

Installation Instructions PT-V-0-1BAR-01 (Vacuum to 1 Bar) 4-20mA Pressure Transducer



WARNING – The Maretron pressure transducer PT-V-01BAR-01 is **not** approved for use with gasoline. If you wish to use the FPM100 or CLM100 to monitor pressures or levels of gasoline, you must obtain a pressure transducer that is approved for use with gasoline.

Instructions

Please follow these instructions to connect the PT-V-0-1BAR-01 pressure transducer to the NMEA 2000® network via a Maretron FPM100 (Fluid Pressure Monitor) or the CLM100 (Current Loop Monitor). The wiring diagram appears in Figure 1 below. The diagram shows a connection to channel #0, but connections to other channels are similar.

1. Please refer to the FPM100 or CLM100 User's Guide for detailed information on selecting a mounting location for the pressure transducer and for further configuration details.
2. All Maretron external pressure transducer assemblies are equipped with a ¼" NPT male threaded fitting. Install the pressure transducer to a ¼" NPT female fitting on the system or tank to be monitored with a maximum torque of 133 to 177 in-lbs (15 to 20 Nm). If you are monitoring a system where pressure spikes or transients will occur, or where the pressure will exceed the maximum pressure rating of the pressure transducer, install a Pressure Snubber (PT-SNUB-01) onto the system being monitored first, then install the pressure transducer to the female port on the pressure snubber.
3. Connect the two wires of the pressure transducer to a free pressure monitoring channel. Connect the white wire from the pressure transducer to the positive (+) terminal of the channel and connect the brown wire from the pressure transducer to the negative (-) terminal of the channel. The example in Figure 1 shows the pressure transducer connected to switch channel 0 with the white wire connected to "P0+", and the brown wire connected to "P0-". Pressure transducers of "Gauge" type allow atmospheric pressure to the sensor through the connecting cable. Take care to not allow the end of the cable with the tinned wire leads to be exposed to moisture, or the sensor may become damaged due to corrosion. If the area where the end of the cable is located might have moisture present, the use of 1) a waterproof junction box with cable glands and a PTFE vent or 2) a desiccant cartridge is highly recommended. Running the cable through a cable gland will not affect its ability to allow atmospheric pressure through the cable into the sensor.
4. Supply Power to the NMEA 2000® network to verify that the pressure channel indicates a valid pressure reading.
5. Using either a Maretron DSM Series display (firmware 1.4.7 or higher) or by using a Maretron gateway, such as the USB100, paired with a Windows® PC running the Maretron N2KAnalyzer® software to configure the FPM100 or CLM100 and connected channels.
6. Set Function for channel to be Pressure/Vacuum and apply the below settings to match the sensor profile.

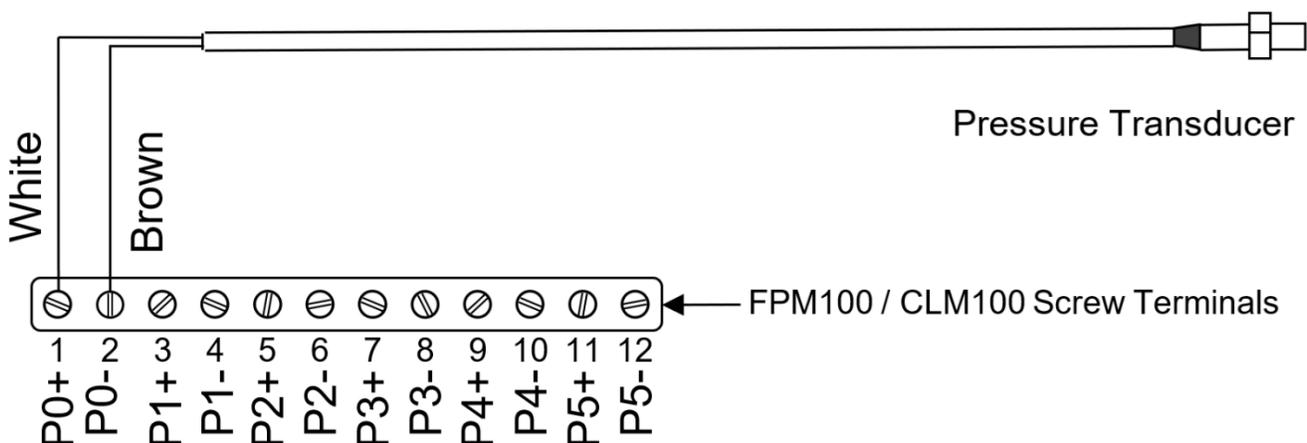


Figure 1 – Pressure Transducer Connection Diagram

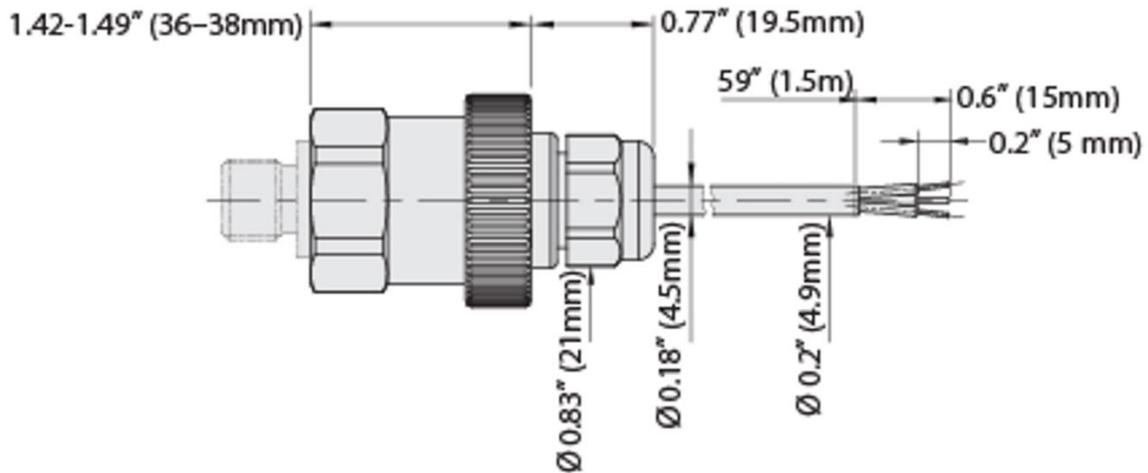


Figure 2 – Pressure Transducer Mechanical Drawing

Pressure Transducer Specifications

Part Number	Range	Accuracy	Cable Length	Pressure @ 4mA	Pressure @ 20mA
PT-V-0-1BAR-01	Vacuum to 1 Bar (-14.5 to 14.5 PSI)	±1% Full Scale	4.9 ft (1.5 m)	-14.5 PSI	14.5 PSI

Specification	Value
Sensor Type	Gauge
Output	4 – 20 mA current loop, loop powered
Compatible Fluids / Gases	Air, Brake Fluid, Diesel, Diesel Exhaust Fluid (DEF), Hydraulic Fluid, Hydrogen, Kerosene, Motor Oil, Nitrogen, Refrigerant, Fresh Water, Sea Water, and Waste Water
Operating Temperature	23°F to 140°F (-5°C to 60°C)
Media Temperature	-13°F to 257°F (-25°C to 125°C)
Over Pressure Max	29 PSI (2 bar)
Construction	1.4305 (303 Stainless Steel), Thick Film on Ceramic Al ₂ O ₃ (96 %) Sensor, FKM 70 Sh O-Ring
Cable	IP67, PVC (cable gland PA6-3)
Cable Length	4.9 ft (1.5 m)
Vibration	4 g (10 – 2000 Hz)
Shock	50 g / 8 ms
EMC Compatibility	EN 61000-6-3, EN 61000-6-2
Humidity	Max. 95% relative
Weight	110g

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