

# MODEL 545C

## HEADING SENSOR

### FEATURES

- Operates in dynamic environments with 360 degrees continuous control
- 0.900" (23mm) diameter
- 1500 psi pressure rating
- TTL, RS422 digital output

### APPLICATIONS

- Towed Sonar Arrays
- Seismic Streamers
- Buoy Orientation
- Magnetic Compassing

The Model 545 series of high performance, fully calibrated, narrow diameter heading sensors are ideally suited for sonar array and seismic streamer applications.

#### Typical versions (others available)

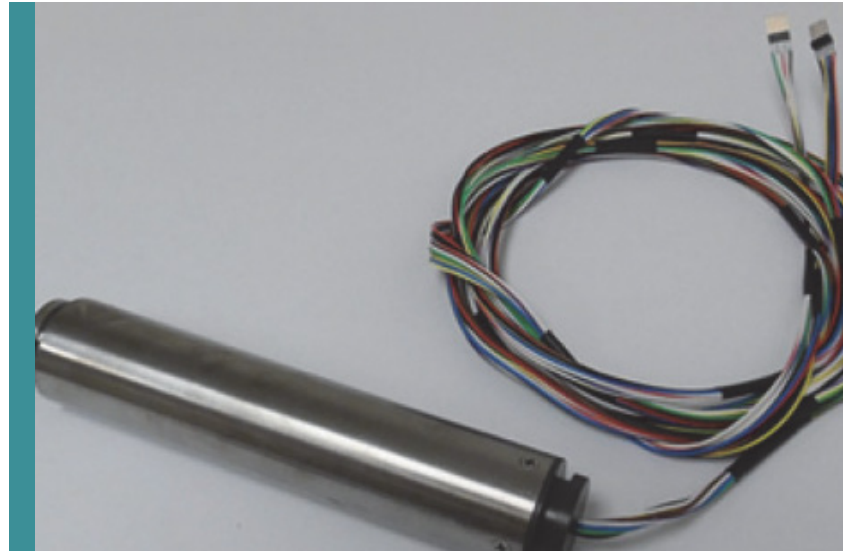
- 545C RS422
- 545TB Titanium housing
- 545JH RS232

The Model 545 series sensors utilize a solid state "strapdown" configuration that avoids the performance limitations of typical gimbaled systems and offers improved reliability.

A 3-axis fluxgate magnetometer and a 3-axis micro-machined accelerometer are combined with digital signal processing electronics and fully integrated within a small diameter pressure rated housing.

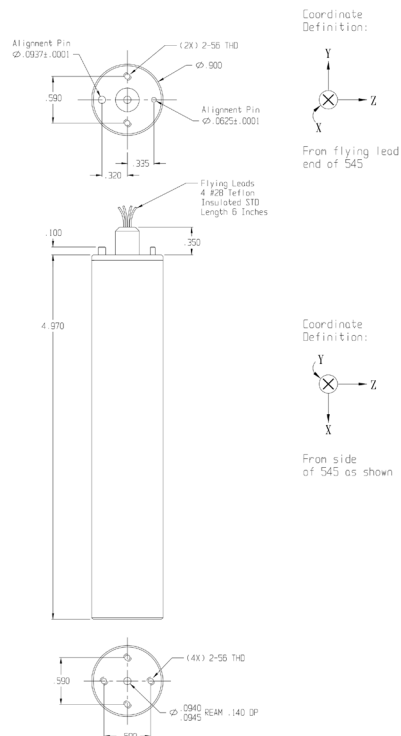
The digital signal processor samples and converts the internal sensor signals to 16-bit digital data and automatically compensates for any temperature and misalignment effects.

Factory calibration of scale factor, bias and misalignment angles is achieved by placing the instrument in high precision fixtures that apply rotation and magnetic fields. Scale factor and bias coefficients are measured over the operating temperature range of the sensor.



The calculated roll, pitch and azimuth angles are provided on a bi-directional RS422 serial data link and is user programmable for data transfer rates of up to 38400 baud.

545 Sensor Package  
Fig. 1



**ELECTRICAL**

Input Voltage Range	+4.9 V to +12 V
Current Draw	75 mA
Logic Level	RS422
Baud Rate	User Programmable up to 38400 baud
Protocol	User Selectable: ASCII or binary

**ENVIRONMENTAL**

Operating Temperature Range	0°C to +45°C
Storage Temperature Range	-55°C to +160°C
Shock	1000 G 1 ms half sine wave
Vibration	10 G RMS random 50 Hz to 100 Hz
Operational Pressure Rating	600 psi
Survival Pressure Rating	1500 psi

**PERFORMANCE**

Azimuth Accuracy	±1.2°
Inclination Accuracy	±0.5°
Roll Accuracy	±0.5°

**PHYSICAL**

Outside Diameter (OD)	0.900" (23 mm)
Length	4.970" (126 mm)
Weight	3.88 oz (110 g)
Connection	Flying Leads
Housing Material	Aluminum
Chassis Material	N/A

**WIRE COLOR****FUNCTION**

RED	+ Voltage In
BLACK	Ground
YELLOW	RX-
ORANGE	RX+
BLUE	TX-
GREEN	RX+

*Specifications are subject to change without notice.*