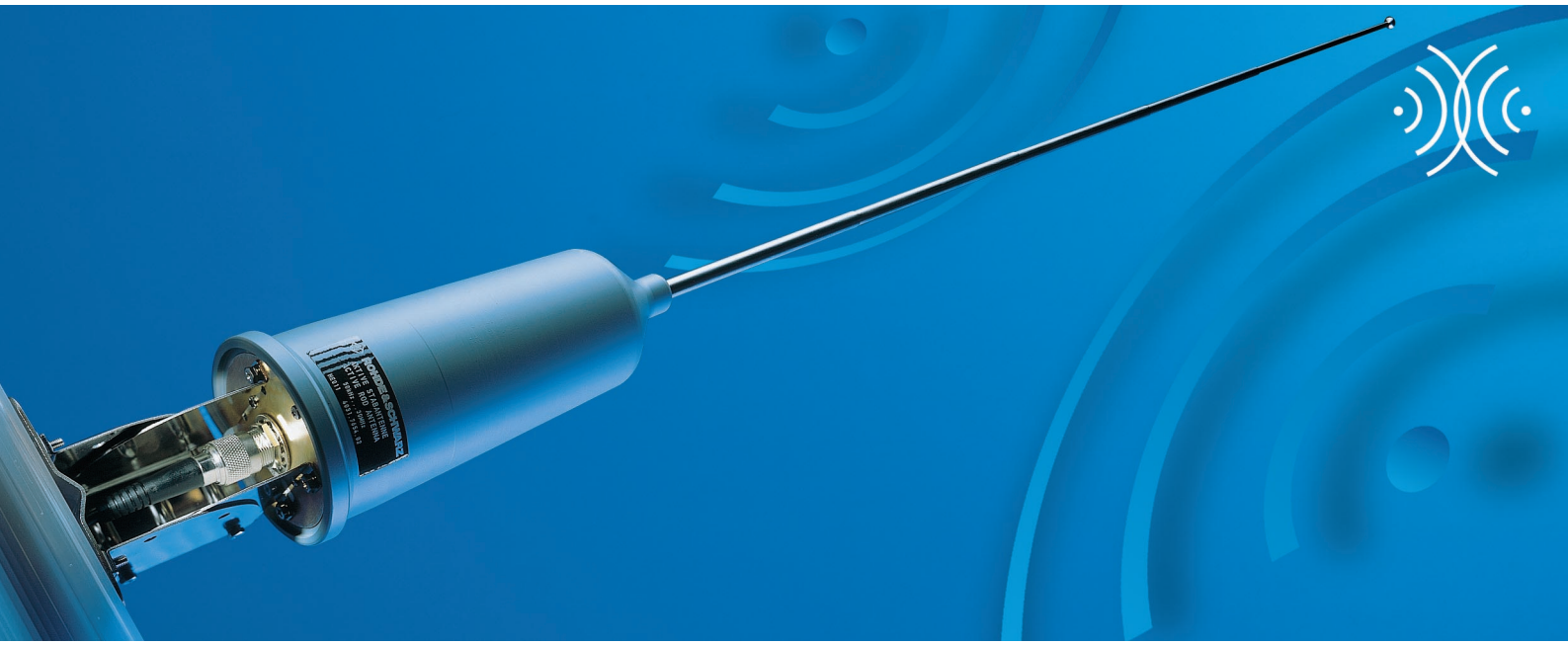

Active Rod Antenna HE011

Receiving range 50 kHz to 30 MHz and VHF

- Frequency range 50 kHz to 30 MHz, operational up to 200 MHz
- Nominal impedance 50 Ω
- 2nd-order intercept point ≥50 dBm (60 dBm typ.)
- 3rd-order intercept point ≥30 dBm
- Frequency-independent radiation pattern
- Power supply via RF connector

The Active Rod Antenna HE011 is designed for the reception of signals in the longwave, mediumwave, shortwave and VHF bands and mainly for vertically polarized waves. Great importance has been attached to obtain a high signal-to-noise ratio rather than a high output voltage. The antenna electronics in the form of a three-stage push-pull amplifier is accommodated in an UV-resistant plastic housing. State-of-the art protective circuits prevent the electronic components from being damaged by atmospheric and electrostatic discharges or nearby lightning strokes.

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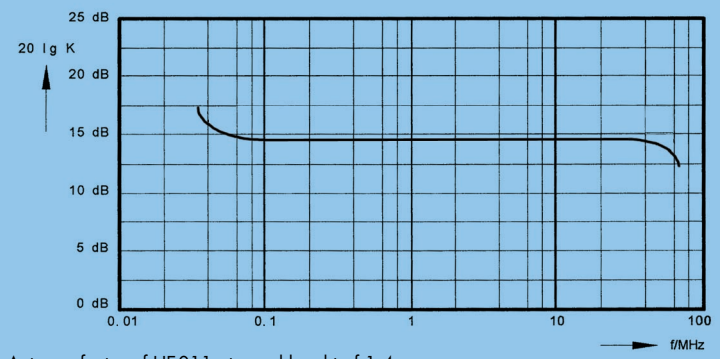
The optimally matched antenna electronics in the form of a three-stage push-pull amplifier operates as a low-noise, highly linear impedance converter and provides maximum immunity to interference signals. The practically frequency-independent antenna factor makes the HE011 suitable for use as a measurement antenna.

The length of the telescopic antenna can be varied to match the receiving conditions, the sensitivity of the HE011 increasing with its length. On the other hand, a shorter length yields a higher S/N ratio which may be an advantage particularly in the presence of powerful transmitters, in electromagnetically unfavourable environments or for the reception of higher frequencies.

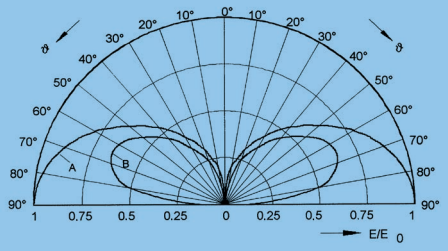
The practical gain of an active antenna is the sum of the directivity of the passive antenna section and the electronic gain of the amplifier. Independent of the frequency, the directivity of the passive radiator is 4.7 dB if the antenna is set up on a ground with good conductivity.

The Active Rod Antenna HE011 is fed via the RF connector, which is an N female type. Coaxial cables are used for the connections between antenna and power supply as well as between power supply and receiver. The antenna is operational after connecting the power supply to an AC outlet.

The antenna base can easily be attached to a mast or other support using the fixtures supplied.



Antenna factor of HE011 at a rod lenght of 1.4 m



Radiation pattern of HE011 set up on a ground of good (A) and moderate (B) conductivity

Specifications

Frequency range		50 kHz to 30 MHz, operational up to 200 MHz
Nominal impedance		50 Ω
VSWR		<2
Max. permissible rms values of interference field strengths (before damage occurs)		
Frequency	10 kHz	3 x 10^5 V/m
	100 kHz	3 x 10^4 V/m
	1 MHz	3 x 10^3 V/m
	10 MHz	300 V/m
	100 MHz	30 V/m
Linearity		
IP2		≥50 dBm (60 dBm typ.)
IP3		≥30 dBm
Crossmodulation		
Permissible field strength for S/N ratio 20 dB		10 V/m (corresponding to 10% modulation transfer, interference source 30% modulated with 1 kHz)
RF connector		N female
Power supply		24 V DC ±15%, max. 170 mA at 24 V
General data		
Dimensions		length approx. 420 mm to 1420 mm, width for mast mounting 63 mm
Weight		approx. 0.8 kg
Order designation		
Active Rod Antenna HE011		4031.7654.03 Equipment supplied: Antenna Electronics HE011 including fixtures and telescopic rod, power supply unit, AC/DC adapter, 15-m coaxial cable RG-58 (N connector - BNC connector), 1-m coaxial cable RG-58 (BNC connector - BNC connector)

ROHDE & SCHWARZ

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