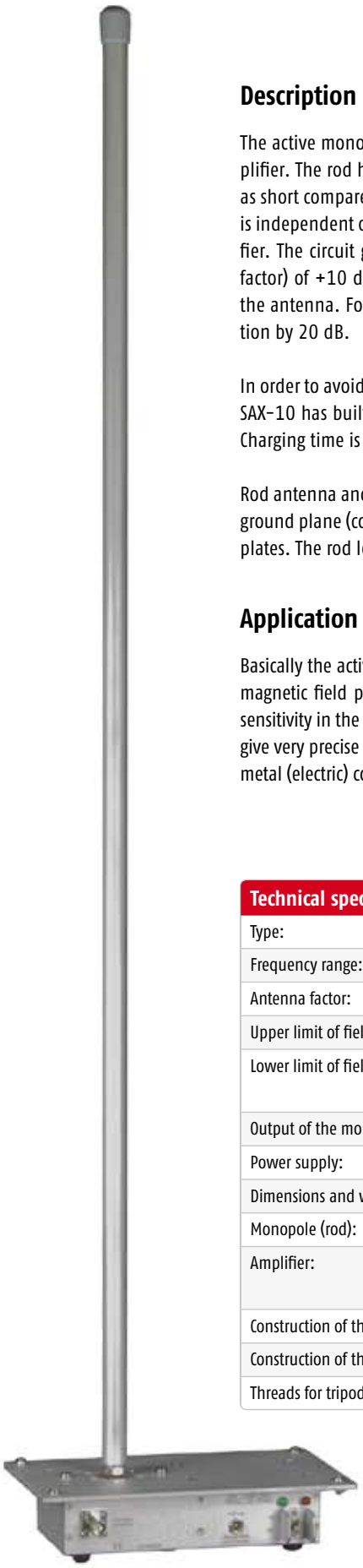
Active Rod Antenna - SAX-10, 9 kHz – 30 MHz

for E-field measurements



Description

The active monopole antenna SAX-10 consists of a vertical rod and an impedance matching amplifier. The rod has a standard length of 1m (other rod length on request) and can be considered as short compared to the wave length in the frequency range 9 kHz-30MHz. The conversion factor is independent of the frequency because of the extremely high impedance of the matching amplifier. The circuit gives best results of noise and intermodulation for a conversion factor (antenna factor) of +10 dB and sensitive measuring receivers are able to use the whole dynamic range of the antenna. For very high field strength, an optional plug-in attenuator reduces the amplification by 20 dB.

In order to avoid absolutely any influence by the mains, power supply, voltage regulator a. o., the SAX-10 has built-in NiMH rechargeable batteries. The typical operation time is at least 50 hours. Charging time is 2-4 hours using the quick charger.

Rod antenna and amplifier cabinet are made of aluminium. The top plate can be fixed to the metal ground plane (counterpoise) with 4 screws. The connectors and controls are situated below the two plates. The rod length begins exactly at the top plate.

Application

Basically the active monopole antenna is an electric field strength adapter. In combination with our magnetic field probes, electric and magnetic field strength can be measured separately with high sensitivity in the frequency range from 9 kHz - 30MHz. Standards, especially in the automotive field, give very precise specification for the measuring site. Usually the monopole antenna is mounted on a metal (electric) counterpoise. Measurement is made in a shielded room.

Technical specifications	
Type:	SAX-10
Frequency range:	9 kHz - 30 MHz
Antenna factor:	+10 dB/m +/- 1.5 dB
Upper limit of field strength measurement:	1 V/m (F=1 MHz, 1 dB compression) Input attenuator for higher field strength optional
Lower limit of field strength measurement:	Limitation by internal noise: Typ. -3 dBµV/m / 10 MHz, CISPR-Quasipeak, 9 kHz bandwidth Typ. -8 dBµV/m / 10 MHz, average detector, 9 kHz bandwidth
Output of the monopole amplifier:	BNC-connector, fem., 50 Ohm nom.
Power supply:	9.6 V / 1100 mAh NiMH
Dimensions and weight:	
Monopole (rod):	Length including thread connection 1 m, weight approx.: 0.2 kg
Amplifier:	180 x 80 x 40 mm (WxHxD) without BNC-connector (female) and controls. Top plate 220 x 120 mm, weight approx.: 0.7 kg
Construction of the monopole (rod):	Aluminium rod 16 mm diameter with thread-hole M8
Construction of the amplifier:	Cabinet made of aluminium profiles. Top plate 3mm aluminium material
Threads for tripods:	1/4", 3/8"