

## PRESSURE TRANSMITTER

# Model 14B



### FEATURES

- Many options available
- Small size and weight
- Improved accuracy option
- All stainless steel construction
- 0-100 to 15,000 PSI (7 to 1000 bar)
- Shunt calibration circuit option
- 3 mV/V output strain gage sensor
- 350  $\Omega$  bridge

### TYPICAL APPLICATIONS

- Engine test stands
- Turbine-rocket
- Diesel-internal combustion
- Emission testing
- Production test stands
- Transmission testing
- Off road vehicles
- Compressors and pumps
- Stamping Presses
- Rolling mills
- Die casting
- Hydraulic usage

### COMPACT, RUGGED AND RELIABLE

The solid machined stainless steel diaphragm is designed for applications requiring high frequency pressure cycling and a stable output over the life of the instrument.

### SHUNT CALIBRATION OPTION

A shunt calibration feature is available to simulate 80% full scale output. This allows the user to verify the output as if pressure were being applied, either before or during installation of the device.

### LEGACY SUPPORT

Viatran's 14B is specifically designed for early generation data acquisition systems which used external amplifiers. The 14B uses a 350 ohm bridge, which is compatible with legacy amplifiers to make instrumentation switch out fast and simple.

## PERFORMANCE

|                                |   |   |
|--------------------------------|---|---|
|                                | Full Scale Pressure Range .....             | 0-100 thru 15,000 PSIG (PSIS FOR $\geq$ 1500 PSI) (7 thru 1000 bar) |
|                                | Nonlinearity (Best Fit Straight Line) ..... | $\leq \pm 0.25\%$ FSO   |
|                                |   | ..... $\leq \pm 0.50\%$ FSO (0-100 & 0-150 PSI)                     |
|                                | Hysteresis & Repeatability .....            | $\leq \pm 0.10\%$ FSO each  |
| <b>Full Scale Output (FSO)</b> | Model 14B.....                              | 3.0 mV/V dc at 70°F (21°C) $\pm 1\%$ FSO                            |
|                                | Resolution .....                            | Infinite  |
|                                | Long Term Stability .....                   | $\leq \pm 0.3\%$ FSO per 6 months                                   |
| <b>Temperature Shift</b>       | Compensated Temperature Range.....          | 70°F to 170°F (21°C to 77°C)  |
|                                | Operating Temperature Range .....           | -40°F to 250°F (-40°C to 121°C) - process                           |
|                                |   | -40°F to 185°F (-40°C to 85°C) – ambient                            |
|                                | Storage Temperature Limits.....             | -40°F to 250°F (-40°C to 121°C)                                     |
|                                | Temperature Effect on Zero .....            | $\leq \pm 2.0\%$ FSO per 100°F                                      |
|                                | Temperature Effect on Span .....            | $\leq \pm 2.0\%$ FSO per 100°F                                      |

## ELECTRICAL

|                       |                              |   |
|-----------------------|------------------------------|---|
| <b>Supply Voltage</b> | Model 14B.....               | 10 V dc nominal, 15 V max   |
|                       | Power Supply Regulation..... | $\leq \pm 0.01\%$ FSO per volt change over the supply voltage range   |
| <b>Output Signal</b>  | Model 14B.....               | 3.0 mV/V dc standard  |
|                       | Circuit Protection .....     | Reverse polarity protected. Output may be short circuited indefinitely.<br>Over voltage protection to 1000 volts according to EN61000-4-5 |
|                       | Insulation Resistance .....  | <5 nSec to case ground  |
|                       | Response Time.....           | <2 mSec to reach 90% of full scale  |
|                       | RFI/EMI Suppression.....     | CE EMC compliant per IEC EN 61326. CE marked.   |
|                       | Electrical Connection .....  | Bendix PT02E-10-6P, mates PT06E-10-6S (SR)  |

## Model 14B

|              |               |
|--------------|---------------|
| <b>Pin A</b> | +Power        |
| <b>Pin B</b> | -Power        |
| <b>Pin C</b> | +Signal       |
| <b>Pin D</b> | -Signal       |
| <b>Pin E</b> | No connection |
| <b>Pin F</b> | No connection |

## MATERIALS OF CONSTRUCTION

|                      |                          |
|----------------------|--------------------------|
| Wetted Parts .....   | 15-5 PH Stainless steel  |
| Housing.....         | 304L Stainless steel     |
| Weight .....         | 10 oz (283 g)            |
| Identification ..... | Pressure sensitive label |

## ACCESSORIES

- Direct Mount Digital Indicator/Power Supply
- Mating Electrical Assembly
- Ruggedized Connectors & Cable Assemblies

# Model 14B

## MECHANICAL

|                              |  |
|------------------------------|--|
| Pressure Port .....          | 1/4" - 18 NPT female                         |
| Proof Pressure .....         | 1.5 times range or 20,000 PSI (1400 bar) max |
| Burst Pressure .....         | 3 times range or 35,000 PSI (2400 bar) max   |
| Pressure Cavity Volume ..... | 4.5 ml                                       |
| Mounting .....               | May be supported by process piping           |

## OPTIONS

|            |  |
|------------|--|
| BF.....    | (K)PTIH-10-6P  |
| BG .....   | DIN 43650  |
| BH .....   | Weld Mount, 6-pin bayonet (C21-10-6PN-20-0P1)                                      |
| BL.....    | WK6-32S  |
| BN .....   | (K)PTIH-8-4P   |
| BQ .....   | (K)PTO2H-10-6P   |
| BR .....   | CF3102E-14S-6P   |
| DC .....   | Extended cold temperature operation (-40°F to 170°F)                               |
| DE .....   | Internal shunt calibration   |
| DG.....    | Improved temperature compensation ( $\pm 1.0\%$ FSO per 100°F zero and span shift) |
| DH .....   | Special ranging  |
| DK .....   | Special calibration setting  |
| DN .....   | Improved linearity ( $\pm 0.20\%$ FSO)   |
| DQ.....    | Cleaning for oxygen service  |
| DY.....    | mV Booster   |
| EA .....   | Special calibration run  |
| EH .....   | Extended hot temperature operation (70°F to 185°F)                                 |
| LR .....   | Permanent laser mark   |
| NH .....   | Customer specified identification  |
| PW .....   | 1/8 DIN digital indicator  |
| Y( ) ..... | Multiple pressure ports available. Consult factory                                 |
| ZU.....    | Direct cable (175°F max temp) (79°C)   |

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

