MINEX 4.611

Minimum metal, wire and conductivity detector

Precise detection of near-surface objects

The MINEX 4.611 is designed to detect very small near-surface metal objects, so-called minimum metal mines or plastic mines. At the same time, it detects conductive targets such as IEDs as well as any kind of wires. 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. The MINEX 4.611 comes in a rugged soft case and can be equipped with accessories according to the customer's needs. Commonly, individual packages are defined and delivered.

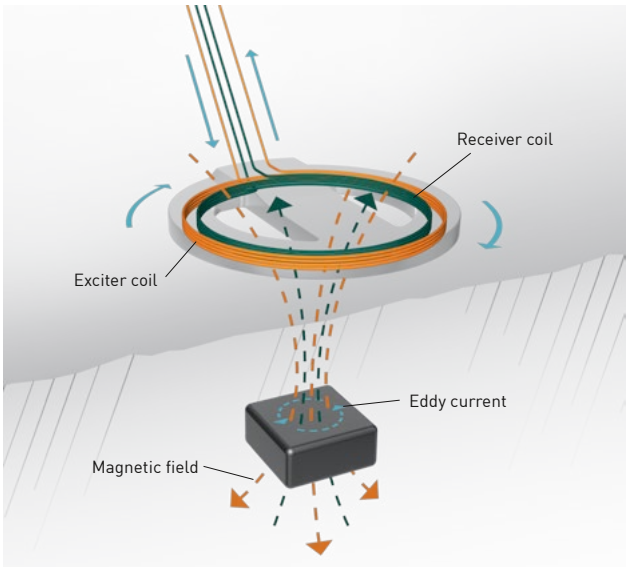
Benefits

- **Highest sensitivity:** Digital dual frequency continuous wave technology for constantly high sensitivity to all metals, wires and conductive materials.
- **Two integrated search heads (Double D):** Two different signals for precise pinpointing as well as for close detection along large metal structures like railway tracks, fences and cars.
- **Different senses for precise working:** Audible and visual signals in combination with a vibration alarm on the handle help and simplify detection.
- **Easy to operate:** Five sensitivity ranges. All control and display elements are integrated into the handle. Visual display with 14 LEDs that can be switched off in Military Mode.
- **No disturbance and influence:** No disturbance by high power lines. No influence on the detection depth by wet soil or salty water.
- **Adapts to all circumstances:** Fast individual ground learning for non-cooperative soil conditions.
- **Safe to use:** Integrated function test of all control and display elements inclusive malfunction alarm and low battery signal.
- **Easy to transport:** Robust soft case with back carrying function.

Optional Equipment

- Headphone
- Carrying strap
- Rechargeable batteries
- Hard case

Operation principle



Electromagnetic induction method (EMI)
These methods are well suited to the detection of metals. Detection performance depends on the transmission and reception parameters, as well as on the type of metal and the local soil conditions since the method relies on conductivity and the magnetic permeability properties of the metal. A search coil generates magnetic fields that propagate through the soil, either as single pulses or continuously at one or more frequencies. When metal parts are struck by this magnetic field, eddy currents form, which in turn causes them to emit a secondary magnetic field. The effects of this field are detected and evaluated by the receiving coil of the metal detector. At the same time, interference signals generated in the ground must be compensated for.

The received signals are evaluated and set off acoustic or optical alerts, thus allowing for pinpointing of the metal part. Or the received signals can be stored for later evaluation using appropriate algorithms. FOERSTER supplies detection systems in both pulse and continuous wave technologies.

Technical data

MINEX 4.611	
Dimensions – Detector	Length: 920 mm (folded up: 657 mm) Max. overall length: 1,677 mm Width: 97 mm Height: 253 mm (folded up: 293 mm)
Dimensions – Search head	Oval, 210 × 285 mm
Dimensions – Soft case	720 × 340 × 150 mm (H × W × D)
Weight	2.2 kg without batteries 2.6 kg complete with batteries 2.5 kg soft case
Waterproof – Electronics and search head	IP 68, 2 m, 30 minutes
Storage temperature (without batteries)	-57 °C to +71 °C -135 °F to +160 °F
Permissible ambient temperature range	-37 °C to +71 °C -99 °F to +160 °F
Power supply	3 × 1.5 V alkaline battery 3 × 1.2 V NiMH rechargeable batteries
Battery size	IEC LR/HR 20 (according to ANSI STD, size “D”)
Battery lifetime alkaline battery (1.5 V, VARTA LONGLIFE Power)	> 40 h at an ambient temperature of +20 °C (+68 °F)
Battery lifetime NiMH rechargeable battery (1.2 V, ANSMANN-10000 mAh)	> 30 h at an ambient temperature of +20 °C (+68 °F)
Mean time between failures (MTBF)	MIL-HDBK-217F N2 and ANSI/VITA 51.1-2013 (R2018) NPRD-2011 for non-electronic components
EMV/CE certifications	ETSI EN 303 454 V1.1.1:2018-01 DIN EN 50364:2019-05 ETSI EN 301 489-1 V2.2.3 DIN EN 55032:2016-02 DIN EN 61000-4-2:2009-12 DIN EN 61000-4-3:2011-04 DIN EN 62368-1:2021-05
MIL-Standard certification	MIL-STD-810H Method 501.7, Procedure I – High Temperatures , Storage MIL-STD-810H Method 501.7, Procedure II – High Temperatures, Operation MIL-STD-810H Method 502.7, Procedure I – Low Temperatures, Storage MIL-STD-810H Method 502.7, Procedure II – Low Temperatures, Operation MIL-STD-810H Method 503.7, Procedure I-C – Thermal Shock MIL-STD-810H Method 506.6, Procedure I – Rain MIL-STD-810H Method 512.6, Procedure I – Submersion MIL-STD-810H Method 514.8, – Oscillation Broadband Noise MIL-STD-810H Method 516.8, – Drop Test MIL-STD-810G Method 505.5, Procedure II – Solar Radiation (continuous test solar radiation)
IMAS certification	CWA 14747-1:2003-06-01
Additional certifications	IEC 60068-2-11:2020 IEC 60068-2-78:2012 IEC 60529 – Protection type test IP68 DIN EN 60068-2-27:2010-02 DIN EN 60068-2-1:2008-01/-2-2:2008-05

FOERSTER

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