

MODEL 277

Standard Range (10"WC to 100 PSID) Wet/Wet Differential Pressure Transmitter



MODEL 277 (10"WC to 100 PSID) WET/WET DIFFERENTIAL PRESSURE TRANSMITTER

Features

- Single Diaphragm for Precision
- Fast response
- External Zero & Span Adjustments
- 1,000 PSI Line Pressure (Standard)
- 3,000 PSI Line Pressure (Optional)
- Shunt calibration circuit

Applications

- Leak testing
- Flow measurement
- Engine test stands
- Research
- High speed testing
- Unidirectional or Bidirectional

PERFORMANCE

| | |
|---|--|
| Full Scale Pressure Ranges (FSPR) | 0 -10, 20, 100, 300" WC 0-15, 50, 100 PSI |
| Combined Accuracy (Non-Linearity (BFSL), Hysteresis & Repeatability) | ≤ ±0.20% RSS |
| Full Scale Output (FSO) | 5Vdc |
| Resolution | Infinite |
| Zero Shift w/Line Pressure (%FSO/1000 PSI) | ≤ ±2% |
| Zero Shift After 1000 PSI Overload | |
| 0-10 thru 0-50" WC | Single Side ≤ ±0.5% FSO Alternate Sides ≤ ±0.5% FSO |
| ≥ 100" WC | Single Side ≤ ±0.2% FSO Alternate Sides ≤ ±0.5% FSO |
| Compensated Temperature Range | 70°F to +170°F (21°C to 77°C) |
| Operating Temperature Range | 0°F to +185°F (-20°C to 85°C) |
| Storage Temperature Range | -40°F to +185°F (-40°C to 85°C) |
| Thermal Effect on Zero | ≤ 2.0% FSO per 100°F |
| Thermal Effect on Span | ≤ 2.0% FSO per 100°F |

ELECTRICAL

| | |
|--------------------------------|--|
| Supply Voltage | 9-30 Vdc |
| Power Supply Regulation | ± .02% FSO per volt (Typical) |
| Output Signal | 0-5 Vdc |
| Output Loading | 3,000 ohms minimum |
| Current Draw | 3.8 mAdc |
| Zero Adjustment | ±5% FSO min./ ±50% FSO max. |
| Span Adjustment | ±5% FSO min./ ±50% FSO max. |
| Range Calibration Signal | 80% FSO ±10% by shorting pins E&F |
| Calibration Signal Accuracy | ≤ ±1.0% |
| Circuit Protection | Reverse polarity protected |
| Insulation Resistance | < 5 nS to case ground |
| Standard Electrical Connection | Mates with 6 pin, Hermetic, Box Mount, Shell Size 10, MIL-C-26482 bendix type connector |
| Pin Outs | Pin A + Power Pin B - Power Pin C + Signal Pin D - Signal Pin E Shunt Cal Pin F Shunt Cal |

MODEL 277 Differential Pressure Transmitter



The Value of Viatran to Your Operation

Viatran value is measured in maximum reliability and minimal repair, unlike products that result in less durability and more downtime for replacement. Viatran value is worth your investment for the long run:

♦ PRODUCTS

50 years of proven solutions

♦ TECHNICAL SUPPORT

Expert problem solvers

♦ CUSTOMER SERVICE

Fast, friendly and honest



MECHANICAL

| | |
|--------------------------------|---|
| Standard Pressure Port | 1/4" NPT Female |
| Line Pressure | 0-10"WC 1,000 PSI maximum 0-20"WC thru 1,000 PSI 1000 PSI (Optional 3000 PSI w/ process flanges) |
| Proof Pressure | 1000 PSI single sided |
| Burst Pressure | 1500 PSI |
| 0-10" WC | 1,150 PSI |
| 0-20" thru 0-300" WC | 1,450 PSI |
| 0-15 thru 0-100 PSI | 1,850 PSI |
| Volume Displacement | ≈0.1 mL at FSPR |
| Pressure Cavity Volume | |
| Standard Flanges: | 0.4 cubic inches, each side |
| Optional Process Flanges "NB": | 1.5 cubic inches |
| Mounting | May be supported by process piping or by optional mounting bracket. |
| Response Time | Consult engineering |

MATERIALS OF CONSTRUCTION

| | |
|--------------------|---|
| Wetted Materials | 316 Stainless Steel and Viton O-Ring |
| Enclosure Material | 304 and 316 Stainless Steel |
| Identification | Laser marked on body of unit |
| Weight | 3.5 lbs. (6.5 lbs. with optional flanges) |

OPTIONS

| | |
|------|--|
| B() | Alternate electrical connector |
| DG | Improved temperature compensation |
| DH | Special Range |
| DK | Special calibration setting |
| DW | No external adjustments |
| DX | Modified full scale output (FSO)(≤5V) |
| EA | Special Calibration Run |
| GE | Buna 'N' O-Rings |
| NB | Alternate process flanges for increased line pressure rating (3,000 PSI) |
| NF | Fast response time |
| NH | Customer specific identification |
| PW | Calibration of Meter w/Viatran unit |
| Y() | Alternate pressure ports |
| Z() | Alternate electrical connector |

Note: Application of some available options may affect standard performance. Consult Viatran Application Engineers for details.

Information is accurate to the best of Viatran's knowledge. We reserve the right to change specifications at any time. Please contact Viatran for specific order inquiries.

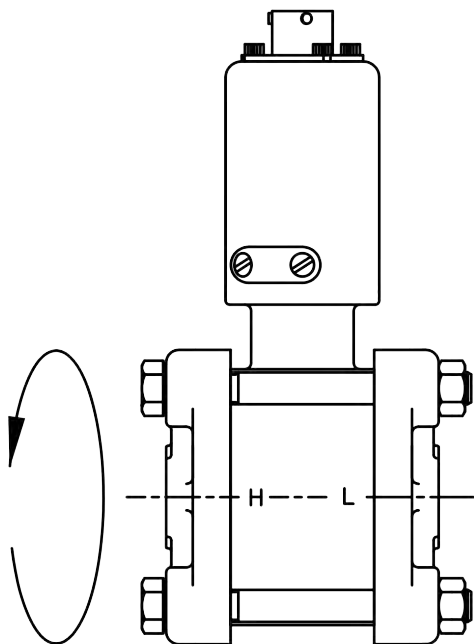
MODEL 277 Solutions custom-fit to your application

MOUNTING



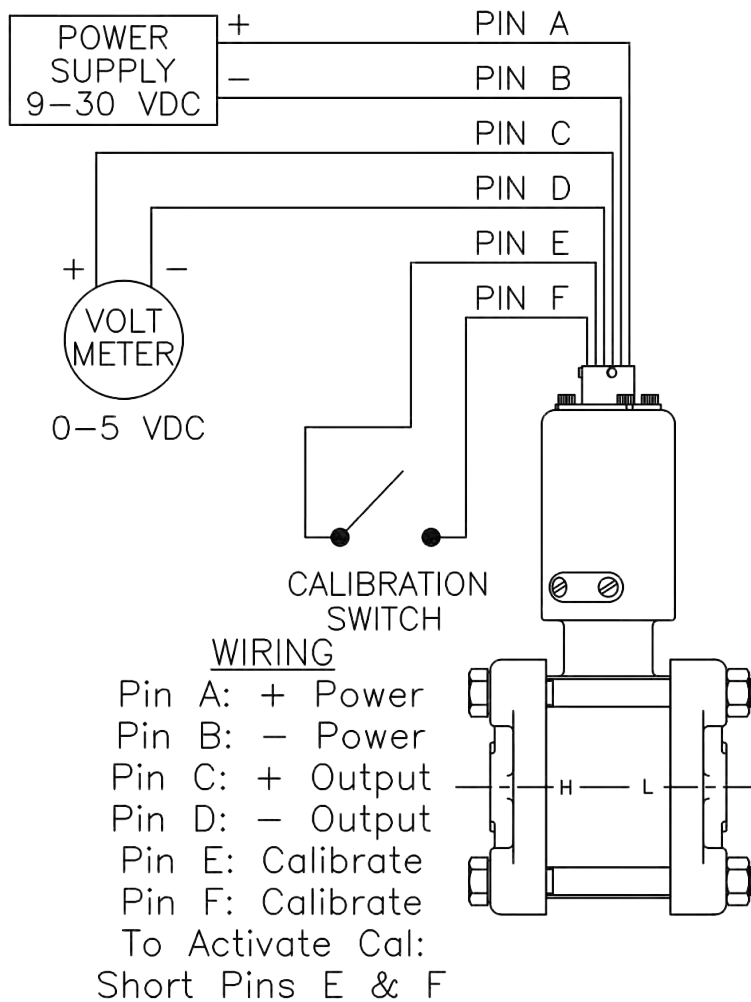
Example of Model 277 mounted in spray booth application.

ORIENTATION



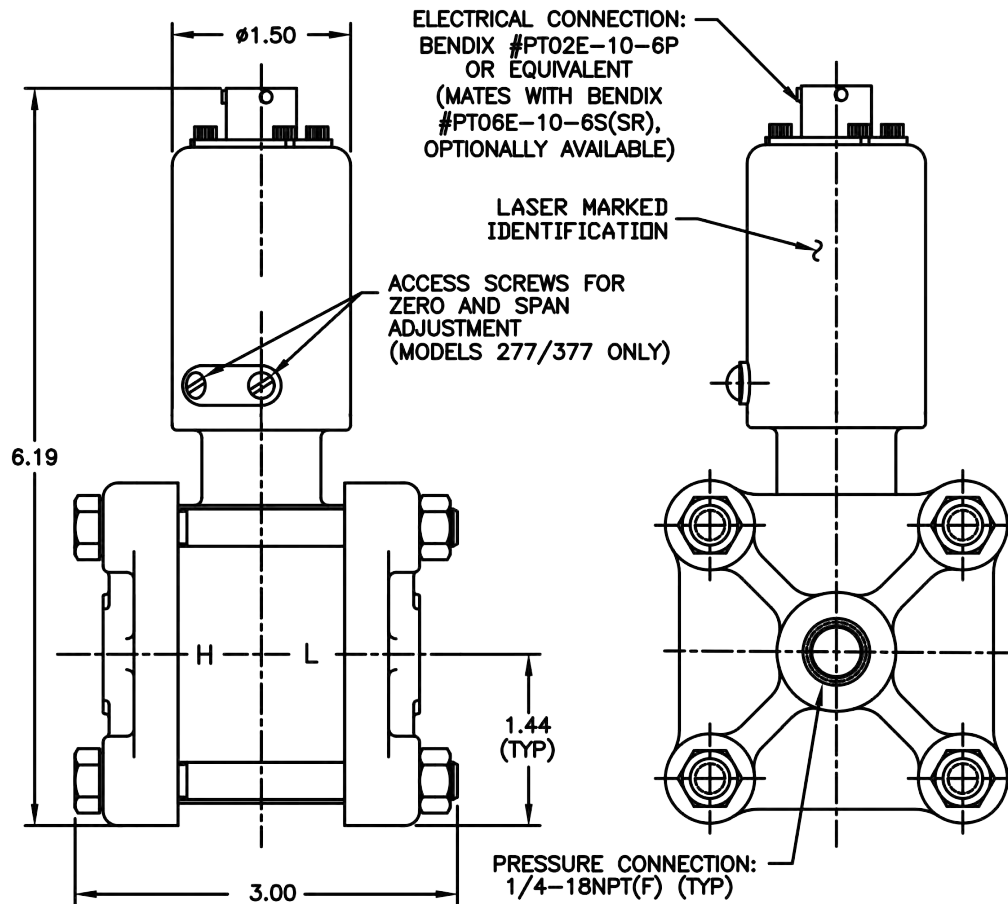
Due to the effects of gravity on the oil fill of the sensor, it's recommended that the product be mounted as shown

WIRING CONNECTIONS



MODEL 277 Differential Pressure Transmitter

DIMENSIONAL DATA



ACCESSORIES

Mounting Bracket
Digital Indicator
Mating Electrical Cable Assembly



38 Forge Parkway, Franklin, MA 02038 USA
International: 1-716-629-3800 | Toll Free: 1-800-688-0030
Fax: 1-716-693-9162 | Email: solutions@viatran.com
Web: www.viatran.com

An ISO 9001:2015 Certified Company
98DS277d