

# FlowScanner™ Linear Travel Transducer

FlowScanner Linear Travel Transducers are used to accurately measure linear valve travel, which is essential for diagnostic testing. Extending or retracting the cable rotates a shaft connected to a digital encoder producing a digital output signal. These unique linear-to-rotational, industrial-grade string encoder modules allow for versatility in valve position measurement both in the field and shop environments.

FlowScanner Linear Travel Transducers are cable actuated position sensors that are typically mounted temporarily to a control valve assembly for diagnostic testing. Valve diagnostic tools, such as the FlowScanner 6000 and QUIKLOOK 3-FS, have digital input channels to allow the Linear Travel Transducer to be utilized. Valve travel is a vital characteristic to all control valves and significantly important to accurately measure during diagnostic testing.



X1355

Figure 1. Mounted Linear Transducer

## Features

- **High Resolution**—The 2-1/2 inch diameter encoder allows for a resolution of 0.0001 inch for both the 25- and 50-inch models. This provides critical detail when examining seating profiles.
- **Digital Quadrature Output**—The digital incremental quadrature output is a square waveform free of noise and drift. This output is viewed as pulses or counts, which are electronically counted to produce accurate readings.
- **Compensated Stroke Range**—Both models have cables longer than the specified measurement range to avoid damage from inadvertent over-extension and for improved accuracy to the end of the measurement range.
- **TEDS 'Plug-and-Play'**—Embedded memory chips can be used by valve diagnostic tools to recognize and automatically set the transducer's range, sensitivity, and calibration information. (Not used in FlowScanner 6000).
- **Compact design**—The cable and rotary encoder combination allow for easier placement than prior art. Legacy linear probe-type encoders are large, bulky, and could typically only measure 4 inches of change.

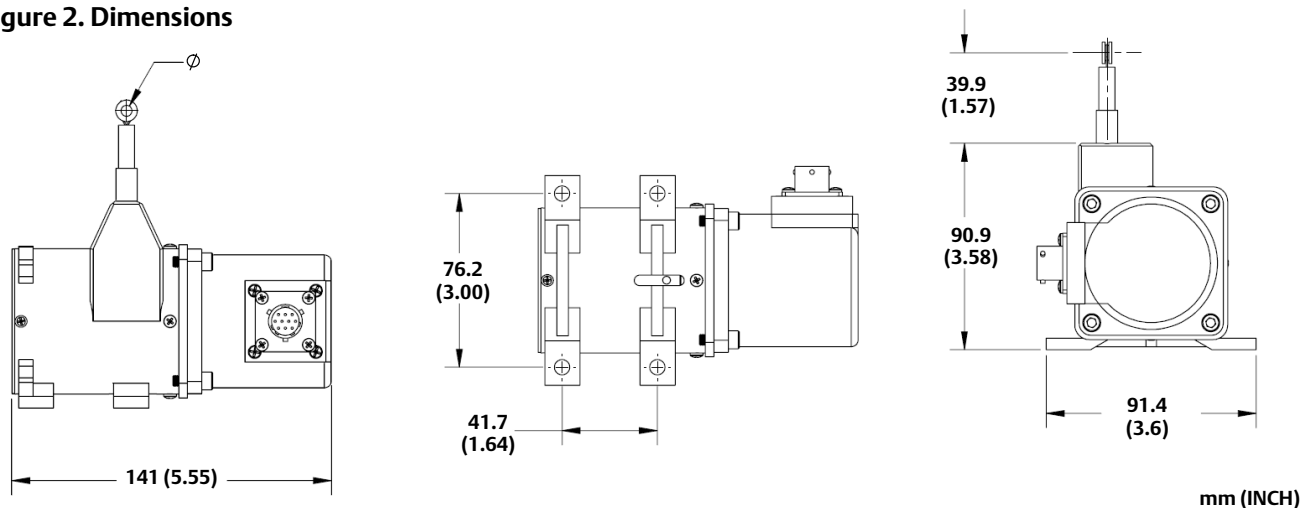


X1344

Table 1. Specifications

<p><b>Available Configurations</b></p> <p>25 Inch Linear Travel Transducer: P/N 19B2908X022 50 Inch Linear Travel Transducer: P/N 19B2908X062</p> <p><b>Electrical Specifications</b></p> <p>Input: Supply Voltage 5 to 28 VDC Output: Incremental Encoder Connection: Industrial 10-pin Circular Connector</p> <p><b>Performance Specifications</b></p> <p>Standard Sensitivity: 2500 PPI (<math>\pm 10</math> pulses) Resolution: 0.0001 inch (using standard 4x quadrature) Calibrated Accuracy: <math>\pm 0.0065</math> inch over measurement range (25 inch) <math>\pm 0.0130</math> inch over measurement range (50 inch)</p>	<p><b>Environmental Specifications</b></p> <p>Storage Temperature: <math>-25</math> to <math>90^{\circ}\text{C}</math> (<math>-13</math> to <math>194^{\circ}\text{F}</math>) Operating Temperature: <math>0</math> to <math>70^{\circ}\text{C}</math> (<math>32</math> to <math>158^{\circ}\text{F}</math>) Operating Humidity: <math>0</math> - <math>98\%</math> RH without condensation</p> <p><b>Mechanical Specifications</b></p> <p>Construction: Powder Painted Aluminum Weight: Less than <math>1.1</math> kg (<math>2.5</math> lb) Dimensions: see figure 2 Cable (String): <math>0.034</math> inch coated stainless steel rope Cable Length: 40 inches (25 inch model) 60 inches (50 inch model) Cable Eyelet: <math>0.191</math> inch inside diameter, stainless steel Cable Tension: <math>17 \pm 8.5\text{oz}</math>. <math>5\text{g}</math> max acceleration (higher tension special order)</p>
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Figure 2. Dimensions



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