PRESSURE TRANSMITTER

Model 555

FEATURES

- **Hermetically sealed external controls**
- **Built-in field calibration signal**
- **All welded, watertight submersible construction**
- **4-20 mA output**
- **Flush abrasion resistant diaphragm suitable for pipe saddle mounting**

TYPICAL APPLICATIONS

- **Shipboard/Marine**
- **Pulp and Paper**
- **Chemical Processing**
- **Slurries**
- **Sludge**

COMPACT AND COMPLETELY SEALED

The Viatran 555 is designed to withstand harsh atmospheres including submersion to 100 feet. The all-welded construction, with magnetically-coupled zero and span potentiometers, ensures the water-tight integrity of the high-reliability electronics.

The 555 design allows easy installation in pipelines of abrasive slurries or sludge for pump monitoring. The Inconel X750 diaphragm material ensures long life in abrasive slurries. Using a pipe saddle with integral shutoff, the 555 can be installed wet in less than an hour from start to finish.

IN-FIELD SETUP AND RANGING

A calibration circuit permits ranging and setup without a calibrated pressure source. When the cal switch is activated, an electronic signal is sent through the unit, simulating the level or pressure.

JUST ONE PART OF A COMPLETE LINE OF SOLUTIONS FROM VIATRAN

The signal conditioner in the 555 allows for 4:1 ranging of the transmitter's standard pressure range. The 555 represents one transmitter in a family of sensors designed for the process control industry.

For more information, contact Viatran.

Available Approvals:

CE FM APPROVED Ex

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PERFORMANCE

Full Scale Pressure Range	0-50 thru 0-500 PSIS
Non-Linearity (Best Fit Straight Line)	≤± 0.25% FSO 0-150 thru 0-500 psi
	≤± 0.50% FSO 0- 50 thru 0-100 psi
Hysteresis & Repeatability	≤ 0.1% FSO
Full Scale Output (FSO)	16 mA at 70°F (21°C)
Zero and Span Balance	± 0.5% FSO
Resolution	Infinite
Long Term Stability	≤± 0.50% FSO per year
Response Time (Mechanical and Electrical Combined)	<20 milliseconds to reach 90% of Full Scale

Temperature Effect on Zero and Span

Temperature Effect on Zero	±1% FSO per 100°F (37°C)
Temperature Effect on Span	±1% FSO per 100°F (37°C)
Combined at 4:1 Range Down	≤±4.0% FSO per 100°F (37°C)
Compensated Temperature Range	70°F to 170°F (21°C to 77°C)
Operating Temperature Range	-10°F to 190°F (-23°C to 88°C)
Storage Temperature Limits	-65°F to 250°F (-53°C to 121°C)

ELECTRICAL

Supply Voltage	12 to 30 Vdc
Power Consumption	≤± 0.02% FSO per volt
Output Signal	4-20 mA at 70°F (21°C)
Load Impedance	900 Ohms maximum at 30 Vdc

Zero Adjustment

Elevation	-100% of FSO
Suppression	+50% of FSO
Span Adjustment	Rangeable down 4:1 from standard range
Range Calibration Signal	20% of FSPR externally switched
Calibration Signal Accuracy	±1.0% FSO. The exact signal to pressure correlation is provided with each unit.
Circuit Protection	Varistor protected across the input leads for surges above 40V and currents to 250 Amps Peak with a pulse width of 20 µSec. Reverse polarity protected
Bridge Resistance	5K Ohms nominal
Insulation Resistance	≥ 200 MegOhms to case ground (≤5 nS)
RFI/EMI	Negligible to 500 MHz at 5 Watts direct contact
Electrical Connection	1/2" NPT (M), 18 AWG, 72"
Red	+Power/Signal
Black	-Power/Signal
Green	Case Ground

MECHANICAL

Pressure Connection

50 - 500 PSI	Flush diaphragm
Proof Pressure	1.5 times Full Scale Pressure Range
Burst Pressure	≥ 3 times Full Scale Pressure Range
Shock Limitation	100 g's
Weight	70 oz (2 kg)

MATERIALS OF CONSTRUCTION

Enclosure Material	316L stainless steel
Wetted Materials	Inconel X750
Enclosure Classification	NEMA/Type 4X (IP68)

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CERTIFICATIONS (Consult Factory for Available Options)

USA Intrinsic Safety: Class I, II, III, Division 1, Groups A-G, and AEx ia IIC,T4 at Ta=80ºC,T5 at Ta=40ºC, NEMA/Type 4X Hazardous Locations

Nonincendive: Class I, Division 2, Groups A-D,F,G and Class I, Zone 2, Group IIC, T4 at Ta=80ºC, T5 at Ta=40ºC, Nema/Type 4X Hazardous Locations

Europe Intrinsic Safety: Ⓔx II 1 G Ex ia IIC, Ga, T4 (-20°C ≤Ta ≤40°C)

EMC Directive 2004/108/EC PED 97/23/EC

OPTIONS

Codes		
	BB	Mini change electrical connector
	BP	Micro change electrical connector
	CL	Extra lead length (6 ft standard)
	DG	Improved temperature compensation
	DK	Special shunt calibration
	EA	Special calibration run
	NH	Customer specified identification
	NJ	CE label
	NK	ATEX Intrinsic Safety label
	NZ	FM Nonincendive label
	TF	FM Intrinsic Safety label
	VD	G2 Thread retaining nut
	Z ( )	Alternate electrical connection
	ZU	Direct coupled cable

ACCESSORIES

Pipe Saddle with shutoff option (2"-11 1/2 NPT Thread) Maximum Operating Pressure: 250 PSI (17.2 Bar)
Pipe Saddle with shutoff option (G2 Thread) Maximum Operating Pressure: 250 PSI (17.2 Bar)
Shut off Blade
Holding straps with NBR saddle seal for pipe sizes 3" - 20" (DN 80 - DN 500)
Pipe Saddle (for Schedule 10 & 40 carbon steel pipe sizes 3" - 8") Maximum Operating Pressure: 500 PSI (237 Bar)
Conduit connection box
Calibration test fixture