

Viatran Model 521 Hammer Union Pressure Transmitter measuring pump discharge pressure for drilling, fracturing, acidizing, cementing and nitrogen injection

- Expanded compensated temperature range
- Improved sealing method for connector pins
- External adjust, identification and peak pressure capture
- Impervious to fluid ingress (IP68, NEMA 6P)
- NACE Compliant for Sour Gas applications



PERFORMANCE

Full Scale Pressure Ranges.....	0-5K, 0-6K, 0-10K, 0-15K, 0-20K, 0-25K PSIS
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.....	$< \pm 0.01\%$ 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 Mgz (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]



Model 521

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±10% FSO by exciting pins E&F
Calibration Power Supply Voltage.....	8.5-28 VDC
Calibration Signal Accuracy.....	Readings on calibration certificate are within ±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 #2002
Pressure Cavity Volume	Standard: 0.45 cubic inches
Zero Effect from Installation	<±0.3% FSO w/200 ft-lbs torque on union #2002
Shock Sensitivity	1000 g, 0.5 ms half sine wave pulse shall not cause change in calibration
Proof Pressure	1.67X range or 30,000 PSI max
Burst Pressure	3 times full scale pressure range, limited by union #2002: 30K 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.....	4.0 lbs. nominal

OPTIONS

DC	Compensated temperature -40°F to 140°F
DG	Improved temperature compensation
DH	Special Range
DN	Improved accuracy
EA	Special Calibration Run
EH	Compensated temperature range 40°F to 180°F
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

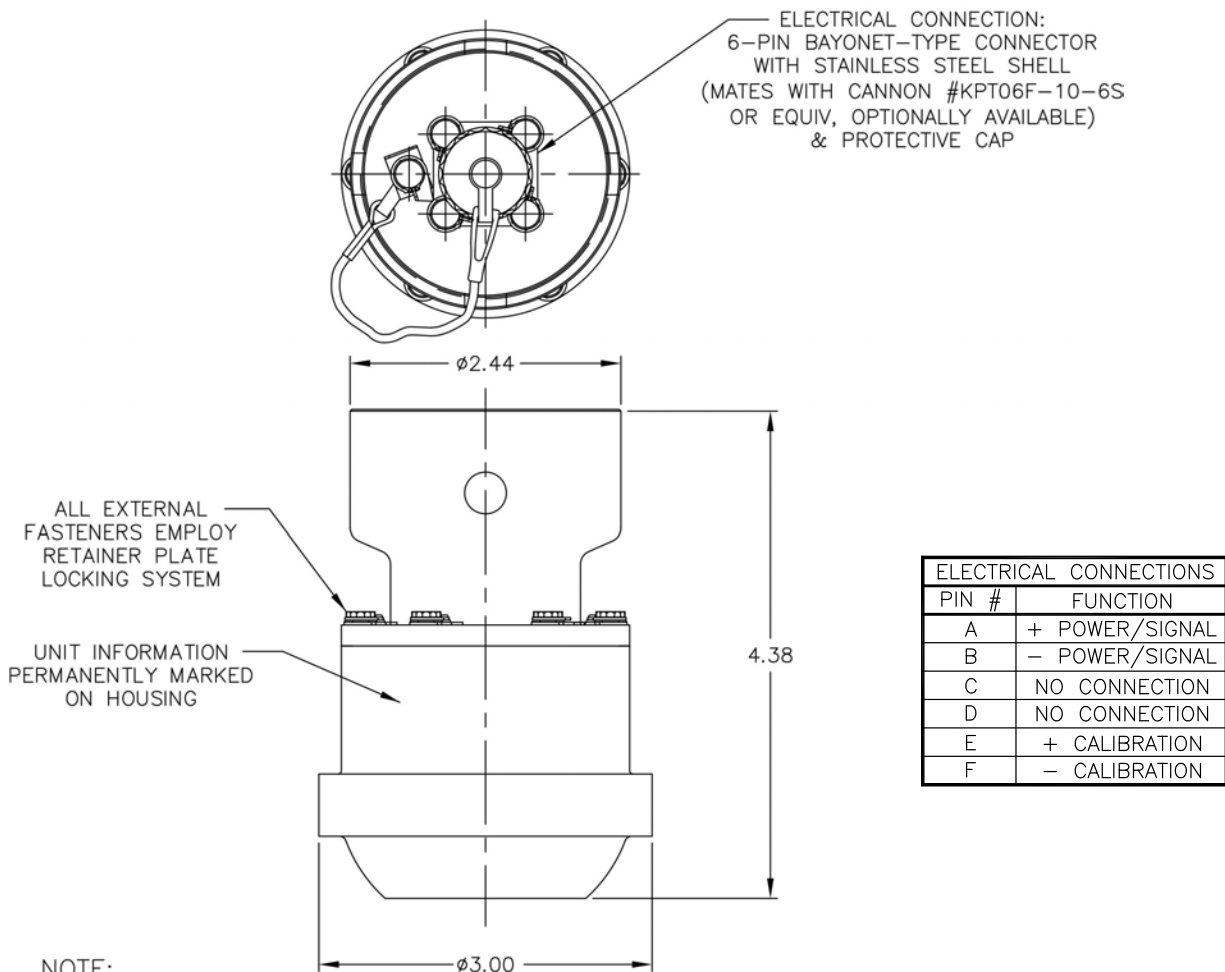
FA	Russian Metrology Certificate
NX	Canada Intrinsic Safety Label
TJ	Canada Non-Incendive Label
NK	Europe Intrinsic Safety Label
TK	Europe Non-Incendive
KH	IECEX International Intrinsic Safety Label
KJ	IECEX International Non-Incendive
TW	EAC Ex Certification Label
TF	US Intrinsic Safety Label
TG	US & Canada Intrinsic Safety Labels



Model 521 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
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
EUROPE	Intrinsic Safety: II 1G, Ex ia IIC, T4 Ga, Ta: -40° to 85°C, T5: -40° to 40°C, IP68 Non-Incendive: I 1 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



ELECTRICAL CONNECTIONS	
PIN #	FUNCTION
A	+ POWER/SIGNAL
B	- POWER/SIGNAL
C	NO CONNECTION
D	NO CONNECTION
E	+ CALIBRATION
F	- CALIBRATION

Model 521

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

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

PAGE 4

Viatran

38 Forge Parkway
Franklin, MA 02038 USA

98DS521 REV. E

Hotline: 1-800-688-0030

Phone: 1-716-629-3800

Fax: 1-716-693-9162

Email: solutions@viatran.com

Web: www.viatran.com



**VIATRAN**