



# Model 349 Pressure Transmitter



## MODEL 349 PRESSURE TRANSMITTER

**DURABLE, DEPENDABLE, ACCURATE**

Viatran's "49" series is a robust, highly accurate pressure transmitter designed for the severe environments found in aerospace, engine test and fluid power control applications.

### PERFORMANCE

Full Scale Pressure Range	0-5, 15, 25, 50, 100, 200, 300, 500, 1K, 1500, 2K, 3K, 5K, 7.5K, 10K, 15K, 20K, 25K, 30K, 40K, 50K, 60K, 75K, 100K PSIA, PSIS, PSIG
Linearity (Best Fit Straight Line)	$\leq \pm 0.10\%$ FSO For 100K PSI $\leq \pm 0.25\%$ FSO
Hysteresis	$\leq 0.06\%$ FSO
Repeatability	$\leq 0.03\%$ FSO
Full Scale Output (FSO)	16 mA
Long Term Stability	$\leq \pm 0.25\%$ FSO per 6 months
Response Time	$\leq 4$ mSec to reach 90% of FSO
Temperature Effect on Zero	$\leq \pm 1\%$ FSO per 100°F (37°C)
Temperature Effect on Span	$\leq \pm 1\%$ FSO per 100°F (37°C)
Compensated Temperature Range	70°F to 170°F (21°C to 76°C)
Operating Temperature Range	-40°F to 185°F (-40°C to 85°C)
Storage Temperature Limit	-65°F to 250°F (-54°C to 121°C)

### ELECTRICAL

Supply Voltage	9 to 40 Vdc
Power Supply Regulation Effect	$\leq \pm 0.01\%$ FSO per Volt
Output Signal	4 to 20 mA
Load Impedance	1500 Ohms max at 40 Vdc max
Bridge Impedance	5,000 Ohms nominal
Circuit Protection	Output may be short-circuited indefinitely. Input polarity may be reversed. Over voltage protection to 1000 volts for <1 mSec duration
Electrical Connection	6-pin hermetic, bayonet-style, 303 SST weld mount connector
Pin Outs	PIN A +Signal PIN B -Signal PIN C Calibrate PIN D Calibrate PIN E No Connection PIN F No Connection

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High Accuracy



Many Options available



All Stainless Steel construction

The Model 349's small size allows flexibility in tight spaces, while the welded body, stainless steel connector and sealed adjustments ensure protection against contamination.

The “49” series utilizes three sensor technologies to achieve top performance through all pressure ranges. For ranges 0-5 to 0-150 PSI, a silicon piezoresistive sensor provides extremely accurate readings and high overpressure protection. Bonded foil strain gage sensors are more reliable for pressure ranges 200 to 15,000 PSI where transient spikes could destroy a silicon sensor.

For pressure measurement over 20,000 PSI, Viatran developed the “tube” sensor. Made from high strength stainless steel, this sensor ensures high accuracy and durability where diaphragm type sensors can rupture. Model 349 is equipped with electronic linearization, a compensation circuit that corrects for non-linearities in the sensor.

Surface-mount technology (SMT) allows this complex circuitry to be incorporated into a small package and yield a linearity specification of  $\leq 0.1\%$  FSO (optional to 0.05%).

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## MECHANICAL

Pressure Connection	0-5 thru 0-15K PSI 1/4" - 18 NPT Female (0-3.3 thru 0-1034 bar) 0-20K thru 0-50K PSI 1/4" F250-C High Pressure Tube (0-1378 thru 0-3447 bar) 0-60K thru 0-100K PSI 5/16" F312C High Pressure Tube (0-4136 thru 0-6894 bar)
Proof Pressure	5 thru 150 PSI 3X range minimum 151 thru 15K PSI 1.5X range 20K - 100K PSI 1.2X range
Burst Pressure	5 thru 150 PSI Consult Factory 151 thru 15K PSI 5X range or 30K PSI, whichever is less
20K - 100K PSI	1.5X range or 125K PSI, whichever is less
Pressure Cavity Volume	5 thru 150 PSI 0.25 cu. in. 151 thru 15K PSI 0.32 cu. in. 20K - 100K PSI 0.10 cu. in.
Mounting	Supported by process piping or optional mounting bracket

## MATERIALS OF CONSTRUCTION

Wetted Parts	5 thru 150 PSI 316, 304 SST 200 thru 15K PSI 15-5 PH SST 20K - 100K PSI Stainless Steel
Housing	316L SST
Weight	15 oz, nominal
Identification	Laser etched onto body

## OPTIONS

Alternate Connector	BZ Micro change connector
Alternate Ports	YA MS33649-04 YG MS16142-04 YI 1/8" NPT(F) YK 1/4" NPT(M) YM 1/4" F250-C High pressure tube YN 3/8" NPT(F) YS 5/16" F-375-C High pressure tube YR 1/2" NPT(F) YV MS33649-08
Performance Options	DG Improve temperature performance DH Special ranging DK Special calibration setting DM Modified output (i.e., 0-10 Vdc) DN Improved accuracy DQ Cleaning for oxygen service EA Special calibration run NH Customer specified identification PW 1/8 DIN digital indicator

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

components of the PC board helps  
to prevent damage from severe  
vibration with top-mounted and  
sealed zero and span adjustments.

## Model 349 Pressure Transmitter

An internal calibration circuit

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

AE HIGH PRESSURE CONNECTIONS LISTED  
ARE REGISTERED TRADEMARKS OF  
AUTOCLAVE ENGINEERS GROUP,  
ERIE, PENNSYLVANIA

