Installation and Startup Guide

MPP Modular Pressure Transmitter

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RODEM®

PROCESS EQUIPMENT

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PRODUCT DESCRIPTION

The model MPP modular pressure transmitter has been specifically designed for placement in sanitary process applications in the Life Sciences industry where accurate and repeatable pressure measurements in difficult (vibration, wide temperature swings, humidity) environments are required. The modular design allows for field configuration to best suit application needs and allows economical component replacement. State of the art performance yields class leading accuracy and stability while minimizing process and ambient temperature effects. A menu driven interface with an internal diagnostic display provides user adjustability of pressure range and a host of other control characteristics without tools or pressure standards.
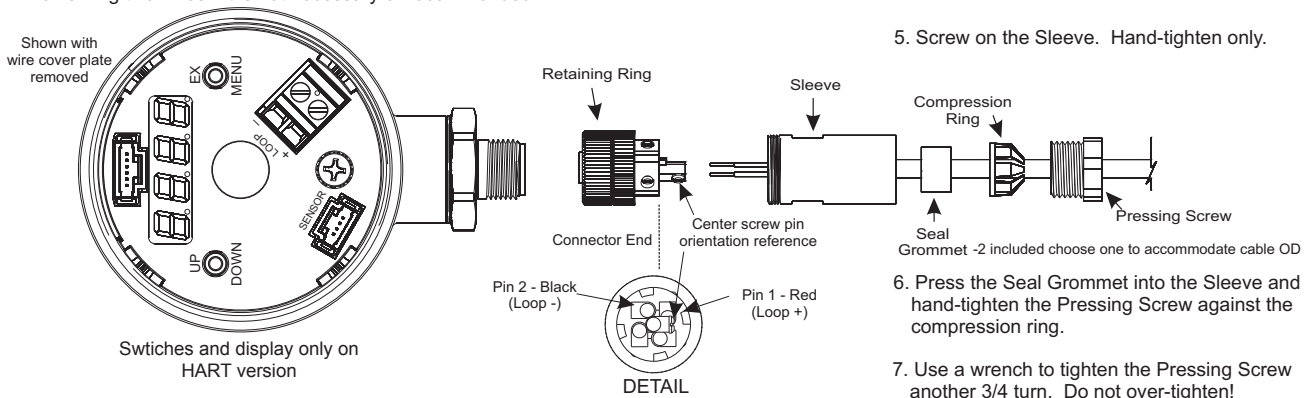
SENSOR WIRING

To facilitate electrical connections the MPP transmitter will be provided with either a 5 pin M12 quick disconnect receptacle, a M16 thread cable gland, or a ½" NPTF threaded adaptor. Shielded cable is recommended. See manual for additional detail.
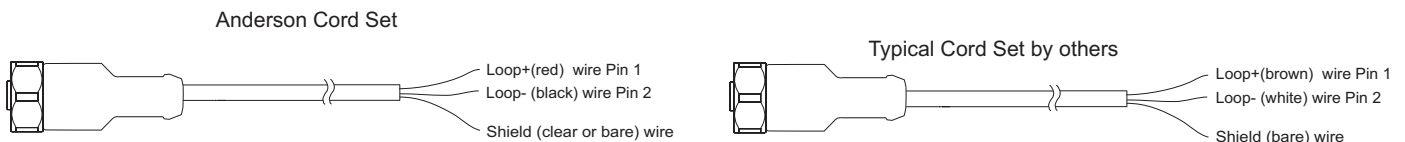
Field wireable connectors or molded cordsets are available as accessories from Anderson Instrument.

FIELD WIREABLE CONNECTOR ASSEMBLY - ORDERED AS ACCESSORY

1. Insert cable through Pressing Screw, Compression Ring, Seal Grommet, and Sleeve as shown below.

2. Strip back 1-1/4" of outer sheathing, cut off any excess wires, shield and ground. Strip off 1/4" insulation from remaining two wires. It is not necessary or recommended

3. Orient Connector end so that center pin connecting screw is horizontal facing right (see detail).

4. Wire LOOP+ (red) wire to top-right terminal, and LOOP- (black) wire to top-left terminal. No connection is made to the center and bottom terminals.

5. Screw on the Sleeve. Hand-tighten only.

6. Press the Seal Grommet into the Sleeve and hand-tighten the Pressing Screw against the compression ring.

7. Use a wrench to tighten the Pressing Screw another 3/4 turn. Do not over-tighten!

Shown with wire cover plate removed

EX MENU LOOP+ SENSOR UP DOWN

Swtiches and display only on HART version

Retaining Ring

Connector End

Center screw pin orientation reference

Pin 2 - Black (Loop -)

Pin 1 - Red (Loop +)

DETAIL

Sleeve

Compression Ring

Seal Grommet -2 included choose one to accommodate cable OD

Pressing Screw

MOLDED CORD SETS

Anderson Cord Set

Loop+(red) wire Pin 1
Loop- (black) wire Pin 2
Shield (clear or bare) wire

Note: Green and White not used

Typical Cord Set by others

Loop+(brown) wire Pin 1
Loop- (white) wire Pin 2
Shield (bare) wire

USER INTERFACE GUIDE

The Anderson MPP Modular Pressure Transmitter is factory calibrated to the URL (upper range limit) and configured to the range and units specified by the order matrix number. Range, pressure units, output damping and analog scale (HART only) may be easily modified by the user. The Display Interface (DI) provides user feed back for menu functions, displays diagnostic error codes and nominally loop current or process variable.

The Modular Pressure Transmitter configuration parameters are sorted into three modes, and are accessible via the button along the bottom of the display interface. While the cover is removed, do not allow moisture to enter the housing.

Display Interface
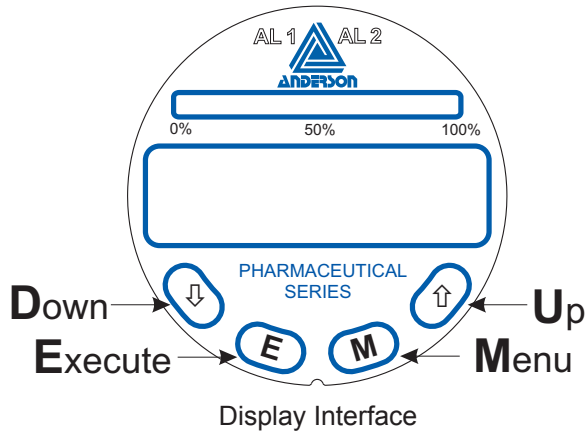
RUN Mode
Zero
Adjust Display Decimal
Momentarily Display mA Output (HART only)
Descriptive Error Message

SENSOR CONFIG Mode
PSIG/BAR (native units)
4-20mA / 20-4mA (HART only)
LRV
URV
Damping
Alarm1
Alarm2
Display Units
Unit Description Scroll
Factory Restore

CALIBRATION Mode
2 Point Cal
4 Point Cal

SENSOR CONFIGURATION

Each instruction assumes starting from RUN mode which is default at power on and process value is displayed.

CALIBRATION – Zero

NOTE – For ABSOLUTE stems zero calibration is disabled as zeroing is not possible in atmospheric conditions.

Zeroing the sensor provides the best accuracy when clamped into the application therefore negates possible positioning and clamping errors. Be sure sensor is exposed to zero psig when performing this function.

1. Press both "D" and "M" simultaneously for approximately 5 seconds – Sensor displays 4.00 milliamp (HART version), or 0.00 (FFB version) for gauge, for compound sensor displays appropriate output for set range

Native Units: PSI or Bar

1. Press "M" – Sensor displays "COnF"
2. Press "E" – Sensor displays "PSI" or "BAR"
3. Press "U" or "D" – Sensor toggles between "PSI" or "BAR"
4. Press "M" to proceed to the next operation

Note: When changing units configuring range is now required

Output: 4Ma – 20Ma or 20mA – 4mA (HART only)
1. Press "M" – Sensor displays "COnF"
2. Press "E" – Sensor displays "PSI" or "BAR"
3. Press "M" – Sensor displays "4-20" or "20-4"
4. Press "U" or "D" – Sensor toggles between "4-20" or "20-4"
5. If no other operation is to be accessed exit to "RUN" mode via pressing "M" repeatedly until process value is displayed

PRESSURE RANGE

LRV: Lower range value
Sensors equipped with "Compound" style measurement cells (stem) may configure the LRV. "Absolute" stems are predefined as 0 and are not reconfigurable

1. Press "M" – Sensor displays "COnF"
2. Press "E" – Sensor displays "PSI" or "BAR"
3. Press "M" – Sensor displays "4-20" or "20-4" (HART only)
4. Press "M" – Sensor displays "LRV"
5. Press "E" – Sensor displays present LRV value – Example: "0"
6. Press "U" or "D" to set desired LRV value– Sensor display increases or decreases accordingly

Note: continue to URV

URV: Upper range value
Note: starting from LRV above
7. Press "M" – Sensor displays "URV"
8. Press "E" – Sensor displays present URV value – Example: "50"
9. Press "U" or "D" to set desired URV value – Sensor display increases or decreases accordingly
10. Press "E" to store displayed value – Sensor displays "URV"
11. If no other operation is to be accessed exit to "RUN" mode via pressing "M" repeatedly until process value is displayed

Output Damping
1. Press "M" – Sensor displays "COnF"
2. Press "E" – Sensor displays "PSI" or "BAR"
3. Press "M" – Sensor displays "4-20" or "20-4" (HART only)
4. Press "M" – Sensor displays "LRV"
5. Press "M" – Sensor displays "URV"
6. Press "M" – Sensor displays "dMPg"
7. Press "E" – Sensor displays current damping value from 0 - 10
8. Press "U" or "D" to display desired damping value– Sensor display increases or decreases accordingly
9. Press "E" to store displayed value – Sensor displays "dMPg"
10. If no other operation is to be accessed exit to "RUN" mode via pressing "M" repeatedly until process value is displayed

Setting Display Process Variable - Functionality in display interface only.
For additional display interface functionalities see section 7.2 of the manual.

The following Engineering units may be selected:
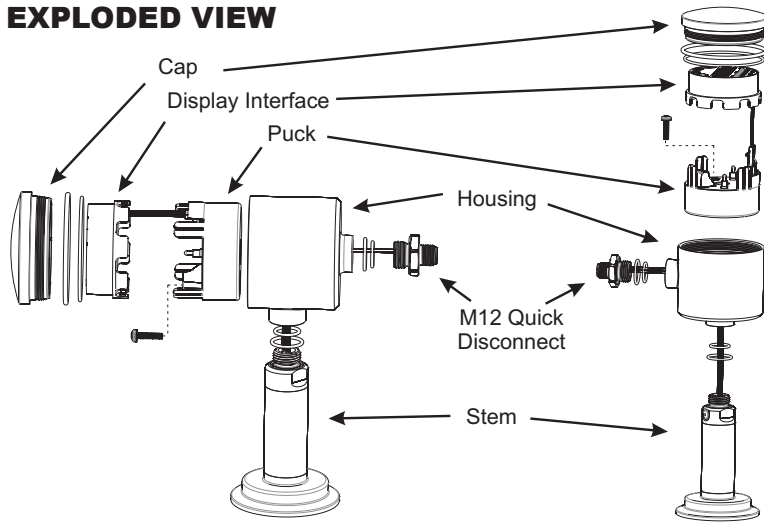Millibar, Torr & Kg/cm2, PSI, BAR, kPA, In H2O, In Hg, mm H2O, mA

1. Press "M" – Sensor displays "CONF"
2. Press "E" – Sensor displays "PSIG" or "BARG"
3. Press "M" – Sensor displays "4-20" or "20-4"(HART only)
4. Press "M" – Sensor displays "LRV"
5. Press "M" – Sensor displays "URV"
6. Press "M" – Sensor displays "DAMP"
7. Press "M" – Sensor displays "ALRM1"
8. Press "M" – Sensor displays "ALRM2"
9. Press "M" – Sensor displays currently set engineering unit
10. Press "U" or "D" repeatedly to select the desired engineering unit
11. Press "M" to proceed to next operation or repeatedly to exit to "run" mode

Factory configuration reset
Perform if a return to the original factory configuration is desired
1. Press "M" – Sensor displays "COnF"
2. Press "E" – Sensor displays "PSI" or "BAR"
3. Press "M" – Sensor displays "4-20" or "20-4" (HART only)
4. Press "M" – Sensor displays "LRV"
5. Press "M" – Sensor displays "URV"
6. Press "M" – Sensor displays "dMPg"
7. Press "M" – Sensor display "FrES"
8. Press "E" – Sensor display "nO"
9. Press "U" or "D" to display "YES"
10. Press "E" – Sensor display "FrES"
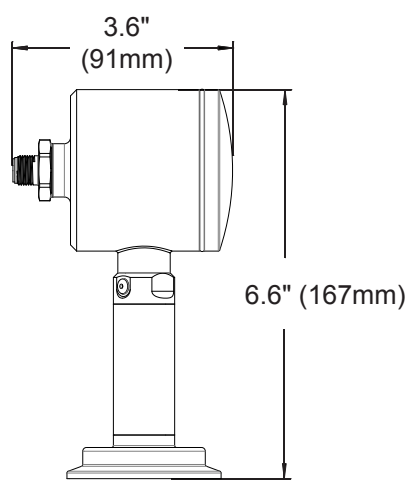11. exit to "RUN" mode via pressing "M" repeatedly until process value is displayed
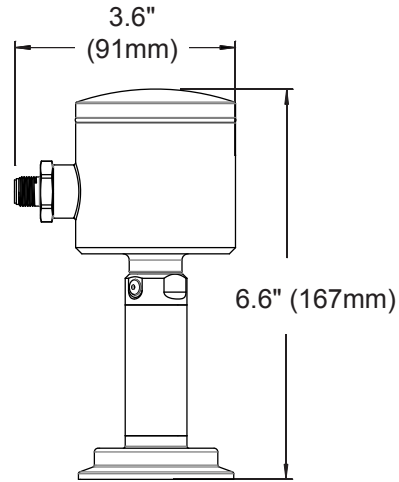
EXPLODED VIEW

Cap

Display Interface

Puck

Housing

M12 Quick Disconnect

Stem

DIMENSIONAL DRAWINGS

3.6"
(91mm)

6.6" (167mm)

Horizontal Orientation

3.6"
(91mm)

6.6" (167mm)

Vertical Orientation

Cable available in 5', 10', 15', 20' and 25' lengths

7.87" (200mm)