PRESSURE TRANSMITTER / TRANSDUCERS

Models 548 / 748 / 848

FEATURES

- All welded construction
- 316L stainless steel wetted parts
- High accuracy
- Pressure up to 5000 PSI (345 bar)

TYPICAL APPLICATIONS

- Fuel tank level
- Chemical tank level
- Gas compressors
- Chemical processing

FOR CORROSIVE ENVIRONMENTS

The “X48” Series features all welded stainless steel construction with 316L stainless steel wetted parts. Non-linearity is 0.25% or better with an optional improved non-linearity of better than 0.1%. Standard ranges are from 3 PSI to 5,000 PSI with available outputs of mV/V, 4-20 mA and 0-5 VDC. Also available are optional zero and span adjustments.

A FULL LINE OF APPROVALS

The “X48” Series has the approvals necessary for use in hazardous areas. Viatran offers a variety of standard options that provides flexibility to meet your specific application needs. Options include alternate pressure ports, electrical connectors and various electrical outputs.

VIATRAN’S FULL LINE

To complement this series is a full line of pressure measurement products for the process control industry. Our Model 570 and 571 provide mid to high ranges up to 100K PSI and the IDP10 can measure differential pressures as low as 0.5" WC full scale.

OUR COMMITTMENT TO QUALITY

The "X48" series design will perform and maintain on site durability in the most severe applications. To satisfy your unique application requirements, Viatran will also modify our standard products to meet your needs.

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PERFORMANCE

Full Scale Pressure Range .....0-3 thru 0-5000 PSIG, PSIS; 0-15 thru 0-5000 PSIA
.....0-15 PSIV*
Non Linearity .....≤±0.25% (optional ≤±0.1% 548/748)
Hysteresis & Repeatability .....±0.05% FSO each

Full Scale Output (FSO)
548 .....16 mA ±1%
748 .....5 Vdc ±1%
848 .....mV/V

Zero Balance .....≤±1% FSO
Long-term Stability .....≤±0.25% FSO per 6 months
Response Time .....≤1milliseconds to reach 90% of FSO
Temperature Effect on Zero .....≤±1% FSO per 100°F (55°C)
Temperature Effect on Span .....≤±1% FSO per 100°F (55°C)
Compensated Temperature.....32°F to 180°F (0°C to 82°C)
Operating Temperature.....-40°F to 185°F (-40°C to 85°C)

Storage Temperature Limits
548 / 748 .....-40°F to 250°F (-40°C to 121°C)
848 .....-65°F to 250°F (-54°C to 121°C)

ELECTRICAL

Supply Voltage
548 / 748 .....9.0 to 30 Vdc
848 .....15 Vdc max
Power Supply Regulation Effect .....±0.05% FSO per volt

Output Signal
548 .....4 - 20 mA
748 .....0 - 5 Vdc
848 .....3 to 5 PSI: 5 mV/V. 10 PSI and up: 10 mV/V

Load Resistance
548 .....12 Vdc min with 150 ohm and 30 Vdc max with 1050 ohms
Circuit Protection .....Output may be short-circuited indefinitely. Input polarity may be
.....reversed. Over voltage protected to 1000 volts. <1 msec duration
Insulation Resistance .....<5nS Conductance
Electrical Connection.....1/2" NPT (M), 18 AWG wire, 72" long

	548	748	848
Red	+Power/Signal	+Power	+Power
Black	-Power/Signal	+Signal	+Signal
Green	Case Ground	Case Ground	-Power
White	N/A	-Power/Signal	-Signal
Brown	N/A	N/A	Case Ground

MECHANICAL

Pressure Connection.....1/4" - 18 NPT female
Proof Pressure .....<=500 PSI lesser of 3x or 1,200 PSI
.....>500 PSI lesser of 3x or 9,000 PSI
Burst Pressure.....<=500 PSI lesser of 5x or 2400 PSI
..... >500 PSI lesser of 5x or 10K PSI
Diameter ..... 1.5 in
Weight ..... 10 oz

MATERIALS OF CONSTRUCTION

Enclosure Housing .....304 and 316 stainless steel
Pressure Connection.....316 stainless steel
Sensor .....316 stainless steel
Mounting.....May be supported by pressure connection
Identification.....Laser etched onto body

ACCESSORIES

Mounting bracket
Conduit connection box
Loop Powered Digital Indicator
Protective cover

* For PSIV and Compound Range units:

Temperature Effect on Zero .....≤±3.0% per 100°F
Compensated Temperature Range .....32°F to 170°F (0°C to 77°C)
Approved units may have an additional .19" housing length for vacuum and compound ranges
NG and NY hazardous location approval option codes are not available on vacuum and compound range units
848 output signal .....5 mv/V

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CERTIFICATIONS (Consult Factory for Available Options)

USA

Intrinsic Safety: Class I, II, III, Division 1, Groups A-G; Class I, Zone 0, AEx ia IIC, T4 at Ta<=85°C, T5 at Ta<=40°C Entity, Type 4X Hazardous Locations
Explosion Proof: Class I, Division 1, Groups A-D;Class II/III, Division 1, Groups E-G, Class I, Zone 1, AEx d IIC, T5 at Ta<=88°C , NEMA 4X Hazardous Locations
Nonincendive: Class I, Division 2, Groups A-D; Class II/III, Division 2, Groups F and G; Class I, Zone 2, Group IIC, T4 at Ta<=80°C, T5 at Ta<=40°C, Type 4X Hazardous Locations

Canada

Intrinsic Safety: Class I, Division 1, Groups A-D; Class II, Division 1, Groups E-G; Class III; Class I, Zone 0, Ex ia IIC, T4 at Ta<=80°C, T5 at Ta<=40°C
Nonincendive: Class I, Division 2, Groups A-D; Class II, Division 2, Groups F-G; Class III, T5 at Ta<=60°C, Type 4

Europe

EMC Directive 2004/108/EC; EN 61326-1:2006
PED 97/23/EC
ATEX Directive 94/9/EC

Intrinsic Safety	II 1G, Ex ia IIC T4, Ga -20°C<=Ta <=80°C
Flameproof	II 2G Ex d IIC T6, Gb -20°C ≤ Ta≤ 40°C
Nonincendive	II 3 G Ex nA IIC T4, Gc -20°C =<Ta <=80°C

Russia

Intrinsic Safety	0Ex ia IIC Ga X	T4: - 2 0°C ≤ Ta ≤ +80°C	T5: - 2 0°C ≤ Ta ≤ +40°C
Flameproof	1Ex d IIC Gb X	T6: - 2 0°C ≤ Ta ≤ +40°C	
Non-Sparking	2Ex nA IIC Gc X	T4: - 2 0°C ≤ Ta ≤ +80°C	

Russian Metrology Certificate

OPTIONS

Y( ).....Alternate pressure ports

PERFORMANCE OPTIONS

DF ..... Bleed port
DH.....Special range
DN.....Improved Linearity ≤0.1% FSO (548/748 only)
DM .....Modified output (>0 to 5 Vdc, 748 only)
DQ.....Cleaning for oxygen service
DX .....Modified output (0 to 4.5 Vdc, 748 only)
EA .....Special calibration run
FA .....Russian Metrology Certificate
NG[1].....ATEX Flameproof label
NH.....Customer specified identification
NJ .....CE design and label
NK.....ATEX Intrinsic Safety label
NX .....CSA Intrinsic Safety label (548/748 only)
NY[1] .....FM Explosion Proof label
NZ .....USA Nonincendive
PW .....1/8 DIN digital indicator
TF.....FM Intrinsic Safety label
TJ.....CSA Division 2 label (548/748 only)
TK.....ATEX Type n label
TW .....EACEx Russia

Note: For units equipped with a breather vent, consideration should be given to ensure that the breather element is kept clear and exposure to contamination is minimized. Applications of some available options may affect standard performance. Consult your Viatran Representative for details.

[1] Not available on PSIV or Compound Range Units.

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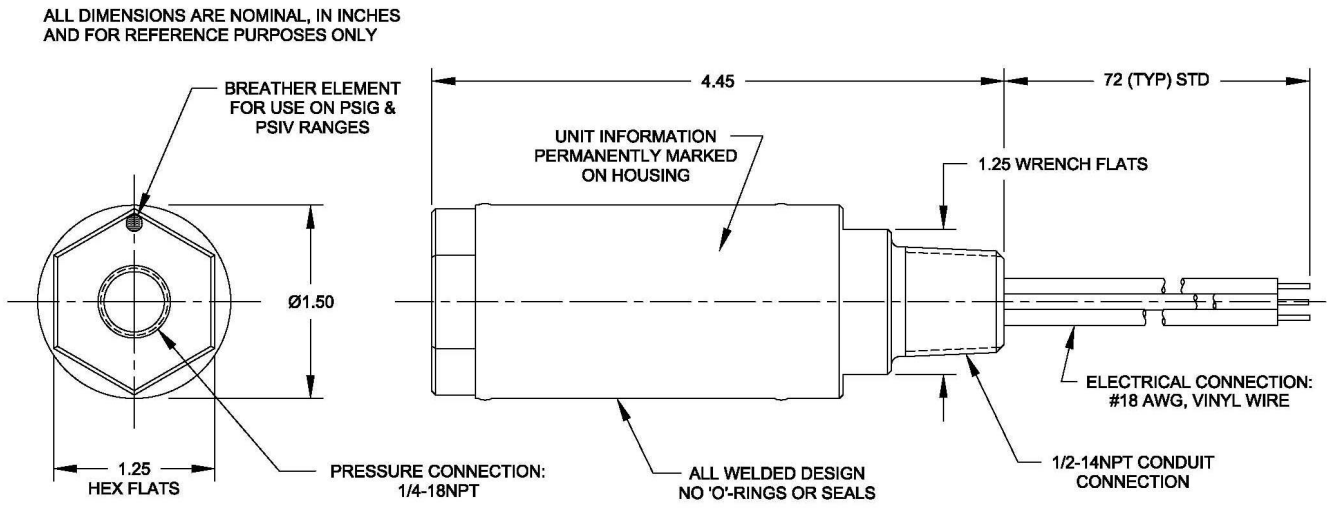
DIMENSIONAL DATA



INSTALLATION NOTES:

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