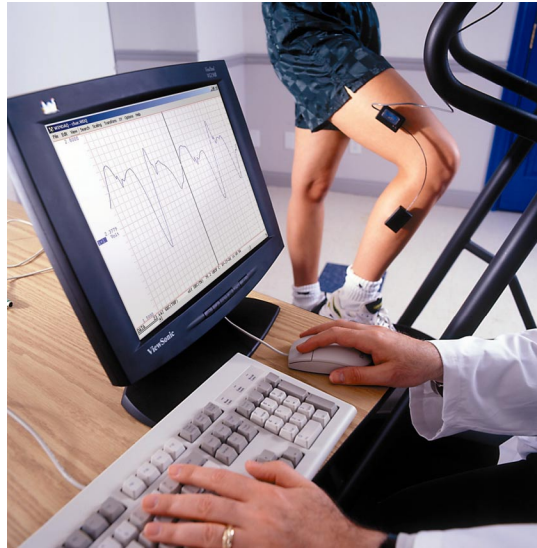


S700 Joint Angle ShapeSensor™

Revision 20040421



The S700 ShapeSensor™ is a comfortable, rugged, bipolar joint angle sensor that can withstand a 2 meter drop onto concrete. A covered metal flexure, instrumented with an optical fiber sensor, is mounted adjacent to the joint. It can be used on the knee, arm, or any single degree of freedom joint.

Stand Alone: Apply your own regulated power supply, 5 to 15 volts. The output is a high level signal, ratiometric with the supply voltage, that requires no additional signal conditioning. This sensor is ready to make measurements right out of the box.

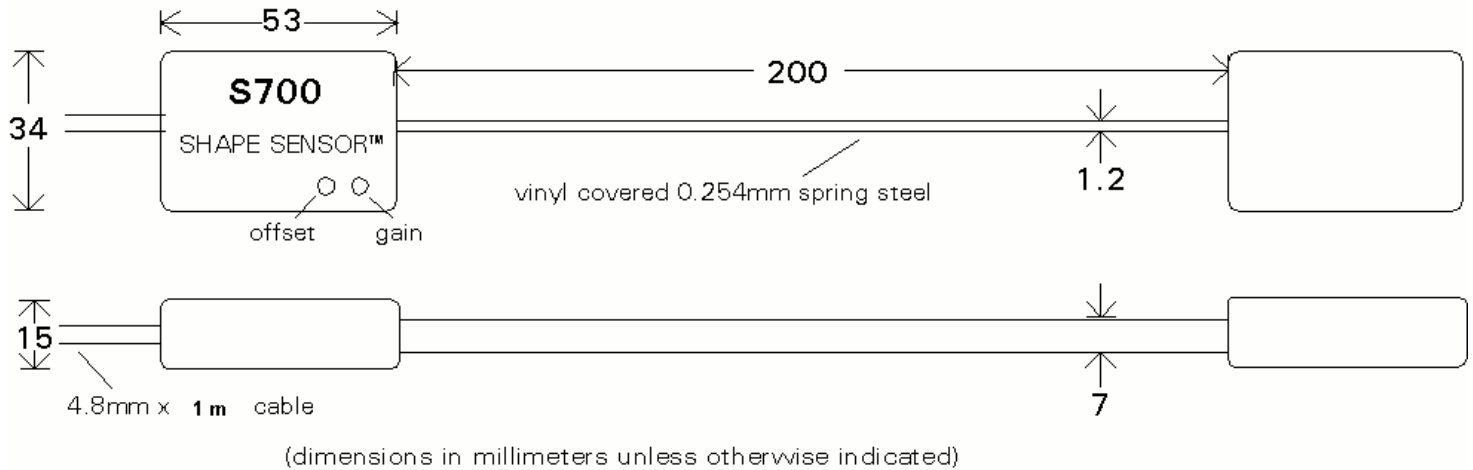
A mounting kit offers convenient, easy to use, one size fits many, velcro straps and double sided adhesive tape.

Options: The S290, a 12 bit data acquisition system, is available in four, eight and sixteen channel versions, and includes a 12 bit A/D converter and Windows software allowing the display and storage of sensor data. Power for up to sixteen sensors is supplied by the A/D.

The S700 ShapeSensor™ can be made from non-metallic materials for operation in magnetic-sensitive and explosive environments. The S700 can also be made splash proof.

Smaller Joints: For smaller one degree of freedom joints you can use our smallest most flexible sensor, the S720 Miniature Joint Angle SHAPE SENSOR™.

Multiple Joints: For multiple joints or joints with multiple degrees of freedom try our ShapeTape™ "the tape that knows where it is."



CHARACTERISTICS

These typical characteristics are approximate and subject to change without notice
Characteristics are for 5 VDC supply.

Full scale (FS) range: ± 1.0 V for ± 90 joint angles.

Output voltage for straight sensor: 2.5 V, ± 0.2 V.

Accuracy: $\pm 2\%$ of FS.

Resolution: 0.05 .

Noise floor: 0.07 mVrms/Hz^{1/2}.

3dB Bandwidth: 1.0 kHz.

Environmental: 0 C to +50 C.

Weight: 45g

Excitation: 5 to 15 VDC (Supply current at 5 VDC, 15 C: 10mA).

Electrical Connections: Red: Power Supply (5 to 15 volts regulated); Black: Ground(Power Supply and Signal); White: Sensor Output.

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