Viatran
PRESSURE & LEVEL SENSORS

PRESSURE TRANSMITTER /TRANSDUCERS

Models 570 / 770 / 870

Summary of Specifications		
Specification	**300 thru 15,000 psis**	**< 300 or > 15,000 psis**
Standard RSS	± 0.20% Full Scale Output (FSO)	± 0.25% FSO
Improved RSS (Option "DN")	± 0.15% FSO	N/A
Non-Linearity	± 0.10% FSO typical	± 0.25% FSO typical
Hysteresis	± 0.05% FSO typical	± 0.05% FSO typical
Zero Repeat	± 0.05% FSO typical	± 0.05% FSO typical
Stability	± 0.25% FSO per year	± 0.25% FSO per year
Compensated Temperature Range	0°F to 170°F (-18°C to 76°C)	0°F to 170°F (-18°C to 76°C)
Extended Temperature Range (Option "DC")	-40°F to 170°F (-40°C to 76°C)	N/A
Extended Temperature Range (Option "EH")	+70°F to 185°F (21°C to 85°C)	N/A
Operating Temperature Range	-40°F to 190°F (-40°C to 87°C)	-40°F to 190°F (-40°C to 87°C)
Temperature Effect on Zero and Span	≤±.01% per 1°F (0.56° C)	≤±.01% per 1°F (0.56° C)
Temperature Effect on Zero and Span (Option "DG")	≤±.005% per 1°F (0.56° C)	≤±.005% per 1°F (0.56° C)
Overpressure	Lessor of 1.5X FSPR or 20K PSI (1378 bar)	<300 (1.5X FSPR), >15K (1.2X FSPR)
Response Time	<2 mSec to reach 90% FSO	<2 mSec to reach 90% FSO

FEATURES

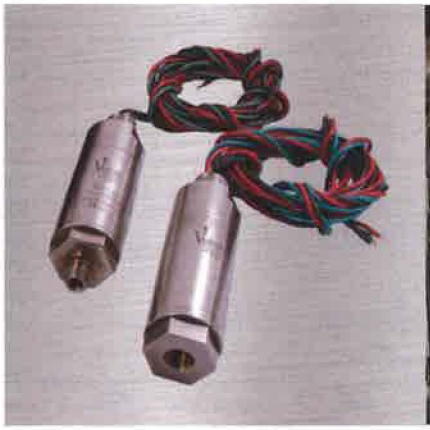
- Bonded Foil for Overpressure Protection
- Rugged All-Welded Stainless Steel design
- Pressure Ranges from 100 thru 100K psi
- Wetted material options & O-ring free design for corrosive applications
- Fully sealed design (IP66 - Nema 4X rated)
- 4-20 mA, 0-5 Vdc, 0-10 Vdc,mV/Volt output options
- Global Explosive atmosphere & hazardous location options (includes Intrinsic Safety, Explosion Proof, Non-Incendive, Non-Sparking and Flameproof)
- Flush Tip Design option

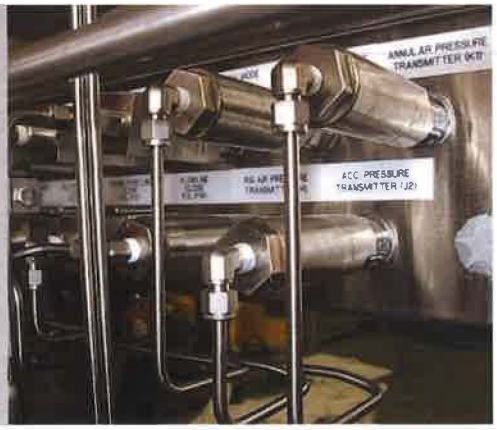
APPLICATIONS / INDUSTRIES

When faced with applications requiring a rugged, durable and long lasting solution, many users turn to Viatran for the X70 series of pressure transmitters and transducers. Some examples include:

- Offshore and Land Based Drill Rigs
- Coiled Tubing Trucks
- Hydraulic Power Units
- Compressors
- Rolling Mills
- Polyethylene Manufacturing
- High Pressure Material Testing
- Metal Stamping

AS9100D ISO 9001:2015





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199 Fire Tower Drive, Tonawanda, New York 14150 USA USA Phone: 716.629.3800 Toll Free: 800.688.0030 Fax: 716.693.9162 Email: solutions@viatran.com

Models 570 / 770 / 870

PERFORMANCE

	Full Scale Pressure Range	0-100 thru 0-100K PSIS (0-6.89 thru 0-6894 bar)
Accuracy (RSS) (BFSL Linearity, Hysteresis, Repeatability)	0-300 PSI thru 0-15K PSI Ranges	±0.20% FSO (±0.15% FSO improved with "DN" option)
	< 0-300 PSI or > 0-15K PSI Ranges	±0.25% FSO
Linearity (Best Fit Straight Line)	0-300 PSI thru 0-15K PSI Ranges	±0.10% FSO (BFSL), Typical
	< 0-300 PSI or > 0-15K PSI Ranges	±0.25% FSO (BFSL), Typical
	Hysteresis	< ± 0.05% FSO, Typical
	Repeatability	< ± 0.05% FSO, Typical
Full Scale Output (FSO)	570	16 mA
	770	5 Vdc
	870	2 mV/V
	Zero and Span Balance	±1.0% FSO
	Long Term Stability	≤±0.25% FSO per year
	Response Time	<2 mSec to reach 90% FSO
	Temperature Effect on Zero	≤±1% FSO per 100°F (56°C)
	Temperature Effect on Span	≤±1% FSO per 100°F (56°C)
	Compensated Temperature	0°F to 170°F (-18°C to 76°C)
	Operating Temperature	-40°F to 190°F (-40°C to 87°C)
	Storage Temperature Limit	-65°F to 250°F (-53°C to 121°C)

ELECTRICAL

Supply Voltage	570	12 to 30 Vdc
	770	9 to 30 Vdc
	870	10 Vdc nominal, 15 Vdc maximum
Power Supply Regulation Effect	570/770	≤±0.02% FSO per Volt
	870	Ratiometric
Output Signal	570	4 - 20 mA
	770	0 - 5 Vdc
	870	2 mV/Volt (Nominal)
Load Impedance	570	900 Ohms max at 30 Vdc
	770	100K Ohms minimum
Bridge Impedance	(All)	5000 Ohms nominal
Circuit Protection	570/770	Varistor protected across the input leads for surges above 40 V and currents to 250 Amps peak with a pulse width of 20 µSecs. Reverse polarity protected.
Insulation Resistance	570/770	>200 MegOhms to case ground
	870	>1000 MegOhms to case ground at 50 Vdc and 70°F (21°C)
Electrical Connection		1/2" NPT (M), 18 AWG wire, 72"

	570	770	870
Red	+Power/Signal	+Power	+Power
Black	-Power/Signal	+Signal	+Signal
Green	Case ground	Case ground	-Power
White		-Power/Signal	-Signal

MECHANICAL

Pressure Connection	0-50 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	0-100 thru 0-15K PSI	1.5 times FSPR or 20K PSI (1378 bar), (0-6.8 thru 0-1034 bar) whichever is less
	0-20K thru 0-100K PSI	1.2 times FSP (0-1378 thru 0-6894 bar)
Burst Pressure	0-100 thru 0-15K PSI	≥ 2.3 to 5 times FSPR dependent on (0-6.8 thru 0-10342 bar) sensor
	0-20K thru 0-100K PSI	≥ 1.5 times FSPR or 125K PSI (8618 bar) (0-1378 thru 0-6894 bar) whichever is less
	Mounting	Supported by process piping or optional mounting bracket

Models 570 / 770 / 870

MATERIALS OF CONSTRUCTION

Enclosure	0-100 thru 0-15K PSI	15-5 PH and 316 stainless steel (0-6.8 thru 0-1034 bar)
	0-20K thru 0-100K PSI	316 SST and PH 13-8 Mo SST (0-1378 thru 0-6894 bar)
Wetted Parts	0-100 thru 0-15K PSI	15-5 PH stainless steel (0-6.8 thru 0-1034 bar)
	0-20K thru 0-100K PSI	PH 13-8 Mo SST (0-1378 thru 0-6904 bar)
	Shock Limitation	100 G's
	Weight	24 oz. (0.680 kilograms)
	Identification	Laser etched onto body
	Enclosure	Classification NEMA 4X

CERTIFICATIONS (CONSULT FACTORY FOR AVAILABLE OPTIONS)

Country	Approval Option Code	Approval / Certification Description
USA	TF	Intrinsic Safety: Class I, II, III, Division 1, Groups A-G, Class I, Zone 0, AEx ia IIC, T4 at Ta=80°C, T5 at Ta=40°C, NEMA Type 4X Hazardous Locations
	NY	Explosion Proof: Class I, II, III Division 1, Groups A-G, AEx d IIC, T5 at Ta=88°C NEMA 4X Hazardous Locations
	NZ	Non-Incendive: Class I, II, III Division 2, Groups A,B,C,D,F,G, Class I, Zone 2, Group IIC, T4 at Ta=80°C, T5 at Ta=40°C, NEMA Type 4X Hazardous Locations
CANADA	NX	Intrinsic Safety: Ex ia IIC; Class I, Zone 0; Class I, II, III, Groups A-G; NEMA Type 4, T4 at Ta=80°C, T5 at Ta=40°C (570,870)
	ME	Explosion Proof: Class I, II, III, Groups A-G Hazardous Locations (570, 870)
EUROPE	NK	Intrinsic Safety: Ex II 1G, Ex ia IIC, -20°C, Ta <40°C
	NG	Flameproof: Ex II 2 G Ex d IIC, T6 (-20°C ≤ Ta≤ 40°C)
	TK	Non-Sparking: Ex II G Ex nA II, T4 Gc (-20°C ≤ Ta≤ 80°C) (770/870) EMC Directive 2004/108/EC EN 61326-1:2006 PED Directive 97/23/EC
	KN	Flameproof: IECEx db IIc Gb T5, T5: -20°C ≤ Ta ≤ +85°C IP68
RUSSIA	TW	Intrinsic Safety 0Ex ia IIC Ga X T4: - 20°C ≤ Ta ≤ +80°C T5: - 20°C ≤ Ta ≤ +40°C Flameproof Ex d IIC Gb X T6: - 20°C ≤ Ta ≤ +40°C Non-Sparking 2Ex nA IIC Gc X T4: - 20°C ≤ Ta ≤ +80°C
	FA	Russian Metrology Certificate

OPTIONS

Pressure Ports	YK	1/4" NPT (M)
	YM	1/4" F250-C (High pressure tube)
Electrical Connectors	BH	Amphenol 6-pin electrical connector (Weld-Mount)
	ZE	MIL-C-5015 (1 1/8" dia.) 4 pin (Weld-Mount) electrical connector
Performance	DC	Extended Temperature Operation (Low)
	DF	Bleed port (10K PSI and below)
	DG	Improved temperature compensation (<± 0.5% / 100 °F for zero/span)
	DH	Special range
	DM	Modified output (0-10 Vdc, 770 only)
	DN	Improved Accuracy (±0.15% FSO)
	DO	Cleaning for oxygen service
	EA	Special calibration run
	EH	Extended Temperature Operation (High)
	JJ	Direct mount indicator with explosion proof housing
	JS	Direct mount indicator
	MR	Modified electrical damping (570)
	NH	Customer specified identification
	PW	1/8 DIN digital indicator (consult factory)
Wetted Materials	QA	316 stainless steel wetted parts
	QB	Inconel (X-750) wetted parts
	QC	Hastelloy (C-276) wetted parts

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

Models 570 / 770 / 870

ACCESSORIES

Mounting bracket
Conduit connection box
Loop powered digital indicator

DIMENSIONAL DATA