

Viatran 511 Hammer Union Pressure Transmitter for measuring pump discharge pressure for drilling, fracturing, acidizing, cementing and nitrogen injection.

- Patented[†] Design to withstand extreme vibration and abusive impact
- Impervious to Fluid Ingress with patented angled connector base, drain holes, and sealing method
- Easy Access Connector Housing - 77% greater area
- Expanded compensated temperature range
- Improved sealing method for connector pins
- External adjust, identification and peak pressure capture
- RoHS compliant



PERFORMANCE

Full Scale Pressure Ranges.....	0-5K, 0-6K, 0-10K, 0-15K, 0-20K PSIS (0-350, 410, 700, 1000, 1400 Bar)
Combined Accuracy (BFSL) (Non-Linearity, Hysteresis & Repeatability).....	$\leq \pm 0.25\%$ FSO
Full Scale Output (FSO).....	16.00 mA $\pm 1\%$ FSO @70°F
Zero Balance.....	4 mA $\pm 1\%$ FSO @70°F
Compensated Temperature Range.....	+40°F to 140°F (4°C to 60°C)
Operating Temperature Range.....	-40°F to 185°F (-40°C to 85°C)
Storage Temperature Range.....	-67°F to 302°F (-55°C to 150°C)
Long Term Stability (%FSO).....	$\leq \pm 0.25\%$ FSO per 6 months
Thermal Effect on Zero.....	$\leq \pm 1\%$ FSO per 100°F Typical
Thermal Effect on Span.....	$\leq \pm 1\%$ FSO per 100°F Typical

ELECTRICAL

Output Signal.....	4-20 mA @70°F
Supply Voltage.....	9-28 Vdc
Power Supply Regulation.....	$\leq \pm 0.01\%$ FSO per volt
Load Impedance.....	900 ohms @ 28 VDC decreasing linearity to 0 ohms @ 9 VDC
Circuit Protection.....	Reverse polarity protected
RFI/EMI.....	$< 1\%$ FSO output change with 3V Rms from 150 kHz to 80 MHz (80% AM modulated at 1 kHz) applied to power supply and signal lines [IEC 61000-4-6 radio frequency common mode immunity], 1% output change when exposed to a radiated electromagnetic field of 10 V/m from 80 MHz to 1 GHz AM modulated at 1 kHz and 3 V/m 1.4 GHz to 2.7 GHz. [IEC 61000-4-3 Radiated electromagnetic field immunity]



Viatran

199 Fire Tower Drive
Tonawanda, New York 14150 USA

98DS511 REV. K

Hotline: 1-800-688-0030

Phone: 1-716-629-3800

Fax: 1-716-693-9162

Email: solutions@viatran.com

Web: www.viatran.com



Model 511

HAMMER UNION PRESSURE TRANSMITTER

ELECTRICAL (cont.)

Voltage Spike Protection	Withstand 1000 volt spike per EN 61000-4-5
Insulation Resistance	<5 nS
Response Time.....	<1 millisecond to reach 90% of FSO
Range Calibration Signal.....	100% FSO \pm 10% by exciting pins E&F
Calibration Power Supply Voltage.....	8.5-28 VDC
Calibration Signal Accuracy.....	Readings on calibration certificate are within \pm 0.2% FSO of actual Cal signal output
Bridge Resistance.....	10K ohms, nominal
Standard Electrical Connection.....	Mates with 6 pin, Hermetic, Box Mount, Shell Size 10, MIL-C-26482 bendix type connector

MECHANICAL

Standard Pressure Port.....	Male hammer union 2 inch #1502
Pressure Cavity Volume	Standard: 0.45 cubic inches Option "TP": 0.22 cubic inches
Zero Effect from Installation	< \pm 0.3% FSO w/200 ft-lbs torque on union #1502
Shock Sensitivity	1000 g, 0.5 ms half sine wave pulse shall not cause change in calibration
Proof Pressure	1.67X range or 22,500 PSI max
Burst Pressure	3 times full scale pressure range, limited by union #1502: 22.5K PSI

MATERIALS OF CONSTRUCTION

Wetted Materials	NACE compliant Inconel 718 wetted material as standard (MR0175/ISO 15156-3:2009(E))
Enclosure Material.....	304 Stainless Steel
Identification	Laser marked on body of unit
Enclosure Rating	IP68*, NEMA 6P*
Weight.....	5.6 lbs. nominal

OPTIONS

DC	Extended Compensated Temperature Range (Cold) -40°F to 140°F (-40°C to 60°C)
DG	Improved temperature compensation
DH	Special Range
DN	Improved accuracy
EA	Special Calibration Run
EH.....	Extended Compensated Temperature Range (Hot) +40°F to 180°F (4°C to 82°C)
LW.....	Narrow adapter for banding
NA.....	Carrying handle attached
NH	Customer specific identification
NP.....	Protective ring cage
NQ.....	Protective criss-cross cage
Z()	Special connectors

APPROVALS

FA	Russian Metrology Certificate
NX	Canada Intrinsic Safety Label
TJ.....	Canada Non-Incendive Label
NK	Europe Intrinsic Safety Label
TK.....	Europe Non-Incendive
KH	IECEx International Intrinsic Safety Label
TW	EAC EX
TF.....	US Intrinsic Safety Label
NZ	US Non-Incendive
TG	US & Canada Intrinsic Safety Labels

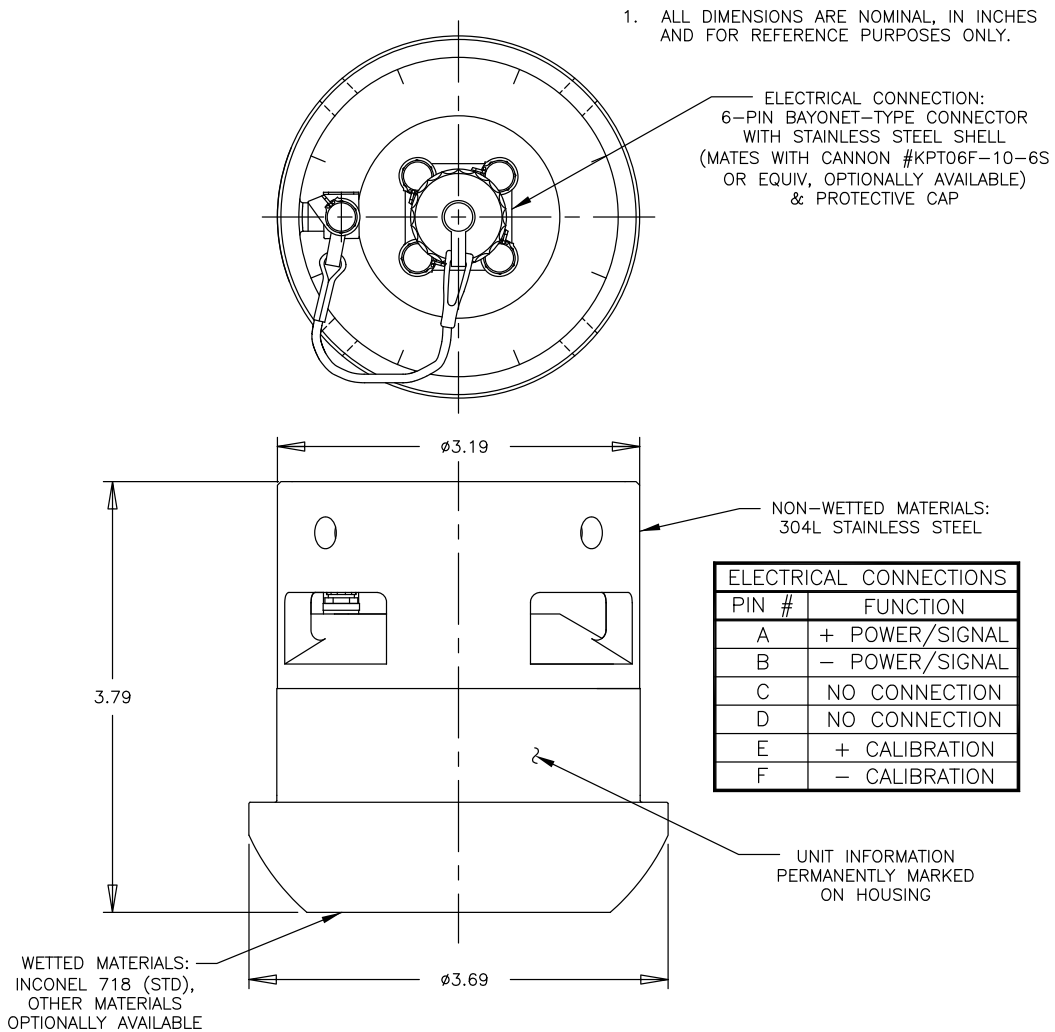
Information is accurate to the best of Viatran's knowledge.
We reserve the right to change specifications at any time.
Please contact Viatran for specific order inquiries



Model 511 HAMMER UNION PRESSURE TRANSMITTER

CERTIFICATIONS (CONSULT FACTORY FOR AVAILABLE OPTIONS)

USA	Intrinsic Safety: Class I, Division 1, Groups A-D, Zone 0, AEx ia IIC, T4: Ta -40° to 85°C, T5: -40° to 40°C, NEMA Type 6P, IP68 Non-Incendive: Class I, Division 2, Groups A-D, Class 1 Zone 2, AEx nA IIC, T4 -40° to 85°C, T5: -40° to 40°C, NEMA Type 6P, IP68
CANADA	Intrinsic Safety: Class I, Division 1, Groups A-D, Class 1 Zone 0 Ex ia IIC, T4: -40° to 85°C, T5: -40° to 40°C, NEMA Type 6P, IP68 Non-Incendive: Class I, Division 2, Groups A-D, Class 1 Zone 2, Ex nA Group IIC, T4: -40° to 85°C, T5: -40° to 40°C, NEMA Type 6P, IP68
EUROPE	Intrinsic Safety: II 1G Ex ia IIC, T4 Ga, Ta -40° to 85°C T5: -40° to 40°C, IP68 Non-Sparking: I1 3 G, Ex nA IIC T4 Gc, Ta -40° to 85°C T5: -40° to 40°C, IP68 EMC Directive 2004/108/EC EN 61326-1:2006
RUSSIA	Intrinsic Safety: 0Ex ia IIC Ga, T4: -20°C ≤ Ta ≤ +80°C, T5: -20°C ≤ Ta ≤ +40°C Russian Metrology Certificate



Information is accurate to the best of Viatran's knowledge.
We reserve the right to change specifications at any time.
Please contact Viatran for specific order inquiries

Model 511

HAMMER UNION PRESSURE TRANSMITTER

EXTERNAL CALIBRATION

- Trim zero and full scale with pressure source using DevCom 2000-LT desktop software
- Record 4 pressure spikes up to 140% of rated pressure and cumulative time on
- Digital output resolution +/- 0.06%
- Factory reset option
- Non interactive zero and span adjustment

EXTERNAL CALIBRATION ACCESSORIES:

DevCom 2000-LT Desktop software

System Requirements (minimum)

Operating System Windows NT, 2000, XP, Vista (32/64), 7 (32/64), 8 (32/64)

Processor Speed Pentium, 600 Mhz

Memory 256 MB

Hard Disk Space 500 MB

Monitor 256-color VGA

Communication Port USB, RS232, or Bluetooth

HART[®] Modem (Various PC connections and cable lengths/connections available)

24VDC power source

Power Xpress kit

250 ohm resistor

† Patents:

†US Patent D 711266

†EU Patent No. 002334250-001

†CN Patent ZL 201330527540.1

*HART[®] is a registered trademark of the HART[®] Communications Foundation

PAGE 4

Viatran

199 Fire Tower Drive
Tonawanda, New York 14150 USA

98DS511 REV. K

Hotline: 1-800-688-0030

Phone: 1-716-629-3800

Fax: 1-716-693-9162

Email: solutions@viatran.com

Web: www.viatran.com

