



# MLP2

## Miniature Low Pressure Transmitter

The MLP2 Series Low Differential Pressure transmitters are designed for use in OEM or high density panel mounting applications. Key installation features include an integral 35 mm DIN rail mounting foot, vertically orientated wiring and pressure connections, and a pushbutton zero function conveniently located on the front cover. The MLP2 offers two options for DIN Rail mounting; rear and side mount. The rear DIN rail mount is integrated into the enclosure. The side mount adapter is included with the package, and can easily be attached. The side mount offers a much thinner profile for higher density panels. The MLP2 incorporates a high accuracy, piezoresistive, silicon sensing element which senses differential pressure and provides a linear 4 to 20 mA or DC voltage output equal to the specified pressure range. This technology reduces warmup shift while also reducing the effect of package stress for increased long term

stability. In addition, the unit contains a de-pluggable terminal block that can be removed for ease of installation. This unit must be ordered with a single uni or bi-directional pressure range and output signal from +/- 0.1" of water column to a maximum pressure of +/- 40" of water column depending on your application. All MLP2 Series pressure transmitters are calibrated using NIST Certified equipment. Optional 3 or 5 point NIST Certificates are available and must be specified when placing your order.

**Applications:** Building and Duct Static Pressure, Filter Monitoring, Air Flow Measurement, Process Control, Roof Top Units, Air Handlers, Clean Rooms, Isolation Rooms, Data Centers

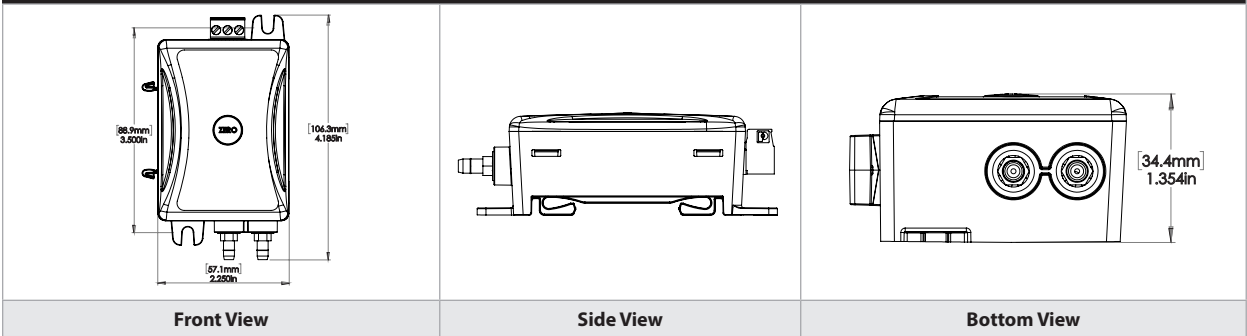
**The MLP2 Series Low Differential Pressure Transmitters are covered by ACI's Five (5) Year Limited Warranty. The warranty can be found in the front of ACI's Sensors & Transmitters catalog, as well as on ACI's**

## PRODUCT SPECIFICATIONS

|                                                  |                                                                                                                                                                                                                                                                                                                                                                              |
|--------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Supply Voltage:</b>                           | <b>4-20 mA Output:</b> 16-36 VDC (250 Ohm Load max.) / 21-36 VDC (500 Ohm Load max.) / 24VAC(+/-10%) 50/60 Hz<br><b>0-5 VDC Output:</b> 12-36 VDC / 24 VAC (+/- 10%) 50/60 Hz<br><b>0-10 VDC Output:</b> 16-36 VDC / 24 VAC (+/- 10%) 50/60 Hz                                                                                                                               |
| <b>Supply Current mA (Power Consumption):</b>    | <b>4-20 mA Output:</b> 23 mA minimum (0.83 VA)   <b>VDC Output Signals:</b> 5 mA maximum (0.18 VA)                                                                                                                                                                                                                                                                           |
| <b>Output Signals:</b>                           | <b>4-20 mA:</b> 2-wire Loop Powered (output limited to 20.5 mA maximum)<br><b>4-20 mA:</b> 3-Wire, VAC Powered (output limited to 20.5 mA maximum)<br><b>0-5 VDC or 0-10 VDC:</b> 3-Wire, VAC or VDC Powered (output limited to 5.25 & 10.25 VDC)                                                                                                                            |
| <b>Pressure Ranges:</b>                          | See Ordering Information on back of Product Data Sheet (Must Specify when ordering)                                                                                                                                                                                                                                                                                          |
| <b>Accuracy<sup>1</sup>:</b>                     | +/- 0.5% FSO (Default)   +/- 0.25% (Optional) for all ranges except 0.1" and +/- 0.1" wc                                                                                                                                                                                                                                                                                     |
| <b>Sensor Compensated Temperature Range:</b>     | 32 to 122°F (0 to 50°C)                                                                                                                                                                                                                                                                                                                                                      |
| <b>Thermal Effects<sup>2</sup>:</b>              | +/- 0.056% FSO/°F (+/- 0.10% FSO/°C)                                                                                                                                                                                                                                                                                                                                         |
| <b>Warm Up Time:</b>                             | 15 Minutes                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Response Time (T95):</b>                      | 4 seconds                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Output Update Rate:</b>                       | 500 ms                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Zero Function:</b>                            | Pushbutton Zero Function (Recommended after 15 minutes warm up)                                                                                                                                                                                                                                                                                                              |
| <b>Proof Pressure   Burst Pressure:</b>          | <b>Ranges &lt; 1" wc (248.84 kPa): Proof:</b> 270" wc (67.2 kPa)   <b>Burst:</b> 415" wc (103.3 kPa)<br><b>Ranges &gt; 1" wc (0.2488 kPa) to &lt; 10" wc (2.488 kPa): Proof:</b> 350" wc (87.12 kPa)   <b>Burst:</b> 550" wc (136.9 kPa)<br><b>Ranges &gt; 10" wc (2.488 kPa) to &lt; 40" wc (9953.6 kPa): Proof:</b> 562" wc (140 kPa)   <b>Burst:</b> 1004.7" wc (250 kPa) |
| <b>Operating Temperature   Humidity:</b>         | 32 to 185°F (0 to 85°C)   10 to 95% RH, non-condensing                                                                                                                                                                                                                                                                                                                       |
| <b>Storage Temperature   Humidity:</b>           | -40 to 176°F (-40 to 80°C)   10 to 95% RH, non-condensing                                                                                                                                                                                                                                                                                                                    |
| <b>Media Types:</b>                              | Intended for use with non-corrosive, non-ionic gases, such as air and other dry gases                                                                                                                                                                                                                                                                                        |
| <b>Enclosure Material   Flammability Rating:</b> | Polycarbonate   UL 94 V-0                                                                                                                                                                                                                                                                                                                                                    |
| <b>Enclosure Temperature Rating:</b>             | -40 to 248°F (-40 to 120°C)                                                                                                                                                                                                                                                                                                                                                  |
| <b>DIN Rail Mounting:</b>                        | 35 mm (U.S. Patent No. 7,416,421)                                                                                                                                                                                                                                                                                                                                            |
| <b>Wiring Connections   Wire Size:</b>           | 3 Position de-pluggable screw terminal block   14 AWG (1.628 mm <sup>2</sup> ) to 24 AWG (0.5105 mm <sup>2</sup> )                                                                                                                                                                                                                                                           |
| <b>Terminal Block Torque Rating:</b>             | 4.43 to 5.31 in-lbs. (0.5 to 0.6 Nm)                                                                                                                                                                                                                                                                                                                                         |
| <b>Pressure Fitting Material:</b>                | Brass                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Tubing Size Accepted:</b>                     | 0.250" (6.35 mm) O.D. x 0.170" (4.318 mm) I.D. Push-On Flexible Poly Tubing                                                                                                                                                                                                                                                                                                  |
| <b>NIST Certification:</b>                       | <b>3 Point NIST Test Points:</b> 10%, 50%, & 90% of FSO<br><b>5 Point NIST Test Points:</b> 10%, 30%, 50%, 70%, and 90% of FSO                                                                                                                                                                                                                                               |
| <b>Product Dimensions (L x W x D):</b>           | 4.210" (106.94 mm) x 2.085" (52.96 mm) x 1.340" (34.04 mm)                                                                                                                                                                                                                                                                                                                   |
| <b>Product Weight:</b>                           | 0.17 lbs. (0.078 kg)                                                                                                                                                                                                                                                                                                                                                         |
| <b>Approvals:</b>                                | CE, RoHS, WEEE, REACH, UKCA                                                                                                                                                                                                                                                                                                                                                  |



DIMENSIONAL DRAWING



CUSTOM ORDERING

Model # Example:

A/ MLP2 D25 W B B A 5P  
A. B. C. D. E. F. G. H.

MODEL #

A. Sensor Series No Selection Required

A/

A/

B. Pressure Series No Selection Required

MLP2 = Miniature Low Pressure Transmitter

MLP2

C. Pressure Ranges Select One (1)

Note\*: Shaded Pressure Ranges are for Pascal Units Only)

|             |             |                          |              |               |
|-------------|-------------|--------------------------|--------------|---------------|
| D10* = 0.10 | 2D5 = 2.50  | 015 = 15.00              | 050 = 50*    | 1K6 = 1,600*  |
| D25 = 0.25  | 003 = 3.00  | 020 = 20.00              | 100 = 100*   | 2K5 = 2,500*  |
| D50 = 0.50  | 004 = 4.00  | 025 = 25.00 <sup>1</sup> | 300 = 300*   | 3K2 = 3,200*  |
| 001 = 1.00  | 005 = 5.00  | 030 = 30.00              | 500 = 500*   | 5K0 = 5,000*  |
| 002 = 2.00  | 010 = 10.00 | 040 = 40.00              | 1K0 = 1,000* | 10K = 10,000* |

D. Units of Pressure Select One (1)

W = Inches of Water Column | P = Pascals

E. Bi/Uni Directional Range Select One (1)

U = Uni-Directional (ie. 0 to 1" wc) | B = Bi-Directional (ie. -1 to +1" wc)

F. Accuracy Select One (1)

A = +/- 0.5% FSO | B = +/- 0.25%

G. Output Signal Select One (1)

A = 4 to 20 mA | B = 0 to 5 VDC | C = 0 to 10 VDC

H. NIST Certification Select One (1)

0P = No NIST Certificate | 3P = 3 Point NIST Certificate | 5P = 5 Point NIST Certificate

Note\*: Pascal Ranges Only | Note<sup>1</sup>: The "025" Range can be ordered in either Inches of Water Column (W) or Pascal (P) | Note\*\*: 0.10"WC and 025 Pa accuracy is +/- 0.50% only (Use "A" for Accuracy Selection)

ACCESSORIES ORDERING | PITOT TUBES

Model # Example:

A/PT 5.2 -OR- 130141

| Model #    | Item # | Description                                     | Insertion Length | Number of Sensing Points |
|------------|--------|-------------------------------------------------|------------------|--------------------------|
| PT 3"      | 130140 | 3.0" Pitot Tube with Foam Gasket                | 3.0" (7.6 cm)    | 1 Set                    |
| PT 5.2"    | 130141 | 5.2" Pitot Tube with Foam Gasket                | 5.2" (13.2 cm)   | 2 Sets                   |
| PT 7.5"    | 130142 | 7.5" Pitot Tube with Foam Gasket                | 7.5" (19.1 cm)   | 3 Sets                   |
| PT 9.7"    | 130143 | 9.7" Pitot Tube with Foam Gasket                | 9.7" (24.6 cm)   | 4 Sets                   |
| SPT - 3.5" | 102957 | 3.5" Aluminum Duct Static (Flat Tip) Pitot Tube | 3.5" (88.9 mm)   | 1 Point                  |
| SPT - 8.0" | 108976 | 8.0" Aluminum Duct Static (Flat Tip) Pitot Tube | 8.0" (203.2 mm)  | 1 Point                  |
| VPT        | 103010 | 4.0" Aluminum Velocity (Pointed Tip) Pitot Tube | 4" (101.6 mm)    | 1 Point                  |
| VPT - 8"   | 125008 | 8.0" Aluminum Velocity (Pointed Tip) Pitot Tube | 8" (203.2 mm)    | 1 Point                  |



ACCESSORIES ORDERING | PICK UP PORTS

Model # Example: A/SP-PUP -OR- 125585

| Model #   | Item # | Description                                                        | Color                   |
|-----------|--------|--------------------------------------------------------------------|-------------------------|
| A/SP-PUP  | 125585 | Pickup Port, Wall Mounted Stainless Plate                          | Brushed Stainless Steel |
| A/R-PUP   | 125584 | Pickup Port, Wall Mounted Plastic Enclosure                        | Beige                   |
| A/R2-PUP  | 132711 | Pickup Port, Wall Mounted Plastic Enclosure                        | White                   |
| A/O-PUP-H | 132892 | Pickup Port, Horizontal Mount, Outdoor Weatherproof Euro Enclosure | Light Gray              |
| A/O-PUP-V | 132891 | Pickup Port, Vertical Mount, Outdoor Weatherproof Euro Enclosure   | Light Gray              |

ACCESSORIES ORDERING | TUBING KIT

Model # Example: A/10'TUBE -OR- 126606

| Model #    | Item # | Description                                | Color |
|------------|--------|--------------------------------------------|-------|
| A/10'TUBE  | 126606 | 10' Medical Tubing Kit, 1/8" ID x 1/4" OD  | Clear |
| A/20'TUBE  | 132226 | 20' Medical Tubing Kit, 1/8" ID x 1/4" OD  | Clear |
| A/100'TUBE | 136018 | 100' Medical Tubing Kit, 1/8" ID x 1/4" OD | Clear |