

Instructions

Differential Pressure

Mini-Transmitter



Orange Research Inc.

140 Cascade Boulevard, Milford, Connecticut 06460
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Your Orange Research transmitter is a rugged, industrial instrument featuring a simple design which affords dependable and efficient performance in many severe service and high pressure applications. Please read all instructions and consult the wiring diagrams before attempting to install the transmitter.

CAUTION: Do not exceed the maximum operating pressures listed on the body label. Use only with fluids or gases compatible with the instrument's wetted parts.

HOW IT WORKS: Differential pressure instruments operate on the pressure difference between the high and low ports. Changes in the pressure difference will cause the transmitter's sensor/magnet assembly to move in proportion to the change.

A Hall Effect sensor and amplifier is located adjacent to the pressure cavity. As the pressure sensing magnet assembly moves with respect to pressure input, the change in position is followed and amplified as an output signal.

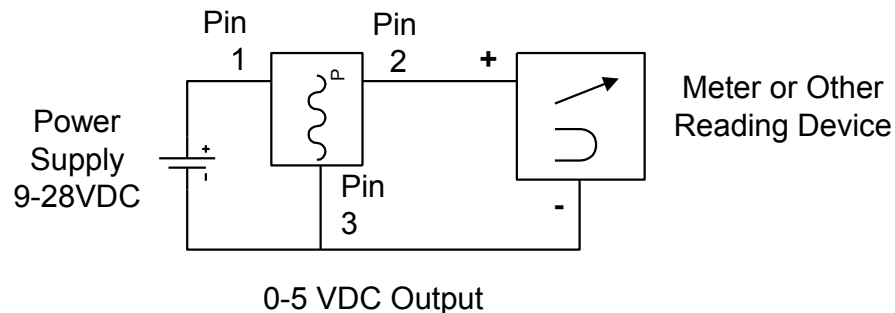
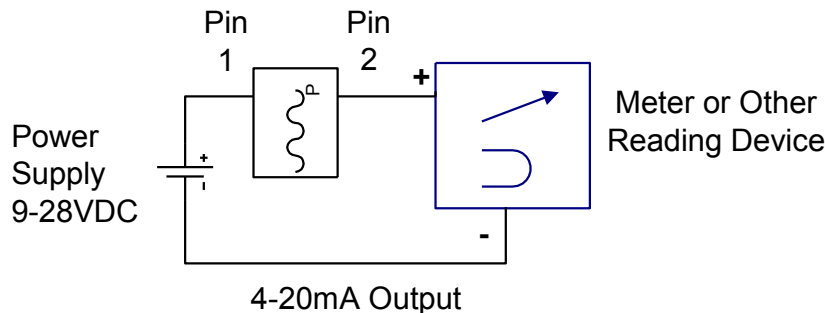
Indicator models incorporate a rotary magnet located in a pocket isolated from the pressure cavity. The indicator is rotated by magnetic coupling to indicate differential pressure on an easy to read dial.

MECHANICAL INSTALLATION: Check maximum operating pressure for the model series you are using, listed on the instrument body label. Check instrument to identify *HI* and *LO* markings identifying the high and low pressure ports and connect piping accordingly. The transmitter can be stored and used within the temperature limits of 0°F to 175°F. The transmitter should be installed with the gauge indicator face (if present) in a normal horizontal orientation to reduce position error. Mount the transmitter where vibration is at a minimum. Install NPT fittings with sealing tape or other non-migrating sealant on the threads prior to installation. It is recommended that the instrument be installed above the pressure source to allow drainage and removal of particulate.

See diagram for all electronic wiring connections. These instruments are reverse polarity protected to protect the board.

IMPORTANT: Because of its magnetic movement, these instruments should not be mounted in direct contact with a steel surface to avoid calibration shift in the dial gauge movement. Mount the instrument so that the body is at least 1" away from metal surfaces using non-magnetic spacers or an optional aluminum mounting bracket.

WIRING DIAGRAMS:



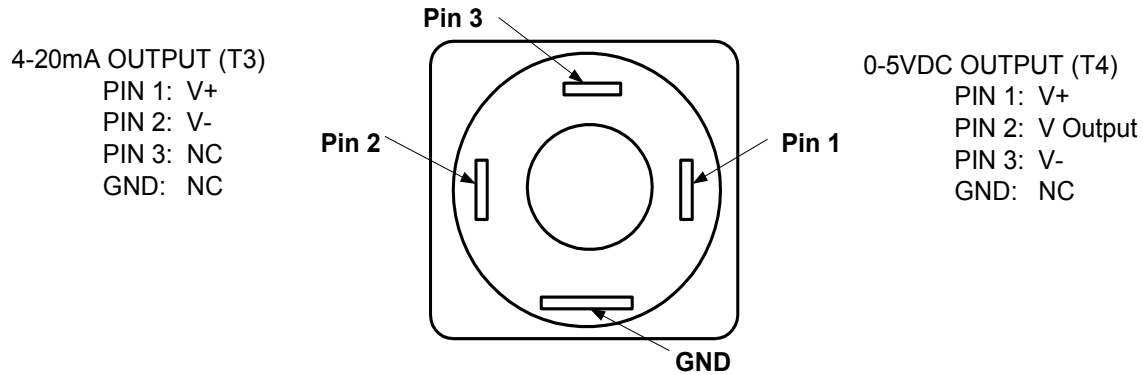
Voltage input is 9 to 28 VDC for both 4-20mA and 0-5VDC output devices. Additional drive voltage may be necessary for 4-20mA devices depending on loop resistance.

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4-20mA OUTPUT (T3)
PIN 1: V+
PIN 2: V-
PIN 3: NC
GND: NC

0-5VDC OUTPUT (T4)
PIN 1: V+
PIN 2: V Output
PIN 3: V-
GND: NC

FRONT FACE OF CONNECTOR

Recommended Connector for current output:
Hirschmann Automation and Control
DIN 43650
GDSN 207 Type C
2C + Ground
P/N 933 137-100
McMaster Carr P/N 4985K31

Recommended Connector for voltage output:
Hirschmann Automation and Control
DIN 43650
GDSN 307 Type C
3C + Ground
P/N 933 023-100
McMaster Carr P/N 4985K33

When using a Shielded Cable, connect the shield drain wire to the Meter or Reading Device Ground connection.

The Mini-Transmitter is calibrated and sealed at the factory. There are no field accessible adjustments on the transmitter.