

UltraStable 5100 Pressure Sensor

Industrial - High EMI Rated
High Stability



DESCRIPTION

The **UltraStable 5100 series** from MSI Sensors sets the price / performance standard for transducers used in demanding environments.

The UltraStable 5100 exceeds the latest heavy industrial CE requirements including surge protection, and is over voltage protected in both positive and reverse polarity. The 100% 316L media isolation covers all but the most corrosive environments. Custom OEM designs available including exotic metals and various ports and output options.

FEATURES

- ◆ Heavy Industrial CE Approval
- ◆ 100 V/m EMI Protection
- ◆ Reverse Polarity Protection
- ◆ 0.75% Total Error Band
- ◆ Compact Outline
- ◆ -40 to 125° C Operating

APPLICATIONS

- ◆ Advanced HVAC Controllers
- ◆ Refrigeration Systems
- ◆ Automotive Test Stands
- ◆ Gas compressors
- ◆ Industrial process control
- ◆ Pumps and Compressors
- ◆ Hydraulic/Pneumatic Systems
- ◆ Agriculture Equipment
- ◆ Energy and Water Management

performance specifications

Pressure range	15, 30, 50, 100, 200, 300, 500, 1000, 3000, 5000, 10,000 psi
Accuracy	+/- 0.1% FS BFSL
Media compatibility	Fluids compatible with 316 stainless
Pressure cycles	> 1 million
Pressure overload	3 times rated pressure without calibration shift
Burst pressure	4 times rated pressure
Long Term Stability	+/- 0.1% FS typical (12 months)

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CE compliant per the following specifications

EN55022 Emissions Class A & B

IEC61000-4-2 Electrostatic Discharge Immunity (6kV contact/8kV air)

IEC61000-4-3 EM Field Immunity (30V/m)

IEC61000-4-4 Electrical Fast Transient Immunity (1kV)

IEC61000-4-5 Surge (1kV)

IEC61000-4-6 Conducted Immunity (10V)

IEC61000-4-9 Pulsed Magnetic Field Immunity (100A/m)

Automotive EM field immunity 100V/m 80 MHz to 1 GHz

environmental performance

Operating Temp Range -40 to 125 °C

Compensated Temp Range -20 to 85 °C

Total Error Band +/- 0.75% FS over compensated range
(+/- 1.5% typical over extended range contact factory)

Vibration 20G at 20 to 200 Hz

Shock 200 G / 11mS

ordering information

Model	Output	Connection	Options	Pressure Port	Pressure Range/Units	Pressure Reference
U51	3 = 0.5 to 4.5 V 4 = 1 to 5 V 5 = 4 to 20 mA 6 = 0 to 5 V 7 = 0 to 10 V	1 = 2 ft cable 4 = Packard Metripak 150 5 = Bendix PTIH -10-6P 6 = Min-Hirschman DIN 43650 Ind C	00000 Fill options alphabetically from left	2 = 1/4 BSP 4 = 7/16-20 UNF Male, O-ring 5 = 1/4-18 NPT P = 7/16-20 female with integral valve depressor	015 = 15 psi 030 = 30 psi 050P = 50 psi 100P = 100 psi 200P = 200 psi 300P = 300 psi 500P = 500 psi 01KP = 1000 psi 1K5P = 1500 psi 03KP = 3000 psi 05KP = 5000 psi 10KP = 10,000 psi	001B = 1 Bar 002B = 2 Bar 3.5B = 3.5 Bar 007B = 7 Bar 010B = 10 Bar 020B = 20 Bar 035B = 35 Bar 070B = 70 Bar 100B = 100 Bar 200B = 200 Bar 350B = 350 Bar 700B = 700 Bar
	X = Special Connector	X = Special Connector	1nnnn = Custom Drawing Number	X = Special Port		

Consult factory for special options or non-standard part number

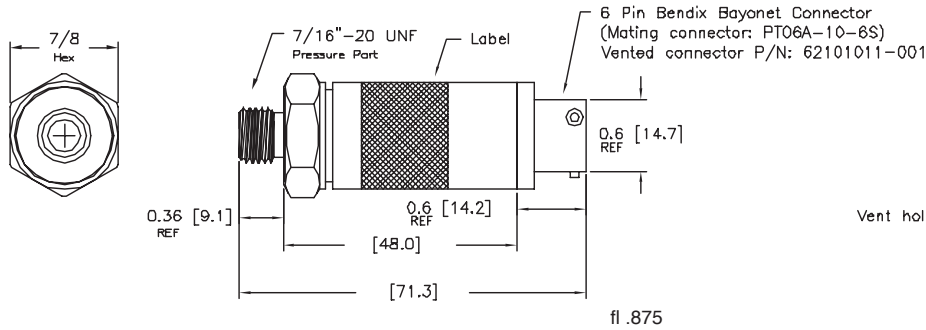
Example: U5131-000005-300PG = 5 V power with 0.5 to 4.5 Vout (ratiometric) and 2 ft cable. No options, 1/4 NPT pressure port rated at 100 psi gauge
U515X-12345P-010BG = 4-20 mA current loop, with a custom pressure port to drawing 12345 (consult factory). 7/16 pressure port, 10 bar gauge

output options

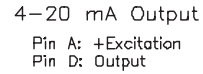
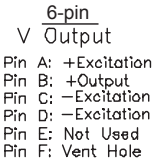
Code	Output	Supply
3	0.5 to 4.5 V at 5V (ratiometric)	4.75 to 5.25 V
4	1 to 5 V	8 - 30V
5	4 - 20 mA	9 - 30V
6	0 - 5 V	8 - 30V
7	0 - 10 V	15 - 30V

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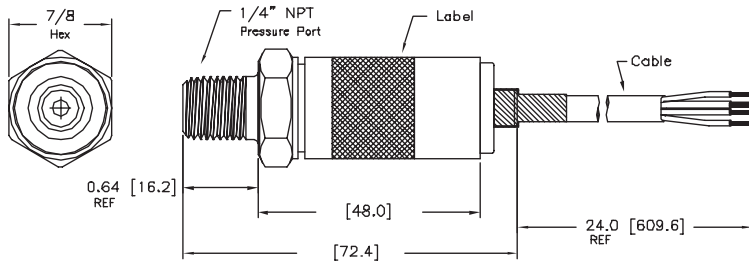
mechanical dimensions



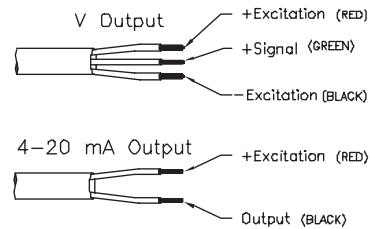
CONNECTIONS



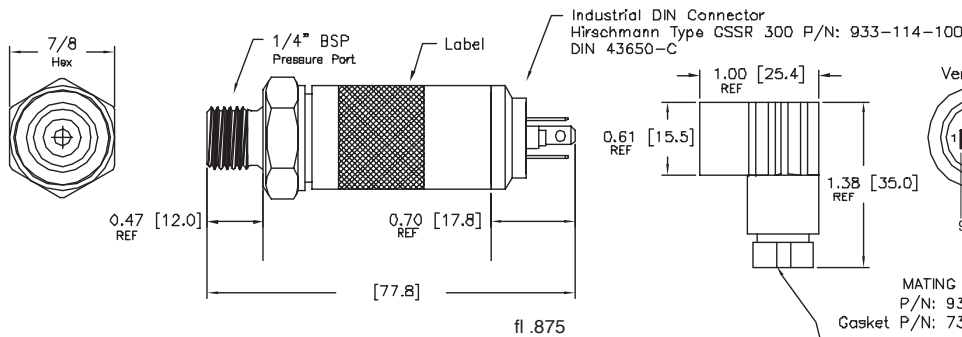
Vent through removed Pin F hole (under 1000 psi)



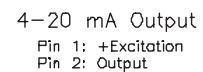
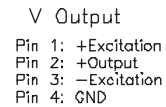
CONNECTIONS



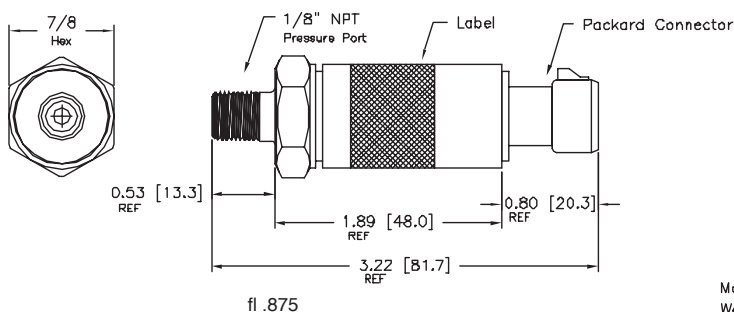
Vent through cable (under 1000 psi) Max operating temperature for cable is 100°C.



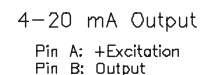
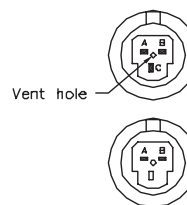
CONNECTIONS



Vent through hole in connector (under 1000 psi)



CONNECTIONS



Mating connector: Housing p/n: 12078090 Pin p/n: 12103881-L
Web Site for mating connector: www.powerandsignal.com

Vent through hole in connector (under 1000 psi)

Note: Mating connector is available with 3 ft of cable PN (2001140 - 03).

Consult factory for other pin-out configurations