14.0]	[9.3]	
G	M14 x 1.5 mm ISO 6149-2	0.433	0.366	25~30
		[11.0]	[9.3]	



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WIRING

Current Output Wiring		
+SUPPLY	-SUPPLY	Ground
RED	BLK	Drain wire

Voltage Output Wiring			
+SUPPLY	+OUTPUT	COMMON	Ground
RED	WHT	BLK	Drain wire

OUTPUTS

CODE	OUTPUT SIGNAL	SUPPLY VOLTAGE
4	1 TO 5 V	8~30 V
5	4 TO 20 mA	12~30 V
6	0 TO 5 V	8~30 V
7	0 TO 10 V	12~30 V
8	1 TO 6 V	8~30 V
9	0.5 TO 4.5 V	8~30 V

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ORDERING INFORMATION

M58	3	2	-	0	0	00	1	5	-	100P	G
Model Name											
Output											
4=1-5V	5=0-20mA	6=0-5V									
7=0-10V	8=1-6V	9=0.5-4.5V									
Connection Type											
1=Cable 2ft	E=Cable 3ft	2=Cable 4ft									
3=Cable 10ft	M=Cable 1m	N=Cable 2m									
P=Cable 5m	R=Cable 10m										
X=special cable length with custom connector											
Port Material											
0=17-4PH	1=316L Stainless Steel										
Snubber											
0=No Snubber	1= Oxygen Clean B40.1 Level IV	2=With Snubber									
00											
Label											
0=Adhesive Label	1=Laser Marking										
Pressure Port											
2=1/4-19 BSPP	3=G3/8 JIS B2351										
4=7/16-20UNF Male SAE J1926-2 Straight Thread O-Ring BUNA-N 90SH-904											
5=1/4-18 NPT	6=1/8-27 NPT	B=G1/4 JIS B2351	E = 1/4-19 BSPT								
F = 1/4-19 BSPP Female											
P=7/16-20UNF Female SAE J513 Straight Thread with Integral Valve Depressor											
Q=M10x1.0mm ISO 6149-2	N = 7/16-UNF Female SAE J513 Straight Thread										
S = M12x1.5mm ISO 6149-2	U = G1/4 DIN 3852 Form E Gasket DIN3869-14 NBR										
W = M20x1.5mm ISO 6149-2	G = M14x1.5mm ISO 6149-2										
Pressure Range											
050P	100P	200P	300P	500P	01KP	03KP	05KP	07KP			
3.5B	007B	010B	020B	035B	070B	200B	350B	500B			
10KP	15KP										
700B	01KB	Note: Compound pressure range is -14.7 to xxxpsig or -1 to xxxbarg. (e.g. 200PC: -14.7 to 200psig, 020BC: -1 to 20barg)									
Pressure Type											
G=Gage	C=Compound										

Refer to online installation instruction for recommended torque.
 For installation instructions, please find the document under "RELATED MATERIALS" at the M5800 product website of te.com

NORTH AMERICA
 Measurement Specialties, Inc.,
 a TE Connectivity company
 45738 Northport Loop West
 Fremont, CA 94538
 Tel: +1 800 767 1888
 Fax: +1 510 498 1578
customercare.frm@te.com

EUROPE
 MEAS France SAS,
 a TE Connectivity company
 26 Rue des Dames
 78340 Les Clayes-sous-Bois, France
 Tel: +33 (0) 130 79 33 00
 Fax: +33 (0) 134 81 03 59
customercare.lcsb@te.com

ASIA
 Measurement Specialties (China) Ltd.,
 a TE Connectivity company
 No. 26 Langshan Road
 Shenzhen High-Tech Park (North) Nanshan District,
 Shenzhen, 518057
 China
 Tel: +86 755 3330 5088
 Fax: +86 755 3330 5099
customercare.shzn@te.com

TE.com/sensorsolutions

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