Pressure Transmitter

Model #274/374

Low Range Differential Pressure

Features

- Wet/Wet ΔP pressures from 5" W.C. to 100 PSID
- Fast response
- Small size and weight
- 1000 PSI overpressure
- Shunt calibration circuit

Applications

- Leak testing
- Flow measurement
- Engine test stands
- Research
- High speed testing

Viatran's "74" Series differential pressure transmitters are extremely accurate and durable units, designed specifically for test applications. The variable capacitance sensing technology provides extremely high overpressure protection, and long range stability, as well as high accuracy of 0.15% BFSL.

The "74" Series measures pressure ranges from 5" W.C. to 100 PSID. Model 274 provides a 0-5 VDC signal, while Model 374 offers a 4-20 mA signal compatible with two wire current loops.

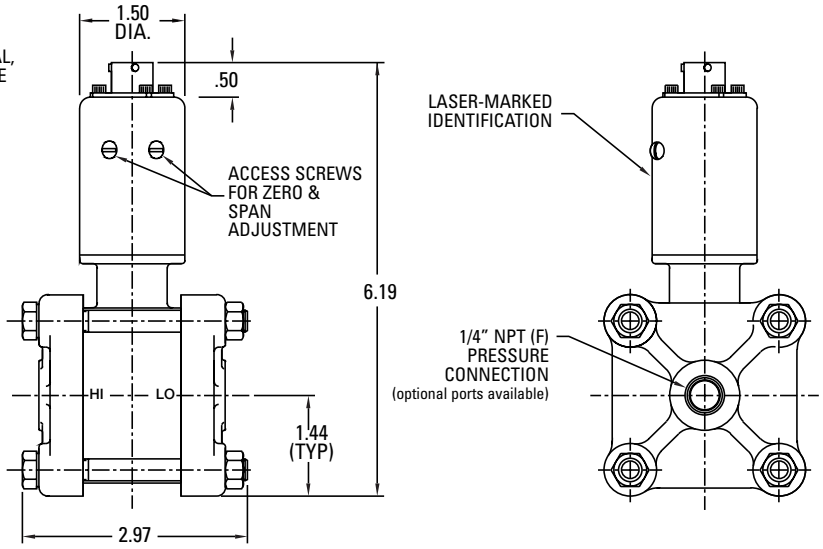
All wetted surfaces, including flanges and diaphragms, are constructed of 316 stainless steel with a sealing Viton® O-Ring for excellent corrosion resistance. A standard 1,000 PSI static line pressure and single side overpressure rating are featured with these transmitters. For applications that require a higher static line pressure rating, 3,000 PSI is available with optional flanges.

Models 274 and 374 feature an internal calibration circuit for easy field set-up, a quick disconnect electrical connection and external zero and span controls. A special option called fast response enables the unit to accurately respond to changes in pressure in approximately one tenth of the standard time. These features make Viatran's Models 274 and 374 ideal for most industrial test and flow applications.

Viatran offers a complete family of high accuracy transmitters. For low range gage pressure measurement, Models 244/344 utilize the same technology as Models 274 and 374 for superior performance. For mid to high range gage & absolute pressures, Model Series "45" & "49" offer small size & high accuracy to pressures of 100,000 PSI. When your application requires precise measurements, you can depend on Viatran's transmitters for high quality results.

Dimensions

ALL DIMENSIONS ARE NOMINAL, IN INCHES AND FOR REFERENCE PURPOSES ONLY



Viatran
PRESSURE & LEVEL SENSORS

AS9100D
ISO 9001:2015

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Viatran Model 274/374 Specifications

Performance

Full Scale Pressure Range (FSPR)	0-5, 10, 20, 50, 100, 300, 750" W.C.D. 0-15, 50, 100 PSID
Non-Linearity (Best Fit Straight Line)	≤ ±0.15% FSO
Hysteresis	≤ ±0.08% FSO
Repeatability	≤ ±0.06% FSO
Full Scale Output (FSO)	
Model 274	5 VDC
Model 374	16 mA
Resolution	Infinite
Long Term Stability	≤ ±0.1% FSO per 6 months
Zero Shift w/Line Pressure (%FSO/1000 PSI)	
5" WC to 100" WC	≤ 4%
300" WC to 100 PSI	≤ 6%
Span Shift w/Line Pressure (%FSO/1000 PSI)	
5" WC to 100" WC	0 to -6%
300" WC to 100 PSI	0 to -4%
Zero Shift After 1000 PSI Overload	
Single Side	≤ ±0.1% FSO
Alternate Sides	≤ ±0.5% FSO
Compensated Temperature Range	70° F to +170° F
Operating Temperature Range	0° F to +170° F

5"WC to 50"WC	100"WC to 100 PSI
0° F to +170° F	-40° F to +170° F

Storage Temperature Range	0° F to +170° F
5"WC to 50"WC	100"WC to 100 PSI
0° F to +170° F	-40° F to +170° F

Temperature Effect on Zero	± 2.0% FSO per 100° F
Temperature Effect on Span	± 2.0% FSO per 100° F

Electrical

Supply Voltage	10 to 42 VDC
Power Supply Regulation	≤ ±0.0001% FSO per Volt change over the supply voltage range
Output Signal	
274	0 to 5 VDC
374	4 to 20 mA
Output Loading-274	3000 Ohms minimum
Load Impedance-374	0 Ohms at 10 VDC 1600 Ohms maximum at 42 VDC
Current Draw-274	3.8 mA
Zero Adjustment	
274	±10% FSO min./ ±20% FSO max.
374	±5% FSO min./ ±50% FSO max.
Span Adjustment	
274	±10% FSO min./ ±20% FSO max.
374	±10% FSO min./ ±50% FSO max.
Calibration Signal	80% of the FSPR, by shorting pins - see Electrical Connections
Calibration Signal Accuracy	≤ ±0.1% of the stated value
Circuit Protection	Reverse polarity protected
Insulation Resistance	>1000 MegOhms to case ground at 50 VDC and 70° F
Response Time	See graph
Electrical Connections	Bendix PT02E-10-6P, mates with PT06E-10-6S (SR)

Model 274	
Pin A	+Power
Pin B	- Power
Pin C	+Signal
Pin D	- Signal
Pin E	Calibrate
Pin F	Calibrate

Model 374	
Pin A	+Signal
Pin B	- Signal
Pin C	Calibrate
Pin D	Calibrate
Pin E	N/C
Pin F	N/C

Mechanical

Pressure Connections	1/4" NPT Female
Static Pressure	1000 PSI maximum (3000 PSI - optional)
Proof Pressure	1000 PSI single sided (3000 PSI - optional)
Burst Pressure	1500 PSI (4500 PSI - Optional)
Diaphragm Displacement	0.002 cubic inches at FSPR
Pressure Cavity Volume	
Standard Flanges	0.4 cubic inches
Optional Process Flanges	1.5 cubic inches
Fill Fluid	Dow DC200 Silicone oil
Mounting	May be supported by process piping or by optional mounting bracket.
Materials of Construction	
Housing	304 and 316 stainless steel with a Cadmium plated electrical connector
Wetted Parts	316 stainless steel and Viton® O-Ring
Weight	3.5 lbs. (6.5 lbs. with optional flanges)

Options

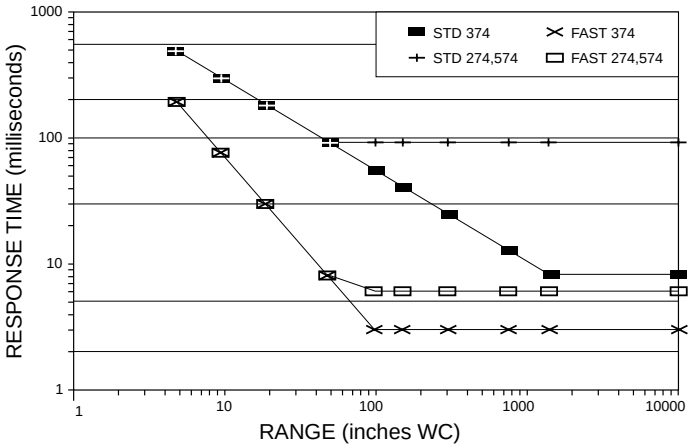
Codes	Description
B( )	Alternate electrical connector
DG	Improved temperature performance
DH	Special ranging
DK	Special calibration setting
DM	Modified full scale output (FSO)
DQ	Cleaning for Oxygen service
EA	Calibration run at specified temperature
FA	Russian Metrology Certificate (374 only)
GE	Buna 'N' O-Rings
NB	Alternate process flanges for increased pressure rating
NF	Fast response time
NH	Customer specified laser marking
NM	Millivolt/volt output
Y( )	Alternate pressure ports

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

Accessories

Digital Indicator
Mating Electrical Cable Assembly
Mounting Bracket

Response Time (10% to 90% FS)



This information is accurate to the best of the manufacturer's knowledge, however, we reserve the right to change specifications at any time. Please contact your sales representative for specific order inquiries.

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