



# READ THIS FIRST

## Installation and Startup Guide

# “MPF” Modular Pressure Transmitter

Version 3.0 Document 1182

**RODEM**<sup>®</sup>  
PROCESS EQUIPMENT  
www.rodem.com 800-543-7312



**Anderson Instrument Co., Inc.**  
156 Auriesville Rd., Fultonville, NY 12072  
Phone: 518-922-5315  
Fax: 518-922-8997

www.anderson-negele.com

### PRODUCT DESCRIPTION

The Anderson “MPF” Modular Pressure Transmitter is designed specifically for monitoring critical pressures in sanitary applications and environments. 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 MPF transmitter will be provided with either a 5 pin M12 quick disconnect receptacle, a M16 thread cable gland, or a 1/2” NPTF threaded adaptor. Shielded cable is recommended. See manual for additional detail.

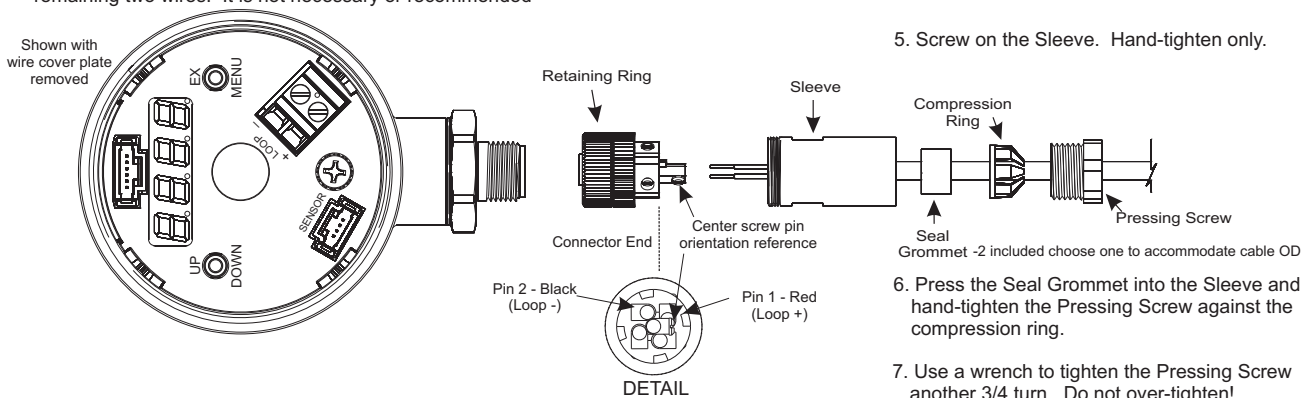
Field wireable connectors or molded cordsets are available as accessories from Anderson Instrument.

### 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.

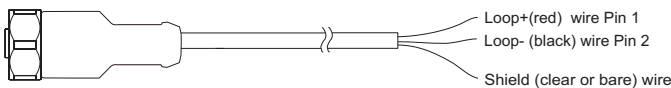
5. Screw on the Sleeve. Hand-tighten only.

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!

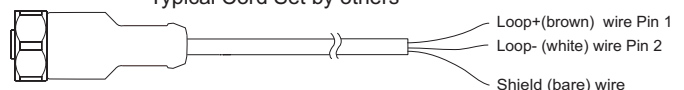


### MOLDED CORD SETS

Anderson Cord Set



Typical Cord Set by others

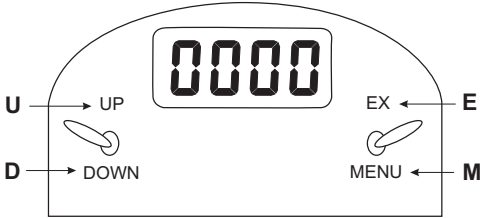


Note: Green and White not used

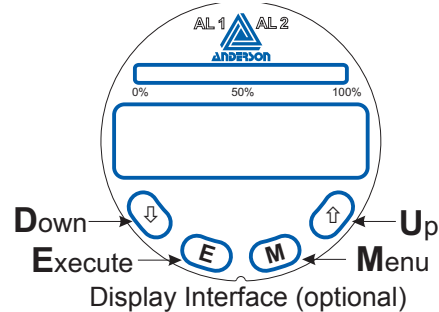
## USER INTERFACE GUIDE

The Anderson "MPF" 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 may be easily modified by the user. An internal 4 place LED provides user feed back for menu functions, displays diagnostic error codes and nominally loop current or process variable.

The "MPF" Modular Pressure Transmitter configuration parameters are sorted into three modes, and are accessible via the two toggle switches located on either side of the internal display or button along the bottom of the optional display interface. While the cover is removed, do not allow moisture to enter the housing.



Integral Display



Display Interface (optional)

### RUN Mode

System diagnostics on startup  
Normal display reads loop current  
Diagnostic error codes enabled  
Quick rezero enabled

NOTE: If on start up error message flashes, record error code, press and hold D for 1 second, re-power transmitter. If Error code persists refer to Maintenance/diagnostic section of the manual

### SENSOR CONFIG Mode

Set display mode - Current/process variable  
Set measurement units – Bar/PSI  
Set analog output – 4-20mA or 20-4mA  
Set LRV & URV  
Set damping  
Access factory restore

### CALIBRATION Mode

Custom range calibration

NOTE: See manual for Calibration details

### RUN Mode

Zero  
Adjust Display Decimal  
Momentarily Display mA Output  
Descriptive Error Message

### SENSOR CONFIG Mode

PSIG/BAR (native units)  
4-20mA / 20-4mA  
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 for gauge, for compound sensor displays appropriate output for set range

### **Display Mode: 4-20mA or process variable (for integral display only)**

1. Press "M" - Sensor displays "CO nF"
2. Press "U" & "E" simultaneously for 2 seconds - sensor displays "CvAL" or "PvAL"
3. Press "U" or "D" - Sensor display toggles between "CvAL" or "PvAL"
4. Press "M" to proceed to next operation or if no other operation is to be accessed exit to "RUN" mode via pressing "M" repeatedly until milliamp or process variable output is displayed

### **Native Units: PSI or Bar**

1. Press "M" – Sensor displays "CO nF"
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**

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. “Gauge” and “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”
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”
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:

PSI, BAR, kPa, In H2O, In Hg, mm H2O, mm Hg, or Milliamp output

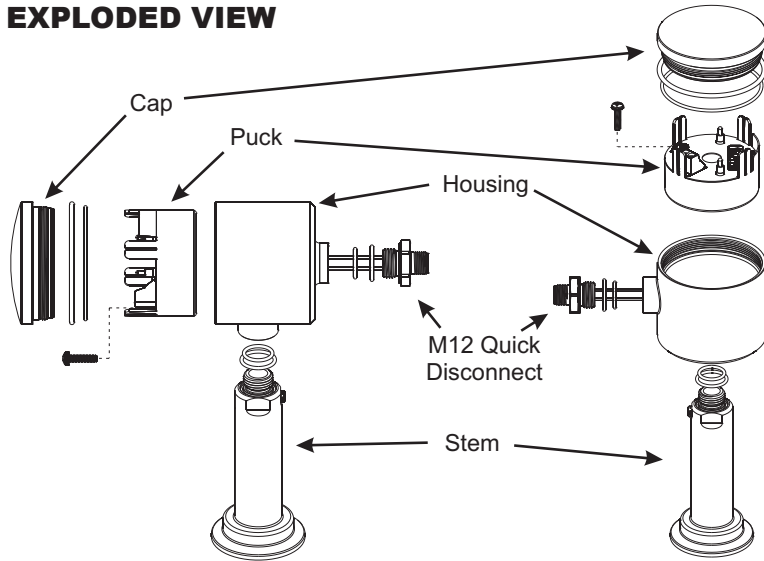
1. Press “M” – Sensor displays “CONF”
2. Press “E” – Sensor displays “PSIG” or “BARG”
3. Press “M” – Sensor displays “4-20” or “20-4”
4. Press “M” – Sensor displays “LRV”
5. Press “M” – Sensor displays “URV”
6. Press “M” – Sensor displays “DAMP”
7. Press “M” – Sensor displays “ALRM1”
8. Press “M” – Sensor 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”
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



## ACCESSORIES

<u>Cord Sets</u>	
Shielded Molded w/25' cable	42117K0025
Shielded Molded w/50' cable	42117K0050
Shielded Molded w/100' cable	42117K0100
Clear Cap w/gaskets	563280001
Stainless Steel Cap w/gaskets	563290001
Enclosure w/Clear cap w/gaskets	SP5632700001
Enclosure w/SS cap w/gaskets	SP56327A0001
M12 Quick Disconnect Receptacle	SP56726A0002
Cord Grip	SP5633100000
1/2" NPTF adaptor	SP5633200000
Seal Kit (6) gaskets	563300001
Field Wireable Connector-Straight	42119B0000
Field Wireable Connector-90°	42119A0000
Display Kit	SP56741A0001
5' Remote Kit	SP73228A0005
10' Remote Kit	SP73228A0010
25' Remote Kit	SP73228A0025
Coverplate	SP56741B0001

## DIMENSIONAL DRAWINGS

