ST976

300mm/12.5” STRING POTENTIOMETERS

USER INFORMATION

(ST541108-002)

CAUTION
Serious damage to transducer may occur if cable is allowed to snap back.

Stack Limited, Wedgwood Road, Bicester, Oxfordshire, OX26 4UL, England.
Tech, Support (01869) 240420 Sales (01869) 240404 Fax (01869) 245500
Email: sales@stackltd.com

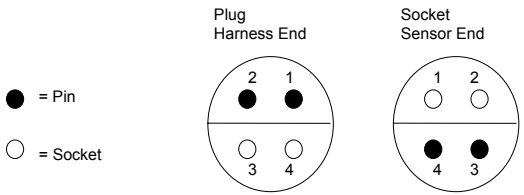
GENERAL INSTALLATION

It is essential to ensure that these devices are **NOT** mounted in a position close to any devices, or associated wiring, which are likely to interfere with the correct operation of the sensor.

Suggested Wiring Clearances	Min space ST670
Ignition HT & coil leads	100mm (4”)
Radio transmitters and aerial leads	75mm (3”)
Fast switching inductive loads like fuel injectors, hydraulic solenoids.	75mm (3”)
Any powerful source of heat	Shield with reflective material

The sensor connects into a STACK system via a four way, ITT Cannon Mini Sure Seal (MSS) connector. The following polarity is observed in all cases:

Pin Number	Signal Description
1	0-5v Output signal
2	5v Sensor Supply
3	No connection
4	0v

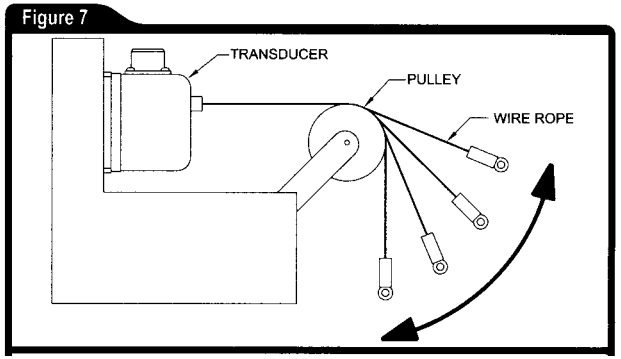


These terminals must be connected to the corresponding terminals of the selected input channel. In its standard form the sensor will give a linear 0 – 5 volt output. For greater accuracy it is recommended to interface the sensor through an ST983 0-5 volt Interface.

TECHNICAL SPECIFICATION

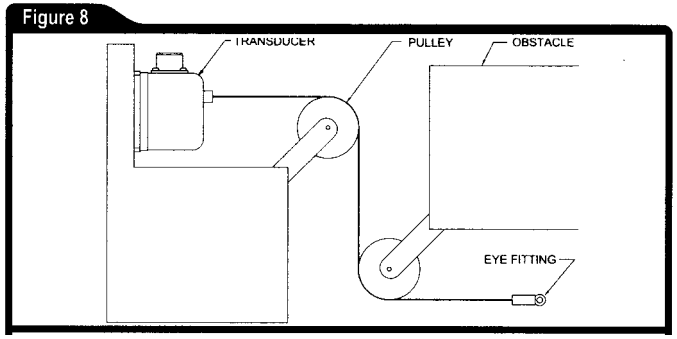
	ST976	
Measurement Rage	300mm	12.5 inch
Linearity	+/- 0.5% Full Scale	+/- 0.5% Full Scale
Operating Voltage [V]	5 Volts	5 Volts
Output Signal	0 – 5 Volts	0 – 5 Volts
Imput Impedance	10000 ohms +/- 10%	10000 ohms +/- 10%
Weight	110 grams	3 oz
Storage Temperature	-20°C to 80°C	-4°F to 175°F
Operating temperature	-18°C to 70°C	0° to 160°F
Housing	IP 50	IP 50

Figure 7



Oscillating Motion - For applications where oscillating motion as shown in Pig. 7 above may be encountered, a pulley should be employed to insure that the wire rope exits the transducer in a perpendicular manner.

Figure 8

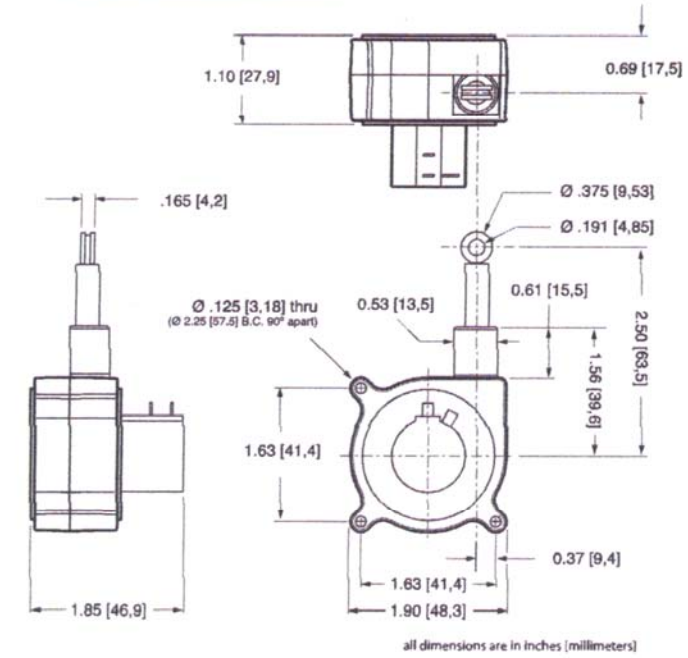


Obstacle Avoidance - The wire rope of the transducer may be routed over pulleys to facilitate mounting. To maximize wire rope life the minimum root pulley diameter should be 1.5" (38 mm) for wire rope diameters less than 0.020" (0,5 mm) and 2.5" (64 mm) for wire rope diameters between 0.020" and 0.040" (0,5 and 1.0 mm).

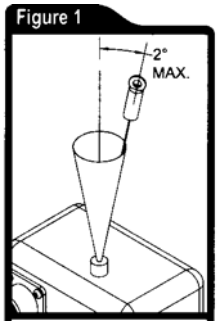
Sensor Installation Information

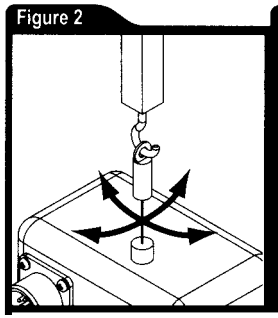
1. To maximize cable life, align transducer with moving element so that cable exits unit within 25mm of vertical (with unit oriented as shown in Figure 1).
2. Mount unit with two M3.5 or smaller metric machine screws.
   Note
   a) Place a flat washer under the head of each screw.
   b) Torque M3.5 screws to **0.56 N-m** maximum.

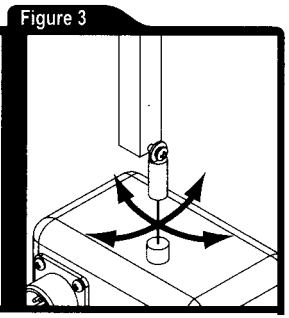
Outline Drawing (w/o bracket):



all dimensions are in inches (millimeters)







Angularity -The wire rope should be aligned within 2° of perpendicular (Fig. 1)when at full extension.

Eye Fitting Freedom -The eye fitting on the end of the wire rope should be mounted to allow rotation both axially about the pivot point and perpendicular to the axis of the pivot (Fig. 2 & 3) to allow the crimp barrel of the eye fitting to follow the direction of the wire rope.
This eliminates all bending stress on the wire rope at the crimp of the eye fitting.

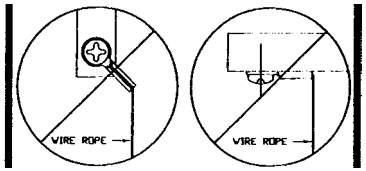
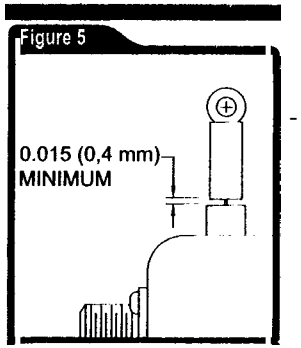
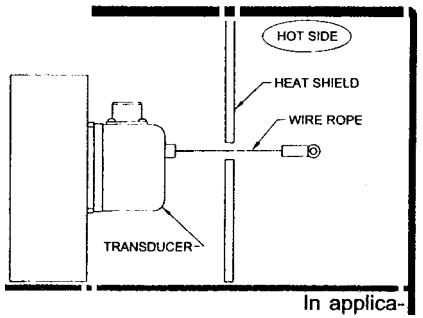


Figure 4. Unacceptable Attachment

Prevention — Attaching the eye fitting as shown in Fig. 4 above will put undue bending stress on the wire rope which may cause early Fatigue. **To prevent premature wire rope failure, eye fitting mounting conditions as shown above should be avoided.**



Zero Extension — Insure that the wire rope starting point is not less than .015" (0,4 mm) from the zero extension position (Fig. 5).



In applica-

In applications where radiated heat can increase the temperature of the transducer beyond its operating temperature limit, it is advisable to use a heat shield between the transducer and the hot area as shown in Fig. 6 above.

Figure 6. Heat protection