

Model 521

HAMMER UNION PRESSURE TRANSMITTER

(FOR USE WITH 2002 WING UNION FITTINGS)



Viatran 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..... $\leq \pm 0.01\%$ 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 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]



*Pending approvals

PAGE 1

Viatran

199 Fire Tower Drive
Tonawanda, New York 14150 USA

Hotline: 1-800-688-0030
Phone: 1-716-629-3800
Fax: 1-716-693-9162

Email: solutions@viatran.com
Web: www.viatran.com



Model 521

HAMMER UNION PRESSURE TRANSMITTER

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

KK*	Brazil Inmetro Intrinsic Safety
KL*	Brazil Inmetro Non-Incendive
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*	GOST-R
XX*	Russia GOST-R Intrinsic Safety Label
XX*	Russia GOST-R Non-Incendive
TF	US Intrinsic Safety Label
TG	US & Canada Intrinsic Safety Labels

* Pending approvals

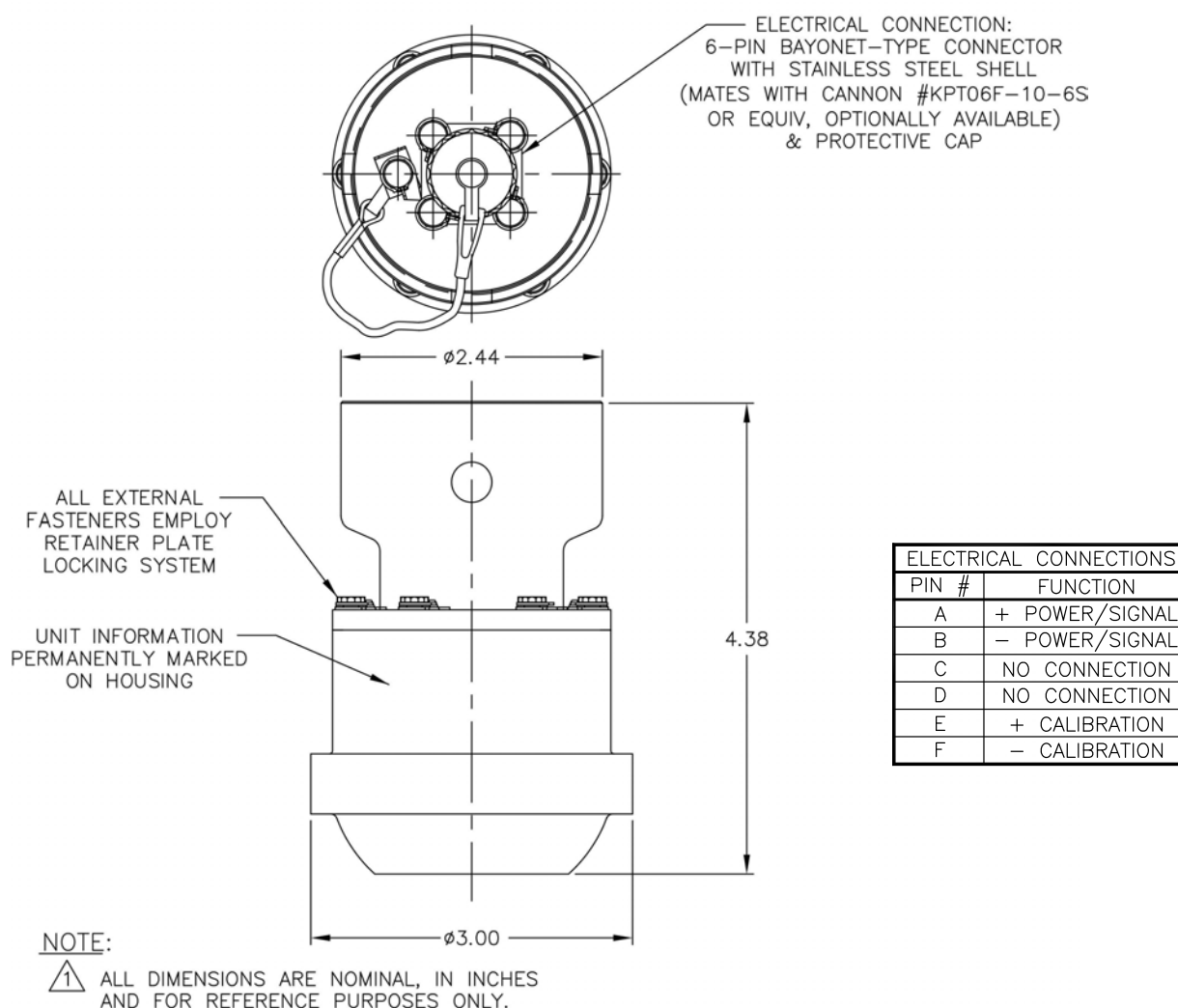
PAGE 2

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
BRAZIL	*Intrinsic Safety: II 1 G 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
IECEX	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	



*Pending approvals

PAGE 3

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.

98DS521 REV. D

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

199 Fire Tower Drive
Tonawanda, New York 14150 USA

98DS521 REV. D

Hotline: 1-800-688-0030
Phone: 1-716-629-3800
Fax: 1-716-693-9162

Email: solutions@viatran.com
Web: www.viatran.com

