

# Magnetometers

## ANALOG 3-AXIS MAGNETOMETER

- ▼ Small Size: 1.0" OD x 10.5"
- ▼ Temperature Operation to 125°C
- ▼ High Accuracy for Inclination
- ▼ Digital Serial Input/Output
- ▼ Internally Stored Calibration Data
- ▼ Direct Angular Output



## Applications

- ▼ Directional Drilling Steering Tools
- ▼ Short Radius Drilling Steering Tools
- ▼ Orientation of Borehole Logging Instruments

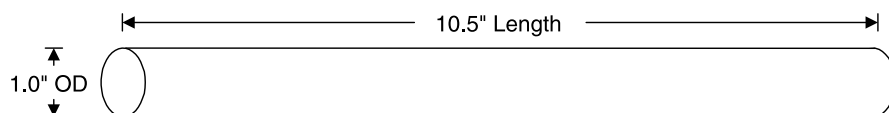
### CXM547

The CXM547 Orientation Sensor is designed to provide accurate orientation information in borehole logging and directional drilling applications. It can also be used in vehicular orientation and towed sonar array applications. Because of the small size and extremely rugged construction, it is well suited to short radius drilling applications, where high shock and vibration are present. The CMX547 powers from +5 V @ 80 mA or from an unregulated +8 to +12 VDC @ 80 mA.

The CXM547 system contains both a 3-axis fluxgate magnetometer and a 3-axis accelerometer. An internal A/D converter and microprocessor system samples these sensors. The microprocessor corrects all sensor outputs for temperature drift and alignment factors before transmitting data on a serial data link.

In addition to magnetometer and accelerometer outputs, the CXM547 can provide digital outputs for azimuth, inclination and roll (tool face).

Digital communication with the CXM547 is accomplished through a bidirectional TTL level serial data link and is in the form of ASCII characters. A compact, high-speed binary communications protocol can also be activated. The CXM547 is equipped with an autostart option to enable repetitious outputting of data upon power turn on.



Specifications	CXM547
<b>Performance</b>	
Accuracy	
Azimuth (°)	± 1.5 (latitude < ±40°)
Inclination (°)	± 0.5
Toolface (°)	± 0.5
Digital Outputs	
Level	TTL
Baud rate	Programmable to 9600 baud
Protocol	Selectable, ASCII or binary
Maximum throughput for all data	5 transmissions/sec
Shock (g 1ms)	1000
<b>Environment</b>	
Operating Temperature (°)	0 - 125 (compensated over temp range)
Vibration	10 g rms 5 - 1000 Hz
<b>Electrical</b>	
Power (mA)	+5V @ 80 or +8 to +12 VDC @ 80
<b>Physical</b>	
Size (cylinder)	1" OD x 10.5" long (2.54 OD x 26.67 long cm)
Weight	5.79 oz/180 (gm)
Connector	Cannon MDM9SH003P

Pin	Function
1	TTL serial in
2	TTL serial out
3	+8V to +12V DC
4	Not Connected
5	Ground

Pin Diagram

Specifications subject to change without notice



magnetometers

### Ordering Information

Model	Description
CXM547	Analog 3-axis Magnetometer