Single-Axis Fluxgate Magnetic Field Sensors

**Mag664 Low Cost Unpackaged Sensor**
A compact general purpose sensor with a frequency response from DC to >1kHz. Three measuring ranges are available: ±100µT, ±500µT or ±1000µT. Available with two fluxgate element orientation, it is designed for integration in to OEM systems.

**Mag670 Low Cost Compact Sensor**
A compact general purpose sensor with a frequency response from DC to >1kHz. Three measuring ranges are available: ±100µT, ±500µT or ±1000µT. Available with two fluxgate element orientation with an alignment error to datum <2°. Suitable for a wide range of applications.

**Mag678/Mag679 Low Power Sensors**
A range of low power (10mW) sensors with bandwidth of >30Hz (Mag678) or >1kHz (Mag679). Two measuring ranges of ±60µT or ±100µT are available together with a low noise option. Submersible and unpackaged versions available for flexibility of use. These are typically used for surveillance and perimeter security applications.

**Mag592 Low Radiation Sensor**
A sensor offering low RF emission. It has a frequency response from DC to 2kHz and is available with measuring ranges from ±70µT to ±1000µT. It is designed for field measurements close to permanent magnet MRI.

**Mag-01H Magnetometer**
A portable, high resolution, instrument used for precision measurements of DC magnetic fields. A range of low field (±0.2mT) and high field (±2mT) probes are available in a range of package (axial, transverse and cryogenic). Typical use include measurements of remanent magnetisation in RF cavities or compass safe distance.

**Mag-01H Declinometer/Inclinometer system**
This system includes a fluxgate sensor mounted on a 6 seconds Wild T1 non-magnetic theodolite, and a high resolution (±0.1nT) readout unit. It is designed to measure declination and inclination of the geomagnetic field in Magnetic Observatory or for mapping purposes.
Three-Axis Fluxgate Magnetic Field Sensors

Mag-13 High Precision Magnetic Field Sensors
This range of high accuracy sensors offer four noise levels, down to 4pTrms/√Hz at 1Hz. Available in a range of enclosures, they are environmentally sealed and shielded from electrical interference. Their measuring ranges are from ±60 to ±1000µT, with a frequency response from DC to 3kHz. They also include a test coil. Their extremely low noise allow for highly accurate measurements in a range of applications.

Mag-03 High Precision Magnetic Field Sensors
A range of high performance sensors with three noise levels down to <6pTrms/√Hz at 1Hz. They are available in a wide range of enclosures and measuring ranges from ±70 to ±1000µT. This flexibility make these sensor suited for many applications including in the medical, industrial, physics or geophysics markets.

Mag639 Wide Bandwidth Sensor
This sensor, offering a 12kHz bandwidth, and a measuring range of ±100µT is designed for measurements of fast changing magnetic fields. Applications include industrial EMC monitoring or geophysics.

Mag690 Low Cost Sensor
This low cost sensor offers measuring ranges from ±100µT to ±1000µT and a frequency response from DC to 1kHz. Its performance makes this sensor a general purpose sensor for precision measurements of magnetic fields.

Mag648/Mag649 Low Power Sensors
A range of low power (<15mW) sensors with bandwidth of >30Hz (Mag648) or >1kHz (Mag649). Two measuring ranges of ±60µT or ±100µT are available together with a low noise option. Submersible and unpackaged versions available for flexibility of use. These are typically used for surveillance and perimeter security applications.
Three-Axis Fluxgate Magnetic Field Sensors

**Mag610/Mag611 High Temperature Magnetic Field Probes**
For applications requiring high shock and temperature resistance, these sensors operate to 175°C and 215°C respectively. A low noise (<30pTrms/√Hz) version of Mag610 is available. For integration into a downhole directional drilling tool, a sensor drive electronics design document is also available.

**Mag614 Compact High Temperature Magnetic Field Probes**
This small size fluxgate probe offers high shock and temperature resistance, and operates up to 175°C. For integration into a downhole directional drilling tool, a sensor drive electronics design document is also available.

**Mag658 Unpackaged Digital Magnetometer**
This digital sensor has an RS422 interface and integrates a three-axis accelerometer. Its measuring range of ±524μT and frequency response from DC to 30Hz make it suitable for a range of applications including airborne measurements from an UAV.

**Mag650 Unpackaged Low Power Sensor**
This low cost sensor offering low power consumption (~7mW) has a noise level between 10 and 50pTrms/√Hz at 1Hz. Combined with a measuring range of ±60μT and bandwidth >30Hz, this sensor is ideal for applications such as surveillance.

**Mag651 Unpackaged Low Power Sensor**
This low cost sensor offering low power consumption (~8mW) has a noise level between 10 and 20pTrms/√Hz at 1Hz. Combined with a measuring range of ±60μT and bandwidth >30Hz, this sensor is ideal for applications such as surveillance.

**Mag585 Low Radiation Sensor**
A sensor offering low RF emission. It has a frequency response from DC to 2kHz and is available with measuring ranges from ±70μT to ±1000μT. It is designed for field measurements close to permanent magnet MRI.
**Fluxgate Gradiometers**

**Grad-13 Digital Three-Axis Fluxgate Gradiometer**
This gradiometer comprises two three-axis magnetic field sensors with separation from 500mm to 1000mm, and a measuring range of ±70 or ±100µT. Available in either land or shallow submersible (200m) this unit is ideal for UXO detection, Archaeogeophysics or Geotechnics. Multi-sensor GPS based surveys are possible using the Non-Magnetic Cart and third party data collection software.

**Grad601 Gradiometer System**
This easy to use, portable system comprising of either one or two Grad-01-1000L sensors, a data logger and a battery power supply is ideally suited to magnetic field surveys undertaken in Archaeology.

**Grad-01-1000L Fluxgate Gradiometer Sensor**
This high precision single axis magnetic field gradient sensor has a 1m baseline. This sensor is typically used for Archaeogeophysics, for the detection of shallow magnetic anomalies. Multi-sensor GPS based surveys are possible using the Non-Magnetic Cart and third party data collection software.

**Grad-03 Three-Axis Gradiometer**
Available in land or marine versions, this gradiometer comprises two three-axis fluxgate sensors with separation of 300, 500, 750 or 1000mm. Combined with the Grad-03ACU, display resolution of 1nT are achieved. Typically used in downhole UXO detection or borehole Geotechnics.

**Non-Magnetic Cart**
This lightweight carbon-fibre cart is easily assembled and disassembled. Easily transportable, it is ideal for multi-sensor GPS-based surveys.
Data Acquisition and Conditioning Units

**PSU1 Power Supply Unit**
This battery powered portable power supply is compatible with most single or three-axis Bartington® Instruments magnetic field sensors. The unit includes a low pass filter and a switch-controlled AC/DC coupling.

**Magmeter-2 Power Supply and Display Unit**
This battery powered portable unit powers and display magnetic field values with a resolution of up to 10nT. It is compatible with most single or three-axis Bartington® Instruments magnetic field sensors. The unit includes a low pass filter and a switch-controlled AC/DC coupling.

**SCU1 Signal Conditioning Unit**
A high-precision units suitable for use with most single or three-axis Bartington® Instruments magnetic field sensors. It powers the sensor, conditions and displays its analogue outputs. Gain and offset control are independent to each axis, whilst low- and high-pass filters are common to all three axes. Use either as a standalone field measuring instrument or as a conditioning unit for an A to D data acquisition system.

**DecaPSU Power Supply Unit**
A mains-powered unit which provides power and conditioning for up to 10 magnetometers. The unit is compatible with most single or three-axis Bartington® Instruments sensors. Analogue output are available for connection to an external digitiser.

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PSU1 Power Supply Unit

Magmeter Power Supply and Display Unit

SCU1 Signal Conditioning Unit

DecaPSU Power Supply Unit
Data Acquisition and Conditioning Units

**Spectramag-6 Data Acquisition Unit**
A 24-bit acquisition unit which offers synchronous digitisation of six outputs from magnetic field sensors, accelerometers and acoustic sensors. It is battery powered and controlled via software. Features include gain, low-pass filtering and time and frequency domain display. It is specially designed to perform magnetic field site surveys, including prior to MRI installation.

**Mag-03DAM Data Acquisition Module**
This battery powered unit provides power and digitises the signal from one or two three-axis sensors. The 24-bit resolution and optional digital filtering makes it ideal for recording of DC and low frequency signals.

**Decaport Analogue Interface Module**
A mains-powered unit which provides power and conditioning for up to 10 magnetometers. The unit is compatible with most single or three-axis Bartington® Instruments sensors. Analogue output are available for connection to a NI™ PXI system. I/O connections allow for programming of analogue low-pass filters.

**DAS1 Data Acquisition System**
A PXI-based unit connected to one or more Decaport which can digitise up to 160 magnetic field sensors. The A-D card provided has a resolution of 18-bit extendable to 24-bit with oversampling.
**Product Compatibility**

Use this table to cross-check which products are compatible with our range of data processing units.

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* Mag-13 Test Coil function will only operate with DecaPSU and Decaport. An adaptor cable will be required when connected to Mag-03DAM.
** Mag639 will see a bandwidth reduction when used with SCU1 and DecaPSU, and range reduction when used with PSU1.
1 An adaptor cable is required.
The specifications of the products described in this brochure are subject to change without prior notice.