

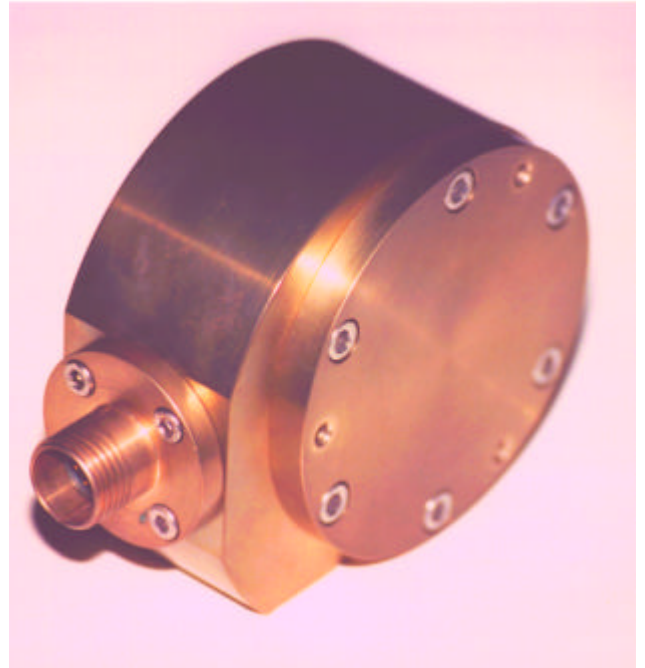
## Type ELH105

## Submersible Wide Angle Sensing Head

The Type ELH105 Submersible Wide Angle Sensing Head is a robust unit with an Aluminium Bronze housing which is resistant to corrosion in the marine environment.

A choice of connectors is available giving protection against submersion to depths exceeding 100metres.

The housing contains all the necessary drive electronics to measure the angle of the sensor. The reading is available at the output connector as an analogue current output 4-20mA and a digital serial output at RS232 /RS485 levels. The digital output consists of a synchronising ASCII character followed by the measured angle as a series of ASCII coded numbers. The data is continuously transmitted while the device is powered up. Alternative output coding is available to special order.



The ELH105 Submersible Wide Angle Sensing Head

The Type ELH105 Submersible Wide Angle Sensing Head is available in a variety of range and accuracy specifications from range  $\pm 30^\circ$  to  $\pm 60^\circ$  with accuracy from  $\pm 0.1^\circ$  to  $\pm 1^\circ$ . To achieve the highest specification the system monitors the temperature of the sensor, and uses the result to correct for zero drift and scale drift. For optimum performance the sensor should thus be in thermal equilibrium with its surroundings.

### Applications

The ELH105 Submersible Sensing Head has been used in a number of severe environment applications including monitoring of Anchor chains for offshore oil production platforms and various sub-sea alignment and positioning tasks

## **SPECIFICATION**      **ELH105 Submersible Wide Angle Sensing Head family**

### **PERFORMANCE VARIANTS**

Total Angular Range	from $\pm 30^\circ$ to $\pm 60^\circ$ full scale depending on variant
Threshold and resolution	$0.01^\circ$
Linearity-	$\pm 0.1^\circ$
Null repeatability	$0.05^\circ$
Error Band	from $\pm 0.1^\circ$ (with internal compensation) to $\pm 1^\circ$ depending on variant
Cross axis error	$\pm 1\%$ up to $45^\circ$ cross axis angle
Natural Frequency	0.4 Hz

### **ENVIRONMENTAL**

Temperature range operating	$-10^\circ\text{C}$ to $+70^\circ\text{C}$
Temperature coefficient of zero	$0.01^\circ/\text{C}^\circ$
Temperature coefficient of scale	$0.1\%/\text{C}^\circ$
Protection	Up to IP68 depth 100 metres depending on connector

### **ELECTRICAL**

Supply	24Volts DC regulated 5%
Current	40mA MAX
Output	4-20mAmps full scale (Analogue version) RS232 or 485 (Digital version)
Connector	Military, Submersible and Explosion proof available
Cable type	Various to suit connector typically DEF STAN 61-12-6C

### **MECHANICAL**

Material	Aluminium Bronze rated for long term exposure to a marine environment
Weight	Approx 3.75Kg
Fixing	4 off fixing holes tapped M6
General Arrangement	See Dwg B15530

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