

PRESSURE TRANSMITTER

Models 553 / 554



FEATURES

- Retrofit existing PMC pneumatic systems
- Solid State, no oil fill
- Corrosion resistant
- Flush mount design
- Rugged diaphragm design
- Small Size

TYPICAL APPLICATIONS

- Pressure screens
- Tank level
- Pulp slurries
- Head box feed
- Paper coating systems
- Black liquor flow
- Digesters

RETROFIT APPLICATIONS

Viatran's Models 553 and 554 are designed for new and retrofit applications in the pulp and paper industry. The flush mount units are available in a one inch O-ring design compatible with 1" PMC process connection. The bonded foil sensor has no oil fill which means easy cleaning and no damage to the unit or its performance.

Standard pressure ranges are from 50 PSI to 1000 PSI (3.4 to 68.0 bar) sealed gage and absolute formats. A vented cable option with a filter plug is available for lower gage pressure ranges.

Viatran's Models 553 and 554 are compact and hermetically sealed units built for the harsh environments encountered in pulp and paper measurement. With 17-4PH NACE wetted parts standard (Inconel X750 optional), they are designed for protection against the most corrosive environments.

INTERNAL CALIBRATION CIRCUIT

The model 554 employs unique, magnetically coupled external adjustments. This hermetically sealed enclosure has internal and external magnets that function as adjustments for zero, span, calibration and fine zero. The 554 also features an internal calibration circuit for easy field setup without the need for a calibrated pressure source. The span control allows 5:1 ranging.

Viatran also offers HART version of the 554, providing enhanced digital performance, rangeability and HART communications. Viatran Models 550 and 551 offer a solid state flush mount sensor with metric or NPT threads.

PERFORMANCE

	Full Scale Pressure Range (FSPR)	0-50, 100, 150, 200, 250, 300, 500, 750, 1000, PSIS, PSIA
Accuracy	Combined Linearity, Hysteresis and Repeatability.....	$\leq \pm 0.44\%$
	Full Scale Output (FSO)	16 mA
	Resolution	Infinite
	Long Term Stability	$\leq \pm 0.5\%$ FSO per 6 months
	Pressure Connection Effect Zero Balance	$\leq \pm 1\%$ FSO
Response time	Mechanical & Electrical Combined	≤ 20 mSec
	Temperature Effect on Zero	$\leq \pm 2\%$ FSO per 100°F (37°C)
	Temperature Effect on Span	$\leq \pm 2\%$ FSO per 100°F (37°C)
	Compensated Temperature Range	0°F to 185°F (-17°C to 85°C)
	Operating Temperature Range	-40°F to 250°F (-40°C to 121°C) - Process
	-40°F to 185°F (-40°C to 85°C) - Ambient
	Storage Temperature.....	-40°F to 250°F (-40°C to 121°C)

ELECTRICAL

	Sensor Technology	Bonded foil strain gage
Supply Voltage	553	12 to 40 Vdc
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	Power Supply Regulation	$\leq \pm 0.04\%$ FSO per Volt
	Output Signal	4 - 20 mA at 70°F (21°C)
	Load Impedance	1400 Ohms max at 40 Vdc
	Ripple	$\leq 1\%$ FSO
	Zero Balance	4 mA $\pm 1\%$ FSO at 70°F (21°C)
Zero Adjustment	553	Not applicable
	554	-50% FSPR (elevation) to 100% FSPR (suppression). Coarse and fine adjustments standard
	Span Balance	20 mA $\pm 1\%$ FSO
Span Adjustment	553	Not applicable
	554	5:1 turndown, externally
Range Calibration Signal	553	Not applicable
	55	20% $\pm 1\%$ of FSPR, externally switched. The exact signal to pressure correlation is provided with each unit.
	Circuit Protection	Varistor protected across the input leads for surges above 38 V and currents to 250 Amps peak with a pulse width of 8-20 μ Sec. Reverse polarity protected
	Bridge Resistance.....	5000 Ohms nominal
	Insulation Resistance	≥ 2000 MegOhms at 50 Vdc
	RFI/EMI Suppression	$\leq 0.2\%$ FSO output change at 0 to 30 V/meter, 10-1000 Mhz
	Electrical Connection.....	1/2" NPT male conduit, 3 wires, 18 AWG, 36"
	Red.....	+Power/Signal
	Black	-Power/Signal
	Green.....	Case Ground

MECHANICAL

	Pressure Connection.....	1" diameter O-ring (PMC compatible)
	Proof Pressure.....	1.5 times rated range
	Burst Pressure.....	≥ 3 times rated range or max range of clamp and tubing, whichever is less
Weight	553	16 oz
	554	22 oz

MATERIALS OF CONSTRUCTION

Enclosure Materials	304 and 316 stainless steel
Wetted Materials	17-4PH NACE (Inconel X750 optional)
Identification.....	Laser etched onto body
Measured Fluids.....	Any gas or liquid compatible with 17-4PH NACE
Enclosure Classification.....	NEMA 4X, 5, 6, 12

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OPTIONS

Alternate Connector

BZ.....Micro change connector

ZP.....6-pin hermetic (Bendix style)

Performance Options

DG.....Improved temperature compensation

DH.....Special range (553 only)

EA.....Special calibration

JJ.....Direct mount indicator with Explosion Proof housing

JS.....Direct mount indicator

NH.....Customer specified identification

NSR.....Non-standard range (554 only)

PW.....1/8 DIN digital indicator

QB.....Inconel wetted parts

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

ACCESSORIES

Conduit connection box

Tank fittings

