

Active Receiving Antenna STA 10 A/D/0.01-30

This active monopole antenna is used as receiving antenna with omnidirectional characteristic within the long-, medium- and short-wave bands.

It covers the frequency range from 0.01 - 30 MHz.

Due to its small dimension and the very low radiation coupling, this active antenna is particularly qualified for mobile as well as stationary application under unfavourable localities.

An amplifier circuit directly connected to the base point of the antenna rod matches the high impedance of the rod to the low input impedance of the receiver or the connected coaxial cable.

aas.tech active receiving antennas are fitted with amplifiers providing a high RF dynamic range in order to avoid degradation of the reception system characteristics.

A multistage protection circuit at the input of the active element ensures that the antenna electronics will not be damaged even in case of lightning strikes in close proximity.

Screw-on rods allows easy matching of the rod length to a wide variety of operating conditions.

With regard to the robust construction and the use of weatherproof materials our active antennas can be used under extreme environmental conditions.

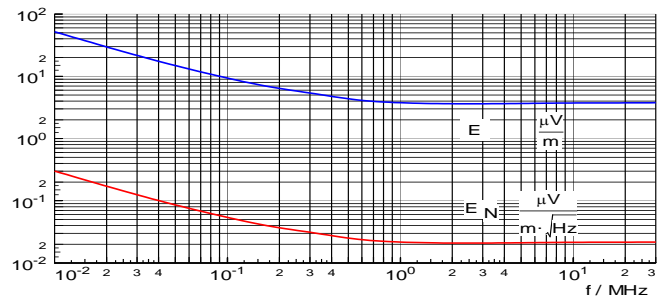
The operating voltage for the antenna is 39 Vdc. The AAN power supply series or an aas.tech Antenna Distribution System is used to feed the operating voltage to the active element via the coaxial cable.

Technical Data

Parameter	Data
Application	active monopole antenna
Characteristic	vertically polarized omnidirectional antenna
Colour	light grey (similar to RAL 7035)
Bending moment at mounting flange	1 daNm (wind speed 150 km/h)
Shock	50 g/10 ms
Vibration	4 – 12,5 Hz, amplitude = 1,6 mm 12,5 - 90 Hz, acceleration 10 m/s ²
Ambient temperature	-40°C...+70°C
Storage temperature	-55°C...+80°C
Relative humidity	100 %
EMP test	STANAG 4145
Lightning protection	500 kV/m/μs
RF connector	N socket
Supply voltage	39 Vdc through coaxial cable
MTBF	80.000 h (Tu=40°C)
MTTR	0,5 h (replacing of subunits)
Frequency range	0,01 - 30 MHz
Attenuation in stop band	100 MHz approx. 8 dB 200 MHz approx. 28 dB
Output impedance	50 Ω VSWR ≤ 1,3
Effective height at 50 Ω	10,5 cm (tolerance ± 1 dB)
Intermodulation 2nd order ⁽¹⁾ E1=E2=100 mV/m	≥ 82 dB (IPOP2 = 55 dBm)
Intermodulation 3rd order ⁽¹⁾ E1=E2=100 mV/m	≥ 130 dB (IPOP3 = 38 dBm)

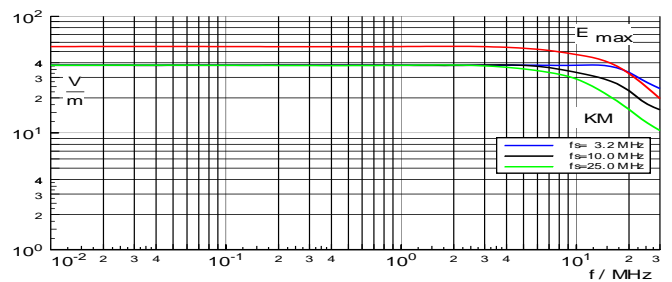
Equivalent noise field strength ⁽¹⁾
 (limit of sensitivity B=1 Hz)

Sensitivity ⁽¹⁾
 (B=3 kHz, S/N=10 dB)



Max. tolerable field strength ⁽¹⁾
 (1dB reduction of gain)

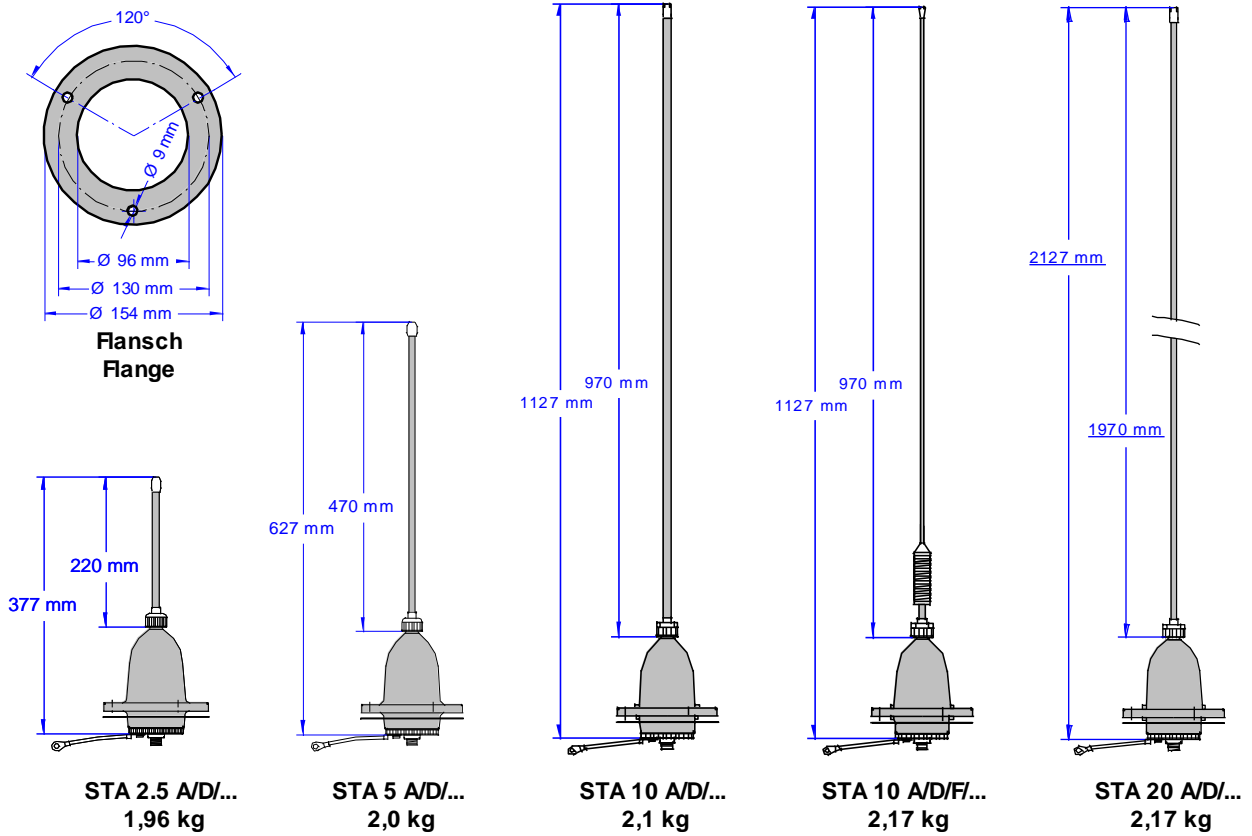
Cross modulation ⁽¹⁾
 (causing 10 % modulation)



(1) The technical data refer to a 100 cm long antenna vertically mounted on conductive ground plane.
 For calculation of other mounting heights refer to document AN1

Design and specification are subject to change without prior notice, errors excepted.
 Data given without tolerance are typical values.

Dimensions and Weight



Variants

Model	Type Designation	Rod Length	Colour	Remark
Standard	STA 10 A/D/0.01-30	100 cm	similar RAL 7035	
Variant 1	STA 10 A/D/L/0.01-30/RAL...	100 cm	RAL ...	colour according customer specification
Variant 2	STA 10 A/D/F/0.01-30	100 cm flexible	similar RAL 7035	mobile application
Variant 3	STA 10 A/D/F/L/0.01-30/RAL...	100 cm flexible	RAL ...	mobile application colour according customer specification
Variant 4	STA 2.5 A/D/0.01-30	25 cm	similar RAL 7035	
Variant 5	STA 2.5 A/D/L/0.01-30/RAL...	25 cm	RAL ...	colour according customer specification
Variant 6	STA 5 A/D/0.01-30	50 cm	similar RAL 7035	
Variant 7	STA 5 A/D/L/0.01-30/RAL...	50 cm	RAL ...	colour according customer specification
Variant 8	STA 20 A/D/0.01-30	200 cm	similar RAL 7035	
Variant 9	STA 20 A/D/L/0.01-30/RAL...	200 cm	RAL ...	colour according customer specification

Other colours are available on request.

Accessories

Type designation	Application	Details
AAN 10/B	Power supply unit 115/230 Vac and 24 Vdc	Doc. 1_6_1
EAH 1	Adapter for mounting of the antenna on a pipe with external diameter 2" (60,3 mm)	Doc. 1_5_1
TR 10/E1	2" supporting pipe 1 m high, aluminum, RAL 7035 (EAH 1 required) with EAH 1 the distance from ground to antenna base is 1 m	Doc. 1_5_2
TA 1/10	Test adapter for use with monopoles with 1m rod	

Other power supply units are available on request.

Spare Parts

Applicable for the following types of active antennas:

- **STA 2.5 A/D/0.01-30**
- **STA 5 A/D/0.01-30**
- **STA 10 A/D/0.01-30**
- **STA 10 A/D/F/0.01-30**
- **STA 20 A/D/0.01-30**

No.	Designation Type	Part-Number NSN	Max. Qty. (a)	MTBF/hrs MTTR/hrs	Dimensions/mm Weight/kg (b)	Qty (c) Qty (d)	Remark
1	Insulator ISO A1	0005.4201.00 5970-12-320-6145	1	130.000 -	160x150 1,00	- -	
2	Flat Gasket 7	D.0052 5330-12-320-9989	1	- -	160x3 0,20	1 1	
3	Antenna Rod STA 2.5	0005.4206.00 5985-12-320-5342	1	130.000 -	32x220 0,15	1 1	applicable for STA 2.5 A/D/..
3a	Antenna Rod STA 5	0005.4204.00 5985-12-320-5341	1	130.000 -	32x470 0,20	1 1	applicable for STA 5 A/D/..
3b	Antenna Rod STA 10	0005.4202.00 5985-12-314-0516	1	130.000 -	32x970 0,30	1 1	applicable for STA 10 A/D/..
3c	Antenna Rod STA 20	0005.4200.00	1	130.000 -	32x1970 0,50	1 1	applicable for STA 20 A/D/..
3d	Antenna Rod STA 10 F	0005.4207.00	1	130.000 -	32x970 0,30	1 1	applicable for STA 10 A/D/F/
4	Active Element AE ME	0005.5805.00 5985-12-301-2633	1	80.000 1,0	80x130 0,75	1 1	
5	O-Ring 69x3 mm	A.0254 5331-12-331-7313	1	- -	69x3 -	1 1	
6	Test Adapter TA 1/10	0014.0200.00		- -	170x70 0,80		applicable for test purposes
7	Manual STA .. A/D/0.01-30			- -	DIN A4 -		

- (a) Maximum quantity per equipment
 (b) Dimensions and weight are without packing
 (c) Recommended quantity per equipment for 90 days on board
 (d) Recommended quantity per equipment for 3 years depot

Note:

The spare part table is applicable for versions in standard colour (similar RAL7035).
 Spare parts (insulators, rods) in other colours are available.