

# 3 axis Digital Fluxgate Vektor Magnetometer WFG-D-140

Order-No: WFG-330-120 Series/Model: WFG-D-140



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3 achsiges miniatur Vektor Digital Fluxgate Magnetometer System

## Main Product Features

- RS232 and TTL Digital Outputs
- Complete 3 axis system
- Range Measures fields  $60\mu\text{T}$  ( $\pm 600$  mG) or  $100\mu\text{T}$  (1G)
- Operates from +4.95 VDC to +12 VDC
- Compact size, rugged construction
- Easy to use
- Configuration and Data Acquisition via Windows based Software

The Model WFG-D-140 Sensor is a tri-axial vector magnetometer system with a high-speed digital interface that can transmit XYZ magnetic field values at up to 140 times per second. The WFG-D-140 System contains a microprocessor and a three channel 16-bit analog-to-digital converter. The system also contains a temperature sensor.

### The system microprocessor and A-to-D subsystem:

- convert the sensor analog outputs to digital form
- calibrate the sensor scale, offset and alignment
- implement serial communications between the system and an external computer

An ASCII character command language facilitates communication with the WFG-D-140. An autosend data mode is included in the WFG-D-140 software. When this mode is active, data is repeatedly sent out the serial port after power is applied to the system.

The WFG-D-140 magnetometers are calibrated by mounting the system in a precision holding fixture, placing this in a 3-axis Helmholtz coil, and systematically applying known magnetic fields to the sensor.

System calibration can be performed at a base temperature (usu-ally 25°C) or as an option over a temperature range (for example 0-75°C). When the system is calibrated over a temperature range, data is read from the system at temperature intervals between the minimum and maximum temperature specification. For instance, for calibration over the interval of 0-75°C, data is usually read at 25°C temperature intervals at 0°C, 25°C, 50°C, and 75°C. The data taken at each temperature includes scale, offset, and sensor alignment data. The recorded data is used to create a lookup table for scale, offset and alignment corrections. This table is then downloaded into the WFG-D-140 internal EEROM memory where it can be accessed by the system internal microprocessor. Corrections to the sensor data can then be made by the internal microprocessor system before data is transmitted.

The WFG-D-140 System communicates over a bi-directional RS232 or TTL (optional) serial interface. The RS232 serial communications interface to the WFG-D-120 is provided by the RS232-in and RS232-out lines. An external PC communicates with the WFG-D-140 on the serial-in line and replies from the WFG-D-140 are transmitted out on the serial-out line. The serial-in and serial-out lines are normally set to operate at 9600 baud with one stop bit and no parity. The user, however, can change the baud rate by setting bits in the system EEROM.

## Applications

- OEM and System integration
- 3 dimensional Magnetic Measurement
- High speed magnetic sensing
- Magnetic anomaly detection
- Guidance/Compassing
- Laboratory measurements
- Magnetic field mapping
- Materials testing

## Dats Sheet -Download

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***If you have questions please don't hesitate to contact us any time.***

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