

Type ELH100

High Precision Sensing Head

The Type ELH100 High Precision Sensing Head is a robust weatherproof sensor fitted with a very accurate

ELECTROLEVEL

tilt transducer.

For permanent outdoor installation, the ELH100 can be bolted to the structure to be monitored, and connected to a suitable

electronic Signal Conditioning Unit up to 100 metres away



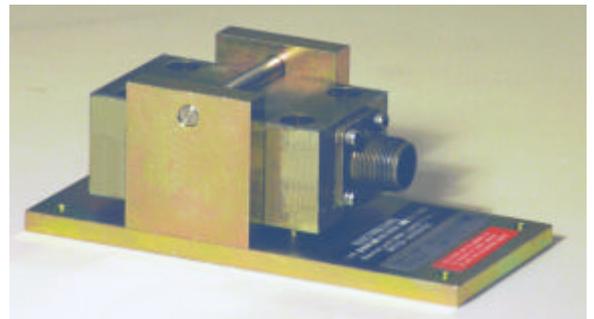
Type ELH100 High Precision Sensing Head

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

For severe environments and specialist applications, the ELH100 can be supplied in Naval Brass, Aluminium Bronze or Stainless Steel.

For applications where a good quality reference surface is not available, the ELH100 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 ELH100 is set accurately to read zero with precisely adjustable jacking screws. (See Picture)

A military style connector is fitted to the ELH100 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 ELH100 High Precision Sensing Head fitted to Adjustable Pivot Mounting Type ELA300

The ELH100 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**ELH100 High Precision Sensing Head****PARAMETER****UNITS****AS A TILT TRANSDUCER**

Linear Range (typical)	±0.5	Degrees
Linearity Error (max)	±1.0	%
Asymmetry Error (max)	±2.0	%
Unambiguous Range	2.0	Degrees
Discrimination	0.01	arc-seconds
Datum Change for ±5°Tilt about Cross Axis (max)	1.0	arc-minutes
Temperature coefficient with Matched Detector		
-10°C to 25°C	+0.2	%/°C (max)
+25°C to + 60°C	-0.1	%/°C (max)
Datum Temperature Drift (max)	0.3	arc-sec/°C

AS AN ACCELEROMETER

Linear Range	±0.01	g Units
Unambiguous Range	±0.1	g Units
Equivalent Pendulum length	305	mm
Undamped Natural Frequency	1.0	Hz
Damping Factor at 25°C	0.6	

PHYSICAL PROPERTIES

Datum Stability Long Term	10	arc-sec/month
Datum Stability Short Term	1	arc-sec/hour
Settling Time to <1%	5	seconds

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