GPS Compass Magnetometer

GCM-360

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.

- Solid State, Strap Down System
- GPS Heading Reference
- Latitude & Longitude Output
- Rugged, High Reliability
- Vibration Resistant
- PC Heading Calibration
- Two Year Limited Warranty
- Engineering Support

Applications:

- Geological Survey
- Hidden object detection
- Monitoring and mapping the Earth's magnetic field
- Solar Storm Monitoring

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GCM-360 Specifications

Attitude			
	Range: Bank	±180°	
	Range: Elevation	±90°	
	Resolution:	0.02°	Binary mode (14 bit)
	Accuracy: Static	±0.5°	
Magnetic Heading			
	Range:	0° - 360°	
	Resolution:	0.02°	Binary mode (14 bit)
*	Accuracy: Static	±1.5°	Dependant on Magnetic Latitude
GPS Heading			
	Range:	0° - 360°	
	Resolution:	0.02°	Binary mode (14 bit)
	Accuracy: Static	±0.5°	Using GPS (0.5 m antenna spacing)
Acceleration			
	Range: X, Y, Z	±10 g	
	Resolution:	4 mg	
	Scale Factor Accuracy:	1%	
	Bias: X, Y, Z	< 10 mg	
	Non-Linearity:	0.1%	Full scale range
	Bandwidth:	3 Hz	
Magnetic			
	Range: X, Y, Z	±1000 mGauss	
	Resolution:	0.1 mGauss	Binary mode (14 bit)
	Scale Factor Accuracy:	1%	
	Bias: X, Y, Z	< 5 mGauss	
	Non-Linearity:	< 0.01%	Full scale range
	Bandwidth:	10 Hz	
GPS Positioning			
	Range: Latitude	±90°	
	Range: Longitude	±180°	
	Resolution: Latitude, Longitude	0.0000013°	Binary mode (28 bit)
	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

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

† Acquisition time for GPS units is typical for the contiguous United States. Acquisition time may differ due to interference in your geographic area.

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

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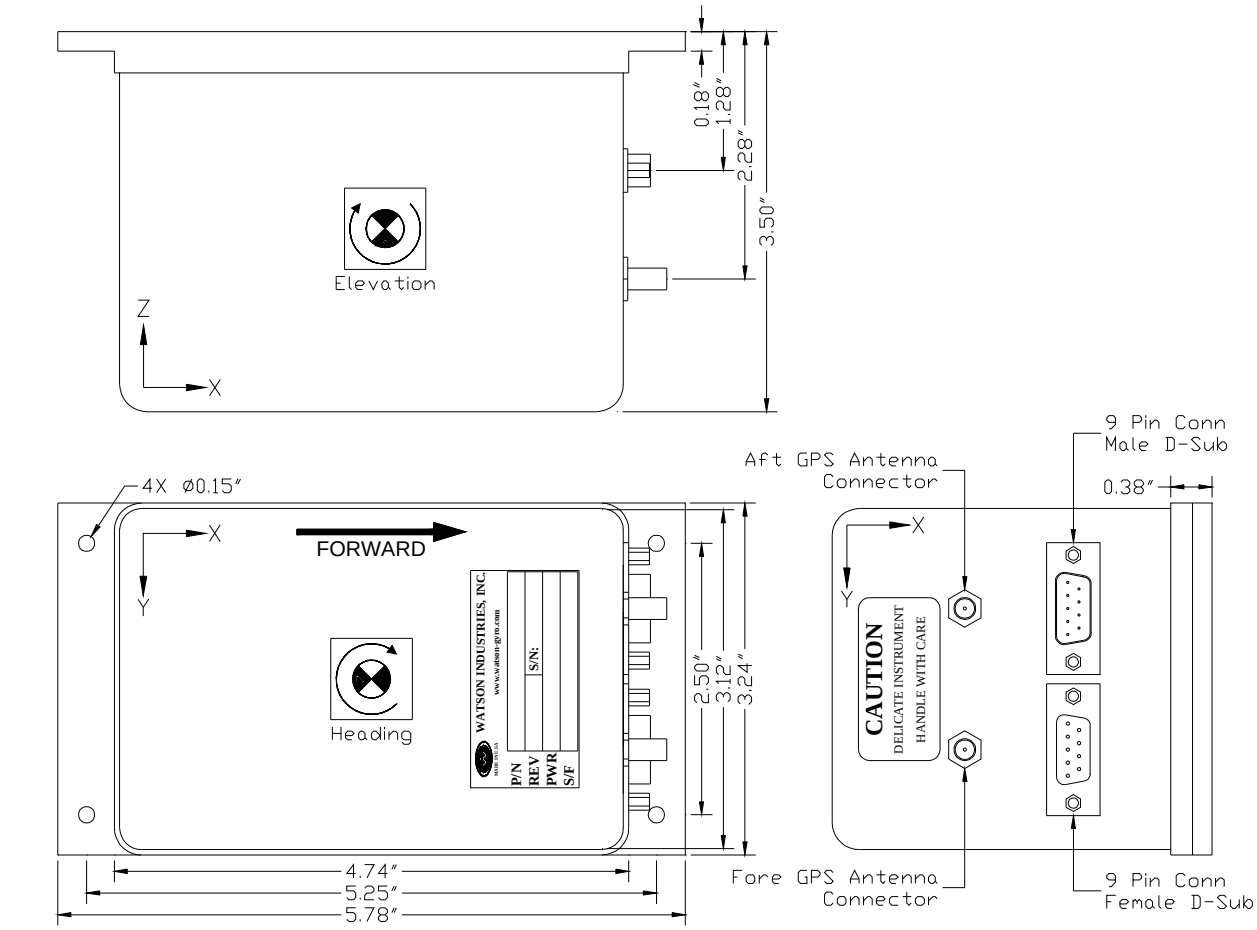
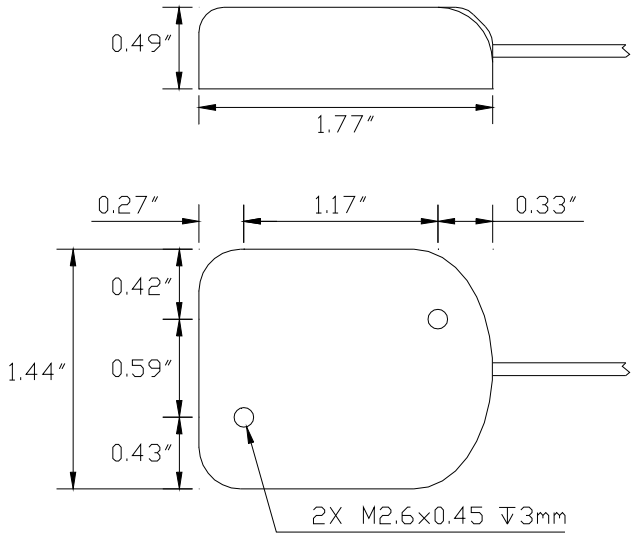
Dimensions:
GCM-360



GPS Antenna



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