"MPF" Modular Pressure Transmitter

Introduction

The industry’s first fully modular sanitary pressure transmitter offers not only best in class performance within harsh process environments, but also the ability to be custom configured on site both for process parameters and enclosure form factor. Diagnostic routines continuously check on the health of the circuitry and visually report any issues that could impact performance.

The illuminated internal display provides a simple user interface to ease start up commissioning and configuration. The optional display interface provides class leading legibility and intuitive configuration functions.

Patent pending dual seals at every enclosure penetration and a fully potted electronic puck assure long life and problem free operation.

The modular design and universal electronics puck significantly lowers cost of ownership as critical spare inventory is reduced to manageable, replaceable components. When accidents do happen, the damaged component is easily and economically replaced saving the cost of full sensor replacement. While the sensor industry trends toward cheaper designs with the inevitable reduction of durability, and longevity, the MPF provides quality and value through innovation.

For more information on this product, or any of our other products, visit www.anderson-negele.com or call our Customer Service Department directly at 1-800-833-0081.

Authorizations

Features

· State of the art sanitary design delivers class leading performance
· Replaceable components reduce cost of ownership
· Diagnostic routines promote reliability, display verifies problem free operation
· Intuitive menu driven setup simplifies commissioning
· Available HART communications simplifies commissioning and maintenance for HART protocol adapters

Applications

· Sanitary pressure line direct or remote measurement
· Process sensor control including pressurized fillers, pressurized vessels, filter monitoring, etc
· Aseptic processing, steam injection and other high temperature processes
· Sanitary environment including wash downs, condensing humidity, and wide temperature swings
### Specifications

**PERFORMANCE MECHANICAL & ELECTRICAL:**
- **Calibrated Accuracy:** ± 0.10% of calibrated range up to 5:1 turndown 
  (± 0.15% if over 5:1 turndown)
- **Repeatability:** 0.05% as calibrated
- **Long Term Stability:** 0.2% URL for 2 years
- **Process Temperature Effect:** ± 0.1 psi/10°F (5.5°C) typical
- **Ambient Temperature Effect:** ± 0.1 psi/10°F (5.5°C) typical
- **Over-Range Capability:**
  - 30/100/500 psi stem:
    - 1.5x URL no effect on accuracy
    - 2x URL to failure
    - 1000 psi stem:
      - 1.1x URL no effect on accuracy
      - 1.25x URL to failure
- **Response Time:** <100 Milliseconds
- **Sampling Rate:** <50 Milliseconds
- **Damping:** Menu adjustable
- **Range Turndown Capability:** 10 to 1 turn down from URL
- **Ranges, URL (PSI):**
  - 30,100,500,1K gauge and compound
  - 30,100,500 absolute
- **Ranges, URL (BAR):**
  - 2,7,35,70 gauge and compound
  - 2,7,35 absolute

**ENVIRONMENTAL:**
- **Process Temperature Limits:** 0 to 350°F (-18 to 177°C) with ambient temperatures to 140°F (60°C) and 0 to 330°F (-18 to 165°C) with ambient temperatures to 160°F (71°C)
- **Ambient Temperature Limits:** 32 to 160°F (0 to 71°C)
- **Enclosure Protection:** NEMA 4X & IP66
- **Recommended Cable:** Anderson shielded molded cordset, alternatively: 22-24 AWG, foil shielded, 0.17 - 0.26” Cable Sheath OD for use with cord grip or field wiring connector
- **Electrical Connection:** screw terminals with a conductor cross section range of 14-26 AWG
- **Electrical Protection:** Voltage spike and reverse polarity
- **Operating Voltage:** 18-36 VDC (24 VDC Nominal regulated or unregulated)
- **Electronics Puck:** Modular, Field replaceable
- **Fitting & Sensor Stem:** Modular, Field replaceable

**CONSTRUCTION / FINISH:**
- **Product Contact:**
  - 316L finished to a Min. Ra =25 microinches.
  - Optional: Hastelloy® diaphragm
- **Non-Product Contact Metal:**
  - 304 finished to a Min. Ra =32 microinches
- **Non-Product Contact Plastic:**
  - polycarbonate threaded cap.
  - Delrin atmospheric vent

**Wiring Connection:** M16 x 1.5 threaded housing electrical entry
- Equipped with: Standard - replaceable M12 5 pin Eurofast QDR Optional - M16 Cord Grip, M16 x 1.5” NPTF adaptor
- Operational: ETR (Extended Temperature Range) FDA approved mineral oil
- Optional Neobee M-20
- Output: Analog 2-wire user selectable 4-20 mA DC or 20-4 mA
- Optional - HART 7.0 digital communications protocol
- Internal Display: 4 digit LED nominally displays loop current. Process variable selectable - PSI or BAR.
- Display Interface: Optional; modular field replaceable - Millibar, Torr & Kgm2, PSI, BAR, kPa, In H2O, In Hg, mm H2O, mA
- Loop Resistance: 0-300 ohms at 24 VDC
- Electrical Connection: 0-300 ohms at 24 VDC

**APPROVALS AND DOCUMENTATION**
- **Sanitary:** 3-A compliant, Third Party Verified
- **Compliance:** Compliant with the Pressure Equipment Directive relative to Sound Engineering Practices(PED); CE compliant CSA-B51-03
- **Warranty:** 2 years
- **CRN# CSAOF9754.5R1**

### Dimensions

**HORIZONTAL ORIENTATION**
- 6.6” (167mm)
- 3.6” (91mm)

**VERTICAL ORIENTATION**
- 6.6” (167mm)
- 3.6” (91mm)

**REMOTE MOUNTING**
- Cable available in 5’, 10’ and 25’ lengths
- 7.87” (200mm)
Order Information

**HOW TO ORDER (complete unit)**

- **URL**
  - Compound (Vacuum/Pressure)(C)
    - 6 30"Hg/0/30 PSI, -1...2 BAR
    - 7 30"Hg/0/100 PSI, -1...7 BAR
    - 8 30"Hg/0/500 PSI, -1...35 BAR
    - 9 30"Hg/0/1000 PSI, -1...70 BAR
  - Absolute(A)
    - A 0...30 PSI, 0...2 BAR
    - B 0...100 PSI, 0...7 BAR
    - C 0...500 PSI, 0...35 BAR

- **FITTING**
  - 002 3/4" Tri-Clamp®
  - 004 1-1/2" Tri-Clamp®
  - 005 2" Tri-Clamp®
  - 010 1-1/2" APC "K"
  - 011 2" APC "K"
  - 016 1-1/2" Cherry "I" (male)
  - 017 2" Cherry "I" (male)
  - 027 1-1/2" G & H "H" line (male)
  - 028 2" G & H "H" line (male)
  - 044 1-1/2" #14 Bevel Seat (w/nut)
  - 045 2" #14 Bevel Seat (w/nut)
  - 059 1-1/2" NPT
  - 123 AIC CPM Flushmount
  - 129 38mm IDF w/Nut
  - 131 51mm IDF w/Nut
  - 160 G 1" CLEAnadapt

- **CAPILLARY FILL**
  - 1 Mineral Oil FDA approved (Standard)
  - 5 Propylene Glycol (Neobee M-20)

- **WETTABLE MATERIAL**
  - A 316L (Standard)
  - B Hastelloy® diaphragm

- **REMOTE**
  - 0 None
  - A 5' Cable
  - B 10' Cable
  - E 25' Cable

- **STEM CERTIFICATION**
  - A No Certs (Standard)
  - B Compliance and Material
  - C Accuracy and Material

- **ENCLOSURE ORIENTATION**
  - 1 Vertical
  - 2 Horizontal

- **M16x1.5 ELECTRICAL ENTRY**
  - A M12 QDR STD
  - C Cord Grip N/C
  - N 1/2" NPTF Adaptor

- **DISPLAY**
  - 0 Standard Display
  - A Advanced Display Interface

- **CALIBRATION RANGE (TYPE)**
  - 999 Custom Calibration
  - PS1
    - 025 30/0 (C)
    - 028 30/0/15 (C)
    - 029 30/0/30 (C)
    - 031 30/0/60 (C)
    - 032 30/0/100 (C)
    - 314 30/0/200 (C)
  - BAR
    - 066 0-30 (C,A)
    - 068 0-50 (C,A)
    - 069 0-60 (C,A)
    - 071 0-100 (C,A)
    - 073 0-150 (C,A)
    - 074 0-160 (C,A)
    - 075 0-200 (C,A)
    - 077 0-300 (C,A)
    - 081 0-500 (C,A)
    - 084 0-1,000 (C)
  - 251 -1/0/1 (C)
  - 286 -1/0/2.5 (C)
  - 217 -1/0/3 (C)
  - 056 -1/0/4 (C)
  - 304 -1/0/7 (C)
  - 057 0-2 (C,A)
  - 235 0-3 (C,A)
  - 192 0-4 (C,A)
  - 060 0-6 (C,A)
  - 309 0-7 (C,A)
  - 061 0-10 (C,A)
  - 065 0-20 (C,A)
  - 224 0-35 (C,A)
  - 206 0-70 (C)

- **ENGINEERING UNITS**
  - P PSI
  - B BAR

- **OUTPUT**
  - A Analog
  - H HART and Analog

- **ENCLOSURE**
  - 2 Clear Cap (Standard)
  - 3 Stainless Steel Cap

- **FIXED CHARACTER**

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1 Not available in Hastelloy®
2 Not 3-A Compliant
HOW TO ORDER (modular components)

**Stem**

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**CERTIFICATION**

A No Certs (Standard)  
B Compliance and Material

**REMOTE**

- 0 None  
- A 5' Cable  
- B 10' Cable  
- E 25' Cable

**WETTABLE MATERIAL**

- A 316L  
- B Hastelloy® diaphragm

**CAPILLARY FILL**

- 1 Mineral Oil FDA approved  
- 5 Propylene Glycol (Neobee M-20)

**Fitting**

- 002 3/4" Tri-Clamp®  
- 004 1-1/2" Tri-Clamp®  
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- 028 2" G & H "H" line (male)

**ENCLOSURE**

- 1 Puck Only  
- 2 Puck and Enclosure with Clear Cap  
- 3 Puck and Enclosure with SS Cap

**OUTPUT**

- A Analog  
- H HART and Analog

**ENGINEERING UNITS**

- P PSI  
- B BAR  
- 0 Field Calibrated

**CALIBRATION RANGE (TYPE)**

- 000 Field Calibration  
- 999 Custom Calibration

**PSI**

025 30/0 (C)  
028 30/0/15 (C)  
029 30/0/30 (C)  
031 30/0/60 (C)  
032 30/0/100 (C)  
314 30/0/200 (C)  
066 0-30 (C)  
068 0-50 (C)  
069 0-60 (C)  
071 0-100 (C)  
073 0-150 (C)  
074 0-200 (C)  
077 0-300 (C)  
081 0-500 (C)  
084 0-1,000 (C)

**BAR**

025 251  
028 288  
029 217  
031 056  
032 304  
314 057  
066 235  
068 192  
069 060  
071 309  
073 061  
074 065  
077 224  
081 206  
084 0-70 (C)

**ENCLOSURE ORIENTATION**

- 1 Vertical  
- 2 Horizontal  
- 0 For Puck only (enclosure option 1)

**M16 x 1.5 ELECTRICAL ENTRY**

- A M12 QDR STD  
- C Cord Grip  
- N 1/2" NPTF Adaptor  
- 0 For Puck only (enclosure option 1)

**DISPLAY**

- 0 Standard Display  
- A Advanced Display Interface

**ACCESSORIES**

**Cord Sets**

- Shielded Molded w/25" cable 42117K0025  
- Shielded Molded w/50" cable 42117K0050  
- Shielded Molded w/100" cable 42117K0100

**Clear Cap w/gaskets** 5632800001  
**Stainless Steel Cap w/gaskets** 5632900001  
**Enclosure w/SS cap w/gaskets** SP56327A0001  
**M12 Quick Disconnect Receptacle** SP56327A0002  
**Cord Grip** SP5633100000  
**1/2" NPTF Adaptor** SP5633200000  
**Seal Kit (6) gaskets** SP5633300001  
**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