



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	Whichever is less
Long Term Stability (1 year)	-0.25		0.25	%F.S.	
Total Error Band (17-4PH)	-1.0		1.0	%F.S.	Within CT
Total Error Band (316L, ≤3k psi)	-1.5		1.5	%F.S.	Within CT
Total Error Band (316L, >3k psi)	-2.0		2.0	%F.S.	Within CT
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				
Weather Proof	IP67				
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

Compensated Temperature: The temperature range over which the product will produce an output proportional to pressure within the specified performance limits.

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.

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.

All configurations are built with supply voltage reverse and output short-circuit protections.

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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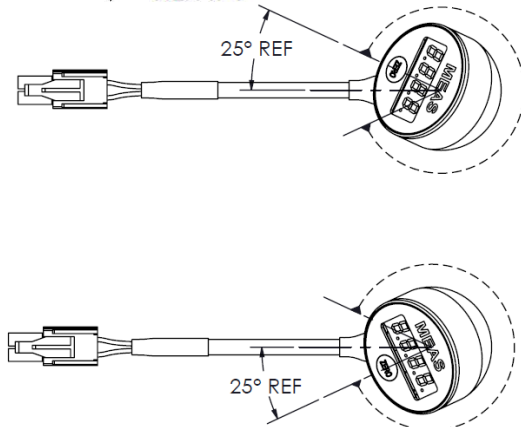
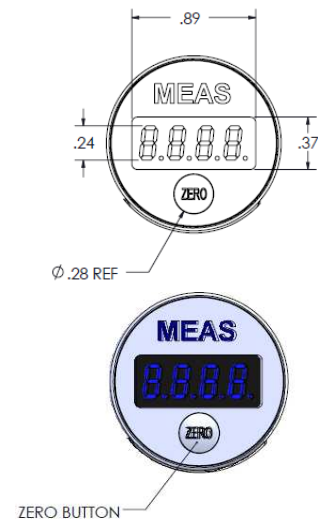
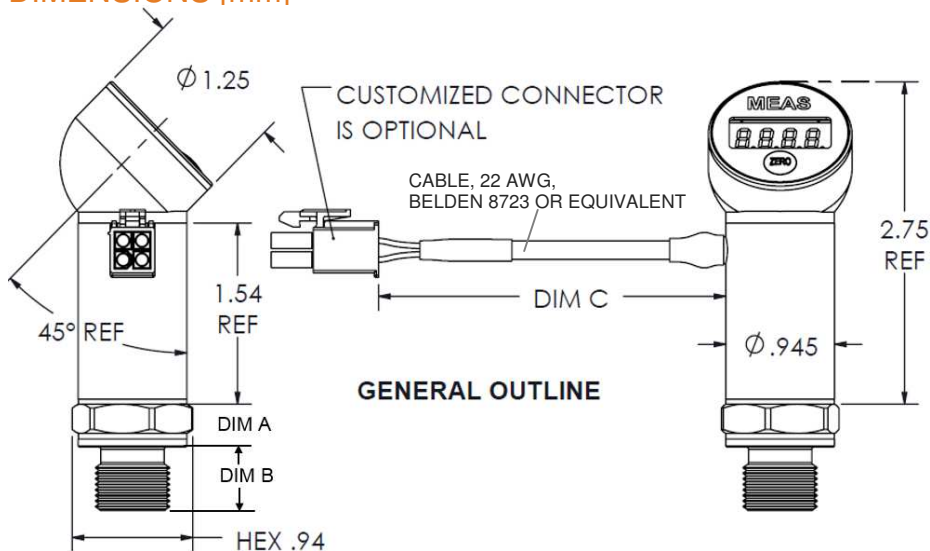
Display Specification

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
Viewing Direction	Rotatable
Zero button	Tare affecting only display

Display Digital Resolution

PRESSURE UNIT	PRESSURE RANGE	DISPLAY DIGIT	DECIMAL PLACE	NEGATIVE PRESSURE	EXAMPLE
PSI	>050P & <100P	3	1	"-" precedes number	01.0~99.9, -13.7, (100.0 indicate 100PSI)
PSI	>100P & <01KP	3	NA	"-" precedes number	101~999, -013
PSI	>01KP & <10KP	4	NA	"-" precedes number	1000~9999, -013
KPSI	>10KP & <15KP	4	2	NA	10.00~15.00
BAR	>3.5B & <01KB	4	1	"-" precedes number	003.5~700.0, -000.1, (1000 indicate 01KB)

DIMENSIONS [mm]



DISPLAY ROTATION ALLOWANCE ABOUT 310°

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)

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

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

ORDERING INFORMATION

M58	3	1	-	0	0	00	0	5	-	100P	G
Model	Output Signal	Connection Type	-	Port Material	Snubber	00	Label	Pressure Port	-	Pressure Range	Pressure Type
M58	4 = 1 – 5V 5 = 4 – 20mA 6 = 0 – 5V 7 = 0 – 10V 8 = 1 – 6V 9 = 0.5 – 4.5V	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 = special cable length with customized connector	-	0 = 17-4PH 1 = 316L SS	0 = No Snubber 1 = Oxygen Clean B40.1 Level IV 2 = With Snubber	00	0 = Adhesive Label 1 = Laser Marking	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 = 1/8-27NPT 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 N = 7/16-20UNF FEMALE SAE J513 Straight Thread Q = M10 x 1.0 mm ISO 6149-2 S = M12 x 1.5 mm ISO 6149-2 U = G1/4 DIN 3852 Form E Gasket DIN3869-14 NBR W = M20 x 1.5 mm ISO 6149-2 G = M14 x 1.5 mm ISO 6149-2	-	050P 3.5B 100P 007B 010B 200P 020B 300P 035B 500P 070B 01KP 070B 03KP 200B 05KP 350B 07KP 500B 10KP 700B 15KP 01KB	G = Gage C = Compound

Note:

Compound pressure range is -14.7 to xxxpsig or -1 to xxxbarg. (e.g. 200PC: -14.7 to 200psig, 020BC: -1 to 20barg)
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

M5800

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