

Installation Guide for the UMC-PT Adjustable 4-20 ma Transmitter

The UMC-PT is a general purpose pressure transducer utilizing a ceramic capacitive sensing element which is resistant to most harsh environments and process media. The capacitive plates exhibit extremely low hysteresis and provides excellent reliability.

The supply requirements for the UMC-PT transmitter is 12 to 45 VDC. However, because of the load resistance inherent in all receivers, it is recommended that the minimum supply voltage be 17 volts. Consult UMC if it is desired to use the transmitter at a lower voltage. All power to the transmitter is supplied over two wires; no additional wiring is required. To maximize noise immunity, use shielded twisted pair cable. When shielded cable is used, earth ground the shield at one end only (usually at the receiver end). DO NOT install signal wiring in the same conduit with AC power.

Multiple transmitters can be connected to a common DC power supply provided the wire gauge and length (loop resistance) are taken into consideration. The power supply should have *minimum AC ripple and preferably be regulated*. The transmitter should be earth grounded via a third wire ground (i.e. conduit and process piping is not always a reliable grounding media). It is recommended that 16 AWG wire be used for such grounding.

The UMC-PT does not have integral transient protection. Should transient protection be required (and it is recommended) it must be added to the external power supply and signal cables. The DC resistance of the transient protector should not exceed 44 ohms. For best protection of long cable runs, a protector at each end is preferred, especially in area where lightning is a common occurrence.

Turndown:

The UMC-PT has a 5:1 turndown ratio. This means that the full scale output (20 ma) can be set down to 1/5th of the rated pressure, i.e. if the unit is a 100 psi transmitter, the span and zero can be adjusted to give an output of 20 ma at 20 psi. This enables one transmitter range to service several different application ranges rather than having to stock several different fixed range transmitters.

Zero and Span

Note that the zero and span are normally set at the factory for the range specified by the customer and no further adjustment should be necessary.

The zero and span adjustments are accessible by unscrewing the housing cover lid. Inside the housing, attached by two screws, is a black slider plate. Turn the two screws counter clockwise 2 turns only and slide the plate towards the terminal block. This will expose the zero and span access holes (indicated by a "z" and "s" on the black slider plate).

SECTION II

INSTALLATION

WIRING

CAUTION - Power must be off while connections are made to wires.

NOTE - In order to avoid "Ground Loop" conditions, there should be only one ground in a loop. The shield/drain can be used to provide optimal noise rejection if required.

