

Type ELH101

Precision Sensing Head

The Type ELH101 Precision Sensing Head is a robust weatherproof sensor fitted with a very accurate

ELECTROLEVEL

tilt transducer.

For permanent outdoor installation, the ELH101 can be bolted to the structure to be monitored, and connected to a suitable

electronic Signal Conditioning Unit up to 100 metres away



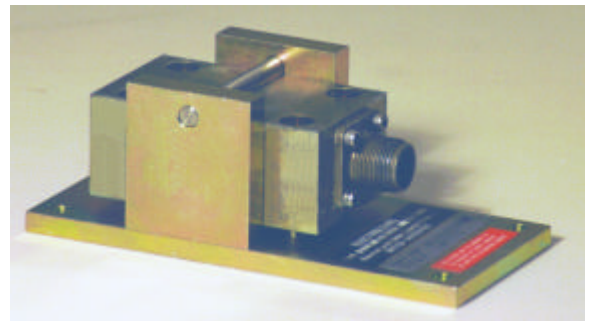
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The standard sensor is made from steel with a corrosion-protecting plated finish.

For severe environments and specialist applications, the ELH101 can be supplied in Naval Brass, Aluminium Bronze or Stainless Steel.

For applications where a good quality reference surface is not available, the ELH101 may be fitted to an Adjustable Pivot Mounting (Accessory type ELA300). the base of the ELA 300 is mounted on the structure under test, and the ELH101 is set accurately to read zero with precisely adjustable jacking screws. (See Picture)

A military style connector is fitted to the ELH101 giving a long term reliable connection to the cable assembly which carries the Tilt Angle Signal to one of a range of Electronic Signal Conditioning Units designed to give decades of trouble free accurate tilt measurement.



Type ELH101 High Precision Sensing Head fitted to Adjustable Pivot Mounting Type ELA300

The ELH101 is one of a family of sensors which use the **ELECTROLEVEL** tilt transducer. A curved glass tube holds a conducting fluid and a bubble of gas. Just like a conventional spirit level, the bubble always settles at the highest point in the tube. Using electrodes built into the tube, the position of the bubble is measured electronically to a very high accuracy. In use, the smallest movement of the sensor will cause the fluid to flow and the output signal to change. the resolution of the sensor is thus effectively infinite, and unlike mechanical sensors, there is no stiction or friction or hysteresis to cause inaccuracy and nothing to wear out.

SPECIFICATION**ELH101 Precision Sensing Head****PARAMETER****UNITS****AS A TILT TRANSDUCER**

Linear Range (typical)	±5.0	Degrees
Linearity Error (max)	±3.0	%
Asymmetry Error (max)	±5.0	%
Discrimination	1.0	arc-seconds
Datum Change for ±5°Tilt about Cross Axis (max)	5.0	arc-minutes
Temperature co efficient with Matched Detector		
-10°C to 25°C (max)	+0.2	%/°C
+25°C to + 60°C (max)	-0.1	%/°C
Datum Temperature Drift (max)	3.0	arc-sec/°C

AS AN ACCELEROMETER

Linear Range	±0.1	g Units
Equivalent Pendulum lengths	38	mm
Undamped Natural Frequency	2.5	Hz
Damping Factor at 25°C	0.9	

Physical Properties

Datum Stability Long Term	15	arc-sec/month
Datum Stability Short Term	8	arc-sec/hour
Settling Time to <1%	20	seconds

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