

## Installation Guide

### Mounting

**NOTE:** This document is for units available starting in late 2008. See the original installation guide available on the KMC web site for installation and configuration information on older units with a different case and board.

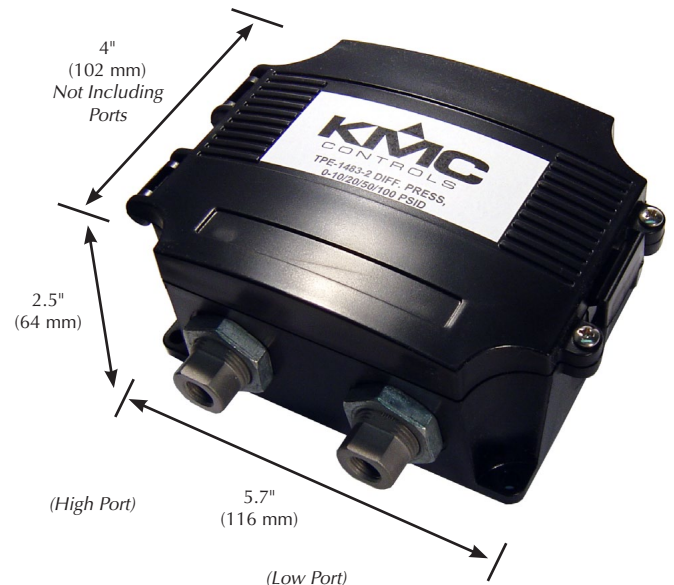
**Avoid locations with severe vibrations or excessive moisture.** The enclosure has a standard 1/2" conduit opening and may be installed with either a conduit coupler or a cable gland type fitting.

1. Mount on a vertical surface with the pressure ports on the bottom.
2. Use screws in the tab holes to fasten the assembly to the mounting surface.
3. Ensure there is enough space around the unit to make the pressure and electrical connections.

#### ⚠ WARNING

**Do not use:**

- In an explosive or hazardous environment.
- With combustible or flammable gasses.
- As a safety or emergency stop device.
- In any other application where failure of the product could result in personal injury.



All dimensions are in inches (mm)

#### ⚠ CAUTION

Use electrostatic discharge precautions during installation.

### Plumbing

**NOTE:** The output signal indicates a positive value when the pressure is higher on the High port than the Low port. As a default, the High port is on the left and the Low port is on the right (as shown on the circuit board). However, a switch on the circuit board can reverse this to correct for a plumbing error. (See the Port Swap section on page 3.)

1. Use appropriately rated pressure tubing for the 1/8" NPT female connections.
2. Arrange the tubing to minimize stress on the connections.

#### ⚠ CAUTION

Ensure that the maximum individual port pressure does not exceed the maximum pressure range of the unit.

#### ⚠ CAUTION

Do not allow debris to get into the pressure ports since contamination can damage the sensor.

# Wiring

This device is a 3-wire sourcing type transmitter. Use 22 AWG shielded wiring for all connections. Do not locate device wires in the same conduit as wiring supplying inductive loads (such as motors). Disconnect the power supply before making any connections to prevent electrical shock or equipment damage. Make all connections in accordance with national and local electrical codes.

1. Connect the positive DC voltage or the hot side of the AC voltage to the terminal marked **PWR**.
2. Connect the power supply common to the terminal marked **COM**. The unit is reverse-voltage protected and will not operate if connected backwards.

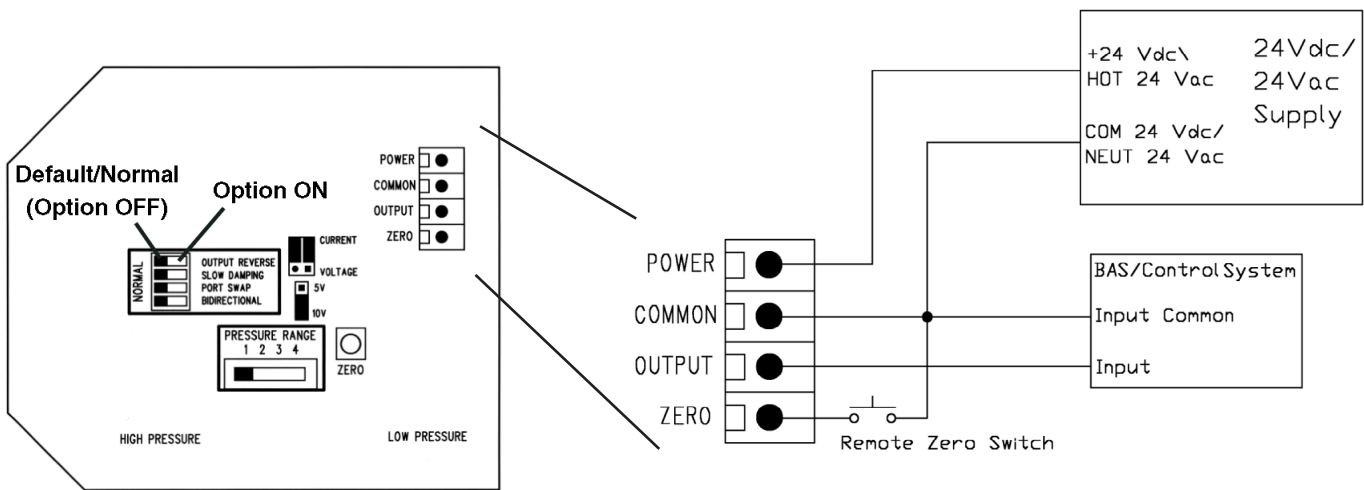
The analog output signal is available on the **OUT** terminal. This signal is jumper selectable for either voltage or 4 to 20 mA output. In voltage mode, either 0 to 5 or 0 to 10 VDC can also be selected.

## ⚠ CAUTION

**Do not connect power to the OUT terminal because the device will be damaged.**

The remote zero feature may be used by wiring a dry-contact (relay only) digital output to the **ZERO** terminals. **Do not apply voltage to the ZERO terminals.**

**NOTE:** This is an active device. Turn off the input pull-up resistor dip switches on KMDigital and BACnet controllers.



# Set-Up

## Configuration

Jumpers and switches are used to select the output signal type, the input pressure range, and several options. The device is factory configured to operate in the 4 to 20 mA output mode but can be changed to voltage mode by moving the two jumpers from the **CURRENT** positions to the **VOLTAGE** positions.

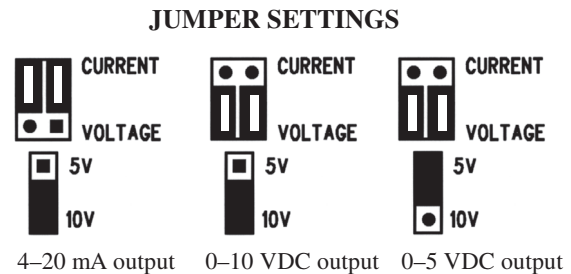
## ⚠ CAUTION

**Change the output jumper positions only while the power is removed.**

**Always note the current jumper position before moving them to the new position. If the jumpers are rotated 90 degrees and installed incorrectly the product will not work and damage may occur.**

## Jumper Settings

For voltage/current/range selection, see the illustration for jumper settings.



## Range

NOTE: Range and Options switches can be changed while the unit is operating, but **change the Output jumpers only with the power removed.**

Model	0 to x Pressure Range (Switch Position)			
	1	2	3	4
1483-1	50 psi	25 psi	10 psi	5 psi
1483-2	100 psi	50 psi	20 psi	10 psi
1483-3	500 psi	250 psi	100 psi	50 psi

## Bidirectional

This switch changes the range from 0 to full scale differential pressure to minus full scale to plus full scale differential pressure. The analog output will read 1/2 when the differential pressure is zero. The example below shows the results when a TPE-1483-22 (0 to 100 psi range) is operated in bidirectional mode (-100 to 100 psi).

TPE-1483-22 Bidirectional Enabled (Switch to the Right)			
High Port	Low Port	4–20 mA	0–5 VDC
100 psi	50 psi	16 mA	3.75 VDC
50 psi	100 psi	8 mA	1.25 VDC
50 psi	50 psi	12 mA	2.5 VDC
100 psi	0 psi	20 mA	5 VDC

## Port Swap

This switch reverses the polarity of the pressure ports. It makes the HIGH port “low” and the LOW port “high.” This is useful to correct plumbing errors.

## Slow Damping

For surge dampening, this switch provides an averaging period of 8 seconds instead of the default 4 seconds.

## Output Reverse

This switch reverses the output signal polarity. In reverse mode the analog output is maximum when the pressure differential is zero and decreases as pressure increases.

## Operation

For normal operation such as 0 to 100 psi, the pressure applied to the High port must be higher than the pressure applied to the Low port. If the pressure connection is reversed then the transmitter will always output 4 mA or 0 V.

If the Low port is left open to ambient pressure, then the High port is used to measure a positive pressure and 0 psi = 4 mA and 100 psi = 20 mA.

For bidirectional operation such as +/-100 psi, the pressure applied to the High port should be higher than the pressure applied to the Low port for a positive output response. Negative pressure is indicated if the High pressure is less than the Low pressure. In this case -100 psi = 4 mA and +100 psi = 20 mA. Since the transmitter is linear 0 psi = 12 mA.

## Calibration

With both ports open to the ambient pressure or equalized at 0 pressure:

1. Press and hold the auto-zero button or provide contact closure between the ZERO and COMMON terminals for at least 3 seconds.
2. Release the button, and the device will calculate and store the new zero point.

NOTE: To protect the unit from accidental zeroing this feature is enabled only when the detected pressure on both ports is less than 5% of the full range.

## Maintenance

No routine maintenance is required. Each component is designed for dependable, long-term reliability and performance. Careful installation will also ensure long-term reliability and performance.

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