

# Model 385

## FLUSH TIP PRESSURE TRANSMITTER



### Viatran 385 flush tip sensor for hydraulic fracturing applications including manifold charge and pump suction pressure measurements.

- Special design minimizes torque effect on the diaphragm, which eliminates the need to make adjustments to the instrument after installation.
- Able to withstand pressure spikes up to 5x pressure range, extends life of the unit when cavitation is a risk in the system.
- Designed with rugged stainless steel diaphragm, minimizes wear on sensor which affects quality of data being collected.
- Fully sealed housing prevents fluid ingress which damages electronics and shortens life of unit.
- Flush sensor prevents clogging, less down time for cleaning.



#### PERFORMANCE

|                                     |   |
|-------------------------------------|---|
| Standard Pressure Ranges .....      | 0-100,150,160, 200, 250, 300, 400, 500, 1,000 PSI Sealed                  |
| Static Error Band.....              | $\leq \pm 0.5\%$ FSO (Includes BFSL, Hysteresis and Repeatability by RSS) |
| Compensated Temperature Range ..... | 70°F to 170°F (21°C to 77°C)  |
| Operating Temperature Range.....    | -40°F to 185°F (-40°C to 85°C)  |
| Storage Temperature Range.....      | -40°F to 250°F (-40°C to 120°C)   |
| Long Term Stability (%FSO) .....    | $\leq \pm 0.5\%$ FSO per 6 months   |
| Thermal Effect on Zero .....        | $\leq \pm 2\%$ FSO per 100°F Typical                                      |
| Thermal Effect on Span .....        | $\leq \pm 2\%$ FSO per 100°F Typical                                      |

#### ELECTRICAL

|                                |  |
|--------------------------------|--|
| Output Signal .....            | 4-20 mA  |
| Supply Voltage .....           | 8-28 Vdc   |
| Power Supply Regulation .....  | $< \pm 0.05\%$ FSO per volt                                      |
| Load Impedance.....            | 926 Ohms maximum at 28 volts DC                                  |
| Circuit Protection.....        | Reverse polarity protected, CE marked                            |
| RFI/EMI.....                   | CE EMC compliant as per IEC EN 61326-1 and EN 61326-2-3 Annex BB |
| Voltage Spike Protection ..... | Withstand 1,000 volt spike per EN 61000-4-5                      |
| Insulation Resistance.....     | $< 5$ nS   |
| Response Time.....             | $< 2$ mSec for 10-90% of final value                             |

#### MECHANICAL

|                                     |                                   |
|-------------------------------------|-----------------------------------|
| Standard Pressure Port.....         | 1/2" NPT (M)                      |
| Zero Effect from Installation ..... | $< \pm 0.10\%$ at 25 to 50 ft lbs |
| Proof Pressure .....                | 5x                                |
| Burst Pressure .....                | 20x                               |

#### MATERIALS OF CONSTRUCTION

|                        |   |
|------------------------|---|
| Wetted Materials ..... | 15-5 PH and 304L Stainless Steel (Inconel 718 optional) |
| Weight.....            | 8 oz. nominal   |

#### Viatran

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## how to order

|                              | MODEL<br><b>385</b>   | PRESSURE<br>RANGE<br><b>AR</b>   | FORMAT<br><b>S</b> | ELECTRICAL<br>CONNECTION<br><b>BH</b> | PRESSURE<br>CONNECTION<br><b>*</b> | OPTIONS |
|------------------------------|---|--|--------------------|---------------------------------------|------------------------------------|---------|
| <b>Pressure Range</b>        |   |  |                    |                                       |                                    |         |
| AM                           | 0-100 psi   |  |                    |                                       |                                    |         |
| AN                           | 0-150 psi   |  |                    |                                       |                                    |         |
| CA                           | 0-160 psi   |  |                    |                                       |                                    |         |
| AP                           | 0-200 psi   |  |                    |                                       |                                    |         |
| AQ                           | 0-250 psi   |  |                    |                                       |                                    |         |
| AR                           | 0-300 psi   | <b>RapidShip</b>  |                    |                                       |                                    |         |
| AT                           | 0-400 psi   |  |                    |                                       |                                    |         |
| AU                           | 0-500 psi   | <b>RapidShip</b>  |                    |                                       |                                    |         |
| AY                           | 0-1,000 psi   |  |                    |                                       |                                    |         |
| <b>Format</b>                |   |  |                    |                                       |                                    |         |
| S                            | Sealed  |  |                    |                                       |                                    |         |
| G                            | Contact factory for gage unit   |  |                    |                                       |                                    |         |
| <b>Electrical Connection</b> |   |  |                    |                                       |                                    |         |
| BH                           | Welded - 6 Pin bayonet shell size 10                                  |  |                    |                                       |                                    |         |
| ZE                           | Welded - 4 Pin Hermetic, shell size 14S, (MIL-DTL-5015H)              |  |                    |                                       |                                    |         |
| ZU                           | Welded - Direct Coupled Cable   |  |                    |                                       |                                    |         |
| <b>Pressure Connection</b>   |   |  |                    |                                       |                                    |         |
| *                            | Standard 1/2" NPT (M)   |  |                    |                                       |                                    |         |
| VQ                           | 3/4"-16 UNF (M) (Includes Std Nitrile / NBR "O" ring)                 |  |                    |                                       |                                    |         |
| VR                           | G 1/2" (M) (Includes Std Nitrile / NBR ED Seal according to DIN 3869) |  |                    |                                       |                                    |         |
| <b>Options</b>               |   |  |                    |                                       |                                    |         |
| GA                           | "O" Ring or ED Seal- VITON® / FKM material                            |  |                    |                                       |                                    |         |
| GD                           | "O" Ring - EPDM material (not available with "VR" option)             |  |                    |                                       |                                    |         |
| NH                           | Customer Specified Identification                                     |  |                    |                                       |                                    |         |
| PW                           | 1/8 DIN Digital Indicator   |  |                    |                                       |                                    |         |
| QK                           | Inconel 718 - for all wetted parts (minimum range is 0-150 PSI)       |  |                    |                                       |                                    |         |



**RapidShip**  : 2-Day turnaround available on select models.

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.

98DS385 Rev J

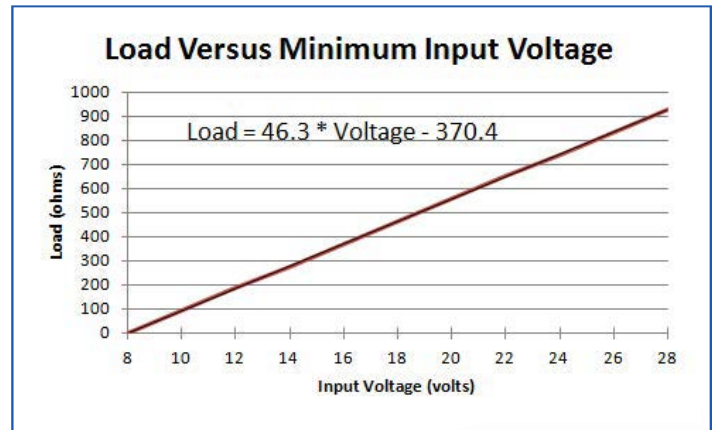


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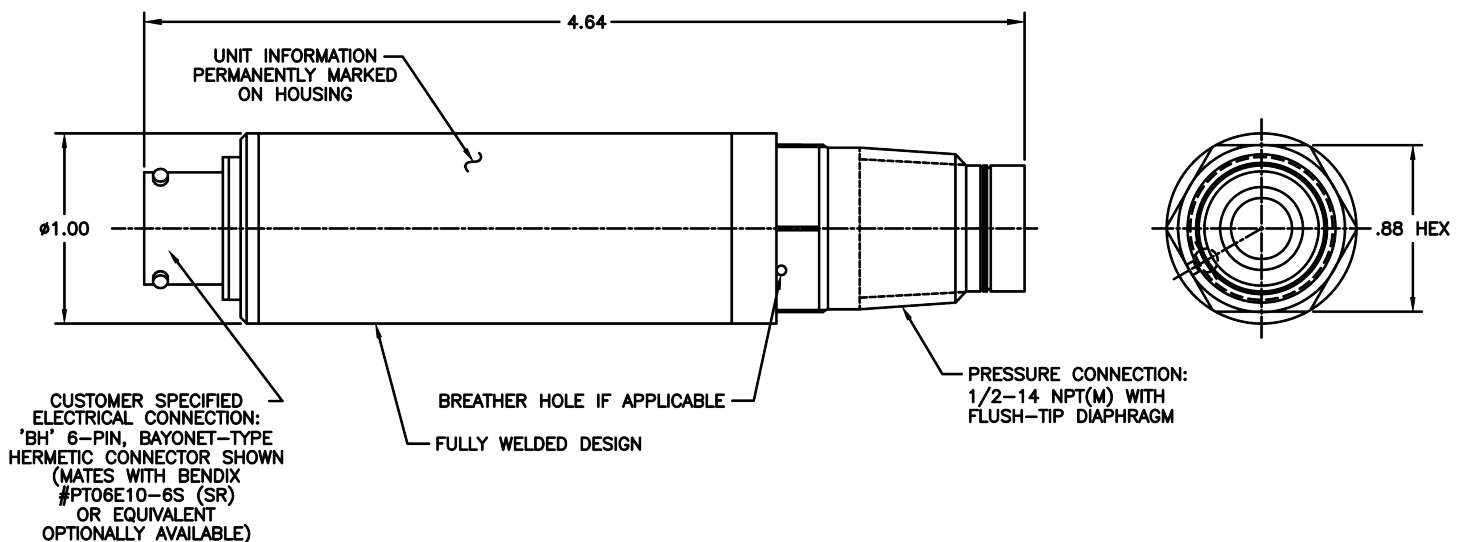
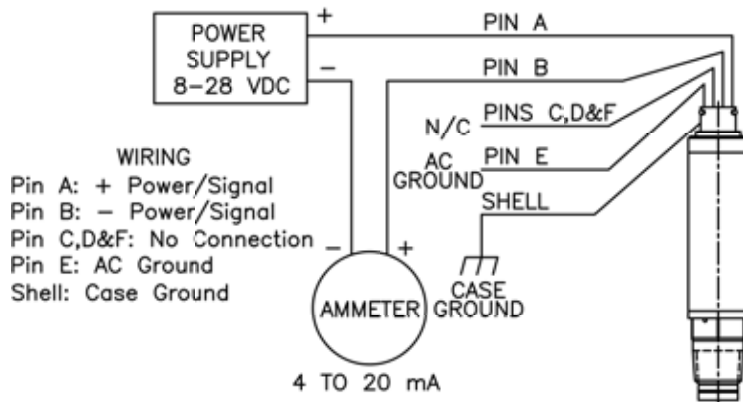
## Connection Diagrams & Wiring

The standard wiring of your Viatran pressure transmitter is outlined below. If your unit was ordered with an alternate connector or special wiring refer to the wiring information permanently marked on your unit.

The 385 transmitter can be powered by a DC power supply ranging from 8 to 28 volts. With a 4-20 mA device please refer to the load/voltage chart (right) to identify the required input voltage for your specific system load



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