Description:

The GCM-360 is a unique product for defining the magnetic field of the earth. This unit provides heading, GPS coordinates and sensor information. It includes a high accuracy triaxial fluxgate magnetometer and a triaxial accelerometer. This sensor is equipped with a dual antenna GPS system that provides heading data even when not in motion. This unit will output several data items including GPS true north heading, latitude, longitude, magnetic heading, X, Y, and Z axis magnetic field. An antenna spacing of 0.500 meters ±5mm is required. The “fore” antenna is placed ½ meter ahead of the “aft” antenna on a line parallel to the x axis of the sensor package.

Applications:

- Geological Survey
- Hidden object detection
- Monitoring and mapping the Earth’s magnetic field
- Solar Storm Monitoring
# GCM-360 Specifications

## Attitude
- **Range:** Bank ±180°
- **Range:** Elevation ±90°
- **Resolution:** 0.02°
- **Accuracy:** Static ±0.5°

## Magnetic Heading
- **Range:** Bank ±180°
- **Resolution:** 0.02°
- **Accuracy:** Static ±1.5°

*Static heading accuracy is dependent on the magnetic environment. This sensor will meet or exceed this spec within the 48 contiguous United States.*

## GPS Heading
- **Range:** Bank ±180°
- **Resolution:** 0.02°
- **Accuracy:** Static ±0.5°

*Accuracy: Static ±1.5° Dependant on Magnetic Latitude*

## Acceleration
- **Range:** X, Y, Z ±10 g
- **Resolution:** 4 mg
- **Scale Factor Accuracy:** 1%
- **Bias:** X, Y, Z < 10 mg
- **Non-Linearity:** 0.1%
- **Bandwidth:** 3 Hz

## Magnetic
- **Range:** X, Y, Z ±1000 mGauss
- **Resolution:** 0.1 mGauss
- **Scale Factor Accuracy:** 1%
- **Bias:** X, Y, Z < 5 mGauss
- **Non-Linearity:** < 0.01%
- **Bandwidth:** 10 Hz

## GPS Positioning
- **Range:** Latitude ±90°
- **Range:** Longitude ±180°
- **Resolution:** 0.0000013°
- **Accuracy:** Latitude, Longitude ±0.6 m (with DGPS) ±2.5 m (without DGPS)

## Environmental
- **Temperature:** Operating -30°C to +70°C
- **Temperature:** Storage -40°C to +85°C
- **Vibration:** Operating 5 g rms 20 Hz to 2 KHz
- **Vibration:** Survival 10 g rms 20 Hz to 2 KHz
- **Shock:** Survival 500g 10mS ½ sine wave

## Electrical
- **Frame Rate:** 284.44 Hz Maximum
- **Startup Time:** Data 5 sec
- **Startup Time:** Satellite Acquisition 5 min Typical
- **Input Power:** 10 to 35 VDC 5.3 W
- **Input Current:** 420 mA @ 12 VDC 220 mA @ 24 VDC
- **Digital Output:** RS-232

## Physical
- **Axis Alignment:** < 0.25°
- **Size:** Including Mounting Flanges 3.24"W x 5.78"L x 3.50"H 8.2 x 14.7 x 8.9 (cm)
- **Weight:** 30 oz (1.9lb) 850 grams (0.9Kg)
- **Connection:** RS-232 9 pin female "D" subminiature
- **Connection:** Power 9 pin male "D" subminiature
- **Connection:** Antenna (Qty 2) SMA Antenna cable length: 3.0 m

* Specifications are subject to change without notice.
* This product may be subject to export restrictions. Please consult the factory.

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Dimensions:
GCM-360

GPS Antenna

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