

# FEREX 4.035

Digital fluxgate magnetometer with LED display for the detection of ferromagnetic materials



## **Metal detection made easy**

The FEREX is a vertical gradient fluxgate magnetometer that measures the deformation of the earth's magnetic field evoked by ferromagnetic objects. Magnetometers are suitable for the detection of ferro-

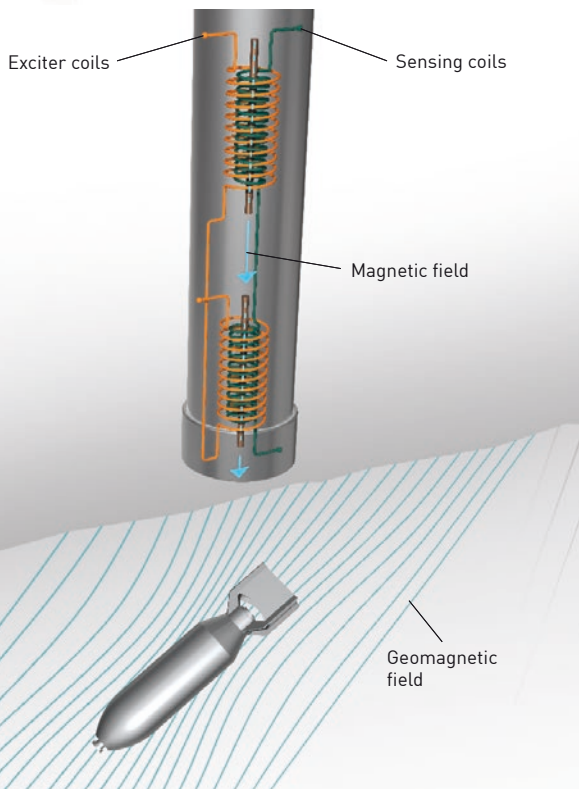
magnetic metals like iron, steel or nickel. Normally the detection depth of magnetometers is larger compared to active EMI detectors, but it varies and depends on the object's mass and its magnetic properties.

# Benefits and operation principle

## The benefits

- **Highest sensitivity:** Magnetometer using tension band technology and low noise.
- **Precise detection:** Detects ferrous materials/UXO e.g., bombs, shells, projectiles, sub-ammunitions.
- **Compact:** Detector in one-piece design and light weighted.

- **Various filters:** Enables the search under power lines, along fences, pipelines and railway tracks. High-pass and low-pass filter.
- **Optional equipment:** Borehole detection, underwater detection, extension cable up to 100 m, pulling rope, ballast weight, headphone.



## Passive magnetometer methods

These methods are ideal for detecting ferromagnetic metals. Highly responsive passive sensors measure the Earth's homogeneous magnetic field and accurately recognize any disturbances in this field caused by nearby ferromagnetic components.

The position, orientation and mass of the metal object are determined by analyzing the anomalies in the magnetic field. These can be recorded or sent as acoustic or optical alerts to the operator, who then uses them to locate the object.

Since soils and infrastructure elements also carry their own magnetic signatures, highly sensitive magnetometers can be used in the context of archaeological and geological surveys. A distinction is made between absolute probes, which display the Earth's magnetic field including possible anomalies, and differential probes, which neutralize the Earth's magnetic field and display only the effect of the magnetic anomaly. FOERSTER supplies highly sensitive (fluxgate) magnetometer probes in both absolute and differential arrangements.

## Technical data

FEREX 4.035	
Weight	3.3 kg complete detector incl. batteries 11.1 kg complete detector set in case
Dimensions	FEREX – 1,250 mm (H) Case – 989 x 415 x 157 mm (H x W x D)
Temperatur ranges	Operation: -37 °C to +71 °C; -99 °F to +160 °F (ambient temperature) Storage: -57 °C to +71 °C; -135 °F to +160 °F
Power supply	4 x 1.5 V alkaline batteries (LR20) or 4 x 1.2 V NiMH (HR20)
Battery lifetime	> 70 hours
Battery size	IEC LR20/HR20 - ANSI „D“
Measuring ranges	7 linear ranges: 0 - 10 nT to 0 - 10,000 nT
Compensation range	±950 nT
Protection grade	IP 65

Probe MG-10-550	
Type	Fluxgate gradiometer
Base distance	550 mm
Application area	±62,500 nT
Measuring range	±10,000 nT gradient ±62,500 nT absolute
Reference point	97.5 mm from end of probe rod, 4 mm outside symmetry axis
Declination	±3 nT
Noise	<40 pT √ Hz @ 1 Hz
Cut-off frequency	230 Hz
Temperature drift	<1 nT/K
Uncertainty of measurement	<2 % ref. ±10,000 nT
Linearity	<1 nT referred to maximum measuring range
Protection grade	IP 68, 100 m with optional sealing plug
External dimensions	Diameter 39.4 mm (with protective cap), probe length 750 mm, base distance 550 mm

Certifications	
MIL-Standards certifications	MIL-STD 810G Method 514.6, Procedure I, Random Vibration MIL-STD 810G Method 516.6, Procedure I, Mechanical Shock MIL-STD 810G Method 516.6, Procedure IV, Transit Drop Test MIL-STD 810G Method 501.5, Procedure I, High Temperature MIL-STD 810G Method 502.5, Procedure I, Low Temperature MIL-STD 810G Method 503.5, Procedure I-C, Temperatur Shock MIL-STD 810G Method 506.5, Procedure I, Blowing Rain MIL-STD 461G RE102 Radiated Emission MIL-STD 461G RS103 Radiated Susceptibility AEODP-7 Edition B, Annex A-1 European Directive 2014/30/EC, EN 61326-1
NATO Stock Nummer (NSN)	6665-12-420-7755

## Worldwide sales and support offices



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