

SYSTEMS FOR UXO AND LANDMINE DETECTION



FOERSTER – THE COMPANY

FOERSTER IS

Non-Destructive Testing, Metal Detection, Magnetics – FOERSTER stands for the highest quality standards. For precision and performance. For commitment and dependability. For the best and technologically most advanced line of products. Our highest goal is the satisfaction of our customers – worldwide. With our own 10 subsidiaries and a multitude of representatives, we are ever-present within our customers' proximity in over 60 countries and are doing our utmost to live up to and offer the highest possible standards of Quality, Value, Service, Innovation and Trust.

FOERSTER DIVISION DETECTION & MAGNETICS (DM)

For 65 years, Division DM has been developing, manufacturing, and selling magnetometers and metal detectors for environmental clean-up and geomagnetic surveys all over the world. Our customers are both civilian and military. Examples of civilian customers are UXO clearance companies and humanitarian demining organizations. Detectors form the

cornerstone of FOERSTER and our knowledge today is based on the work of our founder, Prof. Dr. Friedrich Förster, who was a pioneer in this sector, starting with the invention of the fluxgate magnetometer. Since then, we have further developed our products and now carry on our tradition that stands for innovation and the highest quality.



PRODUCT OVERVIEW

ACTIVE METAL DETECTORS

Active metal detectors are based on electromagnetic induction (EMI). When an electromagnetic field encounters any kind of metal, it will induce an eddy current in the metal, and a secondary field transmitted by the eddy current in the metal can be received by the detector. The search depth is limited.

MINEX® 4.600

Metal/mine detector

METEX® 4.250

Rigid large loop detector

METEX® 4.251

Flexible large loop detector



PASSIVE METAL DETECTORS

Passive metal detectors measure the deformation of the earth's magnetic field evoked by ferromagnetic objects like iron, steel or nickel. FOERSTER uses fluxgate magnetometers mainly designed as vertical gradient detectors. Normally, the detection depth of magnetometers is greater compared to active EMI detectors, but it varies depending on the object's mass and its magnetic properties.

FEREX® 4.032 PRODUCT FAMILY

Single- and multi-probe magnetometers

FOERSTER MULTICAT® 4.850

Multiprobe trailer

DATAMONITOR 3

Navigation and data recording software

DATA2LINE® 4.810

Project management and UXO evaluation software



MINEX® 4.600



MINEX® 4.600

The MINEX 4.600 is designed to detect very small near-surface metal objects, so-called minimum metal mines or plastic mines. It offers maximum sensitivity and best possible pinpointing of targets while still providing robustness and reliability in any conditions.

A ground learning function for operation on uncooperative soil and a military mode that turns off the LED indicators for safe night operations are only two of the vital features available.

CHARACTERISTICS

- MIL standard certified, CE/EMC standard certified
- CWA standard certified (IMAS)
- Dual frequency continuous wave technology for constant high sensitivity to all metals
- Not influenced by high voltage power lines that operate at 50/60 Hz
- Detection depth not influenced by salty water or wet soil conditions
- Double D search head for best pinpointing and detection close to large metal structures



MINEX® 4.600 EQUIPMENT AND ACCESSORIES

The MINEX 4.600 comes in a rugged transport case and can be equipped with accessories according to the customer's needs. Commonly, individual packages are defined and delivered. These can include the following:

- Headphones
- Backpack
- Rechargeable batteries
- Manual in any language
- MINEX software for service purposes





METEX®

The METEX is an active metal detector for objects at large depths. Its large search coil allows the detection of all conductive metal types regardless of whether you search in soil or shallow water. Due to its increased power output, the main purpose of the METEX is to locate targets that cannot be detected by conventional mine detectors due to their depth.

CHARACTERISTICS

- CE/EMC standard certified
- Electro-magnetic pulse induction technology for greater search depth
- Automatic tracking function for soil compensation
- Suppression of small signals/objects thanks to adjustable delay



METEX® EQUIPMENT AND ACCESSORIES

METEX® 4.251

Due to its special design, the flexible METEX 4.251 coil can provide better performance than loops with larger diameter. It offers a demountable design for easy transporting in difficult environments. The loop and control unit come in a rugged transport case, while the connection elements are provided in a custom made backpack.

METEX® 4.250

The METEX 4.250 comes in a rugged transport case and is ready-to-operate. The rigid coil is primarily designed for safe use in harsh environments but, with the optional wheel set, also allows easy and fast handling by only one operator.



FEREX® 4.032 DLG/ DLG KARTO



FEREX® 4.032 DLG/DLG KARTO

The FEREX is a fluxgate magnetometer designed for detection of ferromagnetic material like unexploded ordnance (UXO) and other explosive remnants of war (ERW).

The FEREX 4.032 DLG is a data logging instrument for up to 4 channels. This allows surveying of areas and review of the detection data afterwards. The KARTO version enables GPS integration.

CHARACTERISTICS

- MIL standard certified, CE standard certified
- Maximum sensitivity and minimum noise level fluxgate magnetometer
- Single- or multi-probe systems
- Georeferencing with KARTO version and linked GPS
- Standard CON 650 probe as all FEREX and FOERSTER MULTICAT systems
- Data evaluation with DATA2LINE software



FEREX® EQUIPMENT AND ACCESSORIES

CARRIERS

For large-area detection, FOERSTER offers accessories that allow the operator to either carry or wheel multi-probe holders. The frames for 3 or 4 probes are lightweight, offer an ergonomic design and adjustable probe spacing, and are ready for equipping with a GPS antenna, thus providing an expandable tool kit. All FOERSTER systems with multiple probes use the CON 650 probe. This allows taking existing probes from any FEREX 4.032 systems to set up a multi-probe holder.



BOREHOLE

Borehole detection is used if suspicious objects lie deep in the ground or if buildings, landfill or ferromagnetic clutter close to the surface complicate or even prevent deep search from the surface. For borehole detection, the probe is lowered into the borehole attached to a special extension cable.

OPTIONS

- Extension cable kits up to 100 m
- Depth measuring device with data logging
- Special DATALINE BM borehole evaluation software



FEREX® 4.032 API



FEREX® 4.032 API

The FEREX 4.032 API is the entry level for the FEREX product family. It is suitable for UXO search in any terrain and can adapt to many working conditions, thanks to its different filter modes and compensation levels.

CHARACTERISTICS

- MIL standard certified, CE standard certified
- Maximum sensitivity and minimum noise level fluxgate magnetometer
- Standard CON 650 probe as all FEREX and FOERSTER MULTICAT systems
- Built-in filters for searching under power lines, and special mode for searching along fences, pipelines and railway tracks
- Special mode for filtering small objects
- The FEREX API can be upgraded to DLG just by changing the control unit



FOERSTER MULTICAT® 4.850



FOERSTER MULTICAT® 4.850

The FOERSTER MULTICAT 4.850 is a special robust nonmagnetic trailer that can carry up to 8 FEREX CON 650 probes for fast and precise detection over wide areas. It uses the same CON 650 probes as the FEREX product family. An open design for GPS systems of different manufacturers, together with the DATAMONITOR 3 navigation software, makes the FOERSTER MULTICAT a perfect solution for large-area survey.

CHARACTERISTICS

- Sampling rate allows detection speeds up to 36 km/h (22 mph) while still picking up medium size targets
- Track width 2 m to 4 m
- Probe spacing 0.25 m to 0.5 m
- Ground coverage about 25 hectares per day with the basic system
- Designed to be used in any terrain suitable for 4-wheel-drive vehicles
- Compact design for transporting in a station wagon

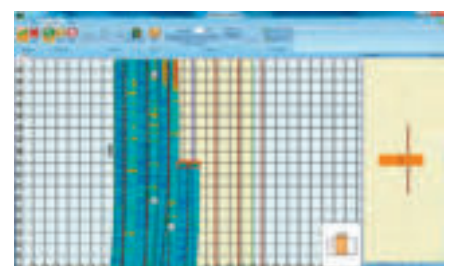


DATAMONITOR 3

DATAMONITOR 3 is a powerful software program for navigation, data sampling and georeferencing for large-area survey. It is designed to control all FOERSTER components for wide-area detection both on land and in water.

CHARACTERISTICS

- Handling of large areas
- Compatible with various GPS systems
- Seamless project handling and data evaluation in conjunction with the DATA2LINE software



DATA2LINE® 4.810



DATA2LINE® 4.810

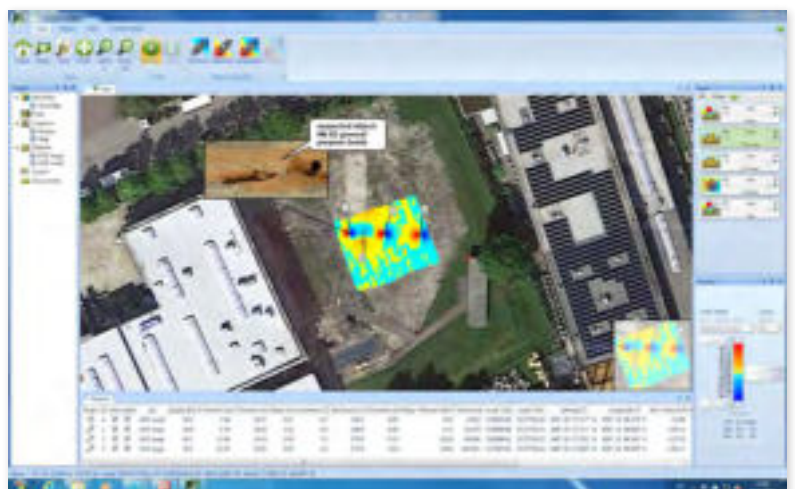
After recording large amounts of data with a FERECH or FOERSTER MULTICAT, the DATA2LINE data evaluation software comes into play. The DATA2LINE software is a complete solution for managing, displaying, analyzing, and documenting location-specific magnetic measurement data. In addition, any kind of documents can be imported and edited in the project file, allowing all critical data to be stored in one file.

DATA2LINE® MODULE BASIC

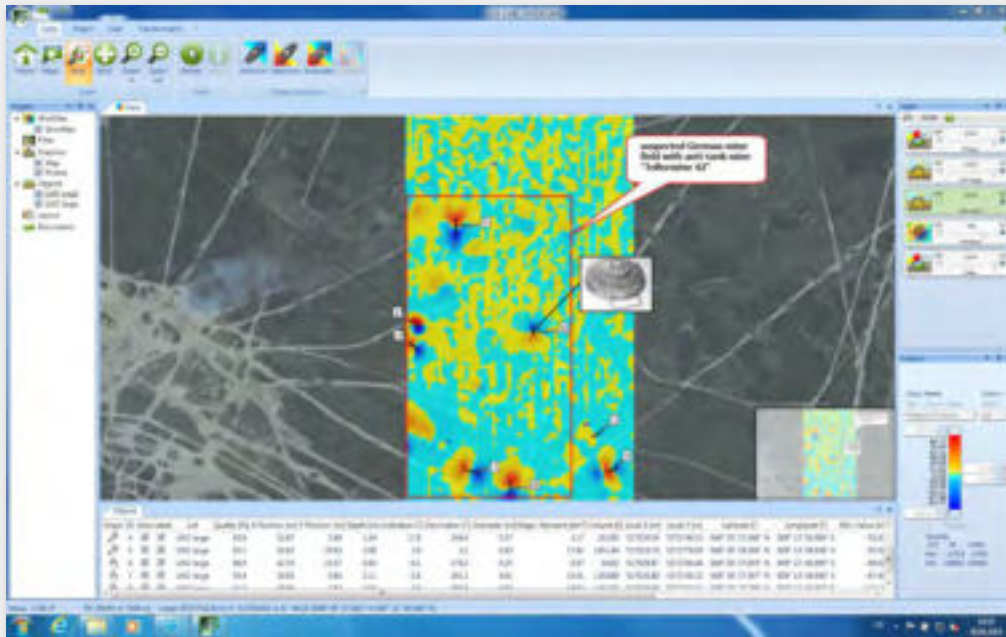
The Basic module is a unique tool for data visualization, georeferenced mapping and project management.

CHARACTERISTICS

- Data import/export
- Merging of data sets
- Georeferencing and project management
- Three-dimensional view of the data map based on elevation or magnetic field data
- Multi-layer view
- Evaluation of data from third party systems



DATA2LINE® MODULE UXO

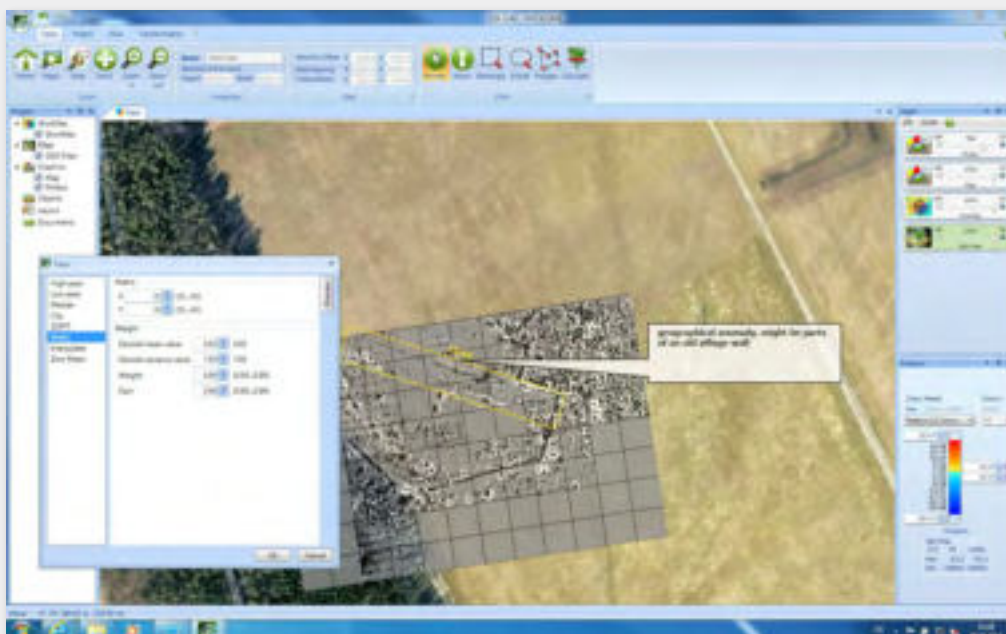


The UXO evaluation module, with its highly accurate object calculation, management of object lists and the option to filter measurement data, is a powerful tool when detecting unexploded ordnance (UXO).

CHARACTERISTICS

- Automatic object calculation
- Filter function for different object sizes based on the measured data
- Calculation of depth, orientation, position, and size of suspected ferromagnetic objects

DATA2LINE® MODULE GEO



The GEO module, which is intended mainly for archaeological and geological explorations, offers filters that allow the processing of sampled data in special ways. These filters can be used to enhance the visibility of objects and structures from the recorded data. The filters can be helpful in the UXO evaluation as well.

FILTERS

- High Pass, Low Pass
- Median
- Clip (Minimum / Maximum)
- 2D FFT
- Wallis
- Zero-mean
- Interpolation

OFFSHORE SOLUTIONS



OFFSHORE SOLUTIONS

Besides the standard onshore solutions provided by FOERSTER, our probes, such as the vertical gradient fluxgate magnetometer and the total field fluxgate magnetometer, are already in use for offshore detection. Depending on the application, different kinds of probes and probe network systems are available. Systems with up to 32 probes are possible and can be scaled and combined according to the needs that occur in a certain project. Equipment for depths

up to 100 m is available off-the-shelf, and for larger depths on request. Furthermore, nearly all hardware components can be used for on- and offshore applications, such as cables, probes as well as the DATAMONITOR 3 navigation.

We will gladly assist our customers with our knowledge and experience gained from numerous projects over 65 years, not only offshore but also in harbor and fresh water areas.

TRAINING AND SEMINARS



TRAINING AND SEMINARS

FOERSTER provides different kinds of training courses ranging from a standard course for operators to training for trainers and training on the servicing of FOERSTER products. These courses can be conducted either at FOERSTER's headquarters in Reutlingen/Germany or at the customer's site by FOERSTER experts or FOERSTER certified trainers in multiple languages.



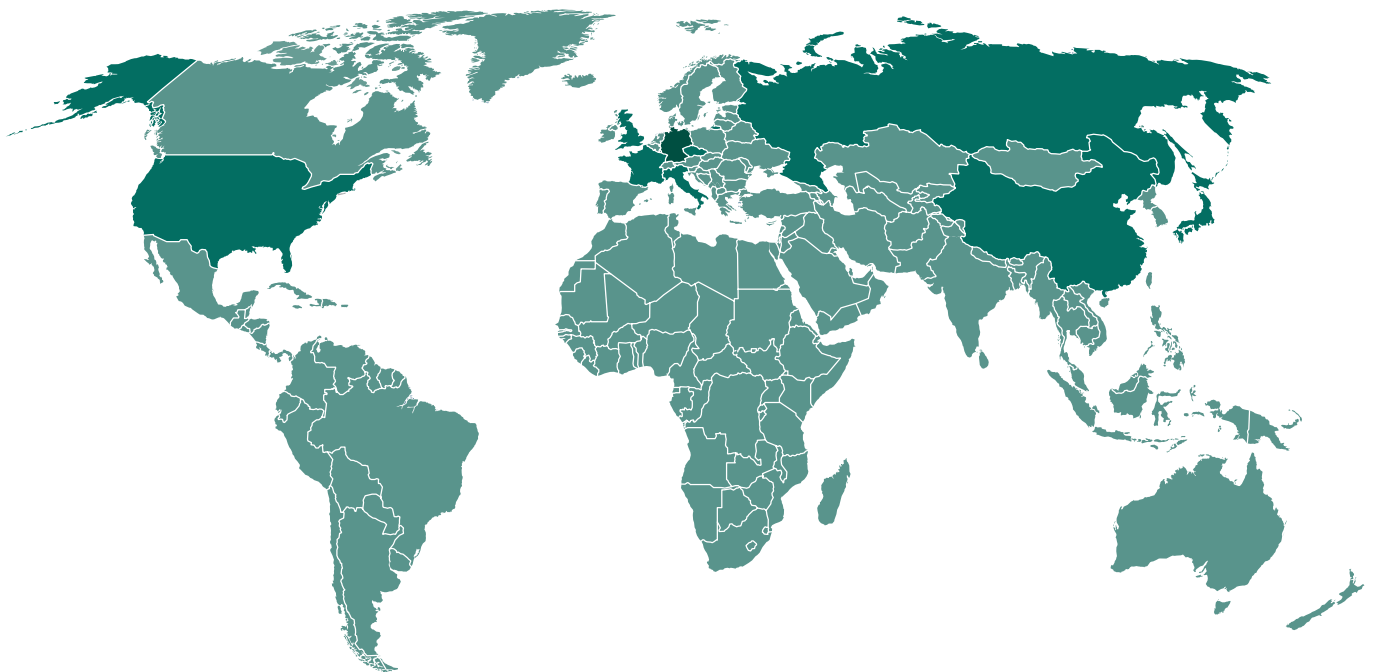
FOERSTER TRAINING SITE

FOERSTER uses its own training ground for demonstration and training purposes. An underground pipe system allows placing objects in varying but defined positions and depths to simulate real-life scenarios, allowing operators to train for near-surface or deep-buried UXO search. A test area with different kinds of soil is used for practical training on mine detection.



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WORLDWIDE SALES AND SERVICE OFFICES



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■ REPRESENTATIVES IN MORE THAN 50 OTHER COUNTRIES

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