WinFrog Device Group:	Magnetometer
Device Name/Model:	GEOMETRICS 866
Device Manufacturer:	GEOMETRICS 2190 Fortune Dr. San Jose, Ca. 95131 U.S.A. Phone: (408) 954-0522 Fax: (408) 954-0902 www.geometrics.com
Device Data String(s) Output to WinFrog:	Magnetic field in gammas. Refer to Configuration Details section for unit information. (See Configuration Details section for more information on the data string output from the G-866)
WinFrog Data String(s) Output to Device:	OK or Wake Up Status (1) sent to Device.
WinFrog Data Item(s) and their RAW record:	MAGNETOMETER 800

DEVICE DESCRIPTION:

The Geometrics 866 is a Proton Procession Magnetometer capable of detecting ferrous metals utilizing an omni-directional detector. The detector is usually towed behind either a ship or plane. In marine applications, it is advised to tow the sensor at least 3 times the vessel length, behind the vessel, to minimize the ship's influence on readings.

Magnetic measurements, taken at an interval between 0.5 seconds and 999 seconds, are displayed on a LED display, recorded on a 10cm wide paper recorder and available via a RS-232C interface.

During auto-cycle magnetometer readings, complete readouts of the time, day and field value are output on the RS-232C port, however WinFrog only utilizes the field data.


DEVICE CONFIGURATION INSTRUCTIONS

WINFROG I/O DEVICES > EDIT I/O:
Baud Rate: Configurable up to 9600
Data Bits: 7
Stop Bits: 1
Parity: None

Suggested: 9600-7-N-1

WINFROG I/O DEVICES > CONFIGURE DEVICE:
The GeoMetrics 866 is added to WinFrog from the Magnetometer device group. The MAGNETOMETER data item is added with the GeoMetrics 866 device. No configuration is required or available within the I/O Device window.
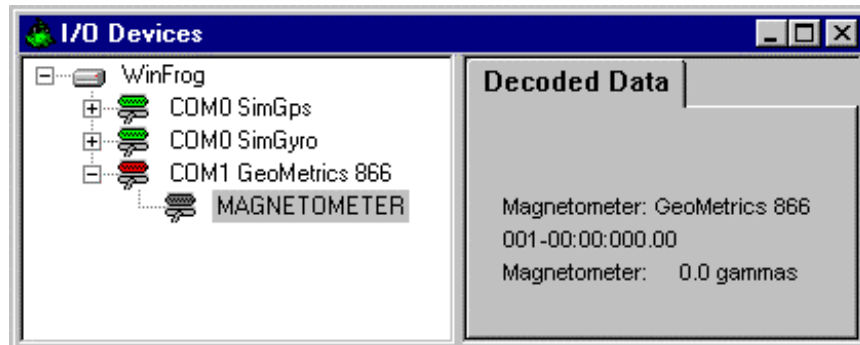
WINFROG VEHICLE > CONFIGURE VEHICLE DEVICES > DEVICE DATA ITEM > EDIT:
No configuration options are available for the GEOMETRICS 866 Magnetometer from within WinFrog.

Once the device is added to a vehicle, the 800 Raw Data Record is recorded to the *.RAW file if raw recording is occuring.
Raw Data String:
800,name,time,magnetic field,signal strength,depth,quality,leakage,tuning, voltage,altitude
Since the only data sent is the field strength the other items will be 0 (except time which is alwary WinFrog time).

INSTRUMENT CONFIGURATION DETAILS:

Input / Output Functions:
The G-866 provides both input and output functions through its RS232C port. During auto-cycle magnetometer readings, complete readouts of the time, day, and field value are output on the RS232C port. These readouts may be used to drive an external printer or data acquisition system.

When Miniswitch 6 of Switch Bank 1 is set to ON, the G-866 will accept data from a G-856 portable magnetometer, and generate a printed record with analog chart just as if the date were being collected with the G-866. Turning on Miniswitch 6 however disables the magnetometer. The switch must be returned to the OFF position to use the G-866 in the normal mode. Input from the G-856 must be at 300 baud for the G-866 to accept it.

Input / Output Data Format:
Output from the G-866, on the RS-232C port, will have the following format:

%bbφbDDDbHHMMSSbbbbφBNNNNNN <CR><LF>

Where: % denotes G-866 datastream,
b is blank (or space),
φ is Zero,
DDD is day
HHMMSS is the time, and
NNNNNN is the field reading in gammas.

Specifications:
Field Strength Range:	20,000 to 100,000nT
Sensitivity:	0.5nT
LED Readout:	6 digit display with 0.1nT Resolution
Signal Strength:	Selectable on LED display 0-9
Paper Width:	10cm
Chart Full-Scale Dual Ranges	10/100, 20/200, 50/500, 100/1000nT
Measurement Repetition Rate:	0.5 – 999 seconds
Serial Output:	RS232 up to 9600 Baud
Parallel Output:	BCD of time, day, and field readings
Fix Input:	Relay closure
Power Requirements:	24VDC @ 10 Amps
Surface Unit Size	42.5cm x 22.5cm x 21cm high
Surface Unit Weight	6 Kg
Detector Size	42.5cm x 14cm diameter
Detector Weight	6.3 Kg

Note: Miniswitch 6 must be in the off position in order for the instrument to collect data.

Units:
1 gamma = 1nT where T stands for Tesla.
1000 gammas = 1μT = 1 Killogamma