

Product Information

Active / Passive Receiving Antenna HD 1 A/P – HA 1 A/P

This antenna is an active/passive receiving antenna for reception in the shortwave range (1.5 - 30 MHz). It is intended for use in installations on land or on-board naval vessels. It consists of a horizontally polarized dipole and a horizontally polarized monopole. Both antennas can be operated either in active mode (optimal sensitivity) or in passive mode (optimal interference immunity).



The antenna amplifier is installed in a watertight and seawater resistant cast aluminum alloy housing, the antenna head. The antenna rods are made of glass fiber reinforced plastic fitted with stainless steel screw connections. The dipole and the monopole are fed separately.

The cable connectors are fitted to the bottom side of the antenna head's bottom flange. It is protected against the environment by a trumpet shaped mounting support (the funnel) which is mounted to the bottom flange of the antenna head. The opposite end of the funnel fits the size of 2" supporting pipes.

Regarding 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 supplied through the inner conductor of the coaxial cable from the power supply and control unit AAN 300. On failure of power supply the receiving antenna is automatically switched to passive mode, so that the receiving operation further maintained.

Technical Data

Parameter	Data
Application	Receiving antenna active / passive mode switchable
Characteristics	one horizontally polarized dipole antenna and one horizontally polarized monopole antenna
Weight	approx. 13 kg
Color	RAL 7000
Bending moment at mounting flange	1 daNm (wind speed 150 km/h)
Antenna housing	Aluminum cast
Antenna rods length	2000 mm
Ambient temperature	-40°C ... +60°C
Storage temperature	-55°C ... +80°C
Relative humidity	100 %
Shock	BV 0230
Vibration	BV 0240
EMP test	STANAG 4145
Lightning protection	500 kV/m/μs
RF connector	2 N sockets
Power Supply	37,5 Vdc through coaxial cable from Power Supply and Control Unit AAN 300

HF Data Dipole

Parameter	Active Mode Data	Passive Mode Data
Frequency range	1,5 ... 30 MHz	1,5 ... 30 MHz
Polarization	horizontal	horizontal
Effective height at 50 Ω	2,0 m	0,14 m (6 MHz)
Equivalent noise field strength (limit of sensitivity B=1 Hz)	$\leq 3,6$ nV/m (6 MHz)	43 nV/m (6 MHz)
Sensitivity	$\leq 0,61$ μ V/m (6 MHz)	7,3 μ V/m (6 MHz)
Intermodulation 2nd order ⁽¹⁾ E1=E2=100 mV/m	≥ 50 dB (6 MHz)	---
Intermodulation 3rd order ⁽¹⁾ E1=E2=100 mV/m	≥ 70 dB (6 MHz)	---
Max. tolerable field strength (1dB reduction of gain)	≥ 2 V/m	---

HF Data Monopole

Parameter	Active Mode Data	Passive Mode Data
Frequency range	1,5 ... 30 MHz	1,5 ... 30 MHz
Polarization	horizontal	horizontal
Effective height at 50 Ω	2,0 m	0,22 m (6 MHz)
Equivalent noise field strength (limit of sensitivity B=1 Hz)	$\leq 3,6$ nV/m (6 MHz)	28 nV/m (6 MHz)
Sensitivity	$\leq 0,61$ μ V/m (6 MHz)	4,7 μ V/m (6 MHz)
Intermodulation 2nd order ⁽¹⁾ E1=E2=100 mV/m	≥ 58 dB (6 MHz)	---
Intermodulation 3rd order ⁽¹⁾ E1=E2=100 mV/m	≥ 72 dB (6 MHz)	---
Max. tolerable field strength (1dB reduction of gain)	≥ 4 V/m	---

(1) The data references to a mounting height of 3 m.

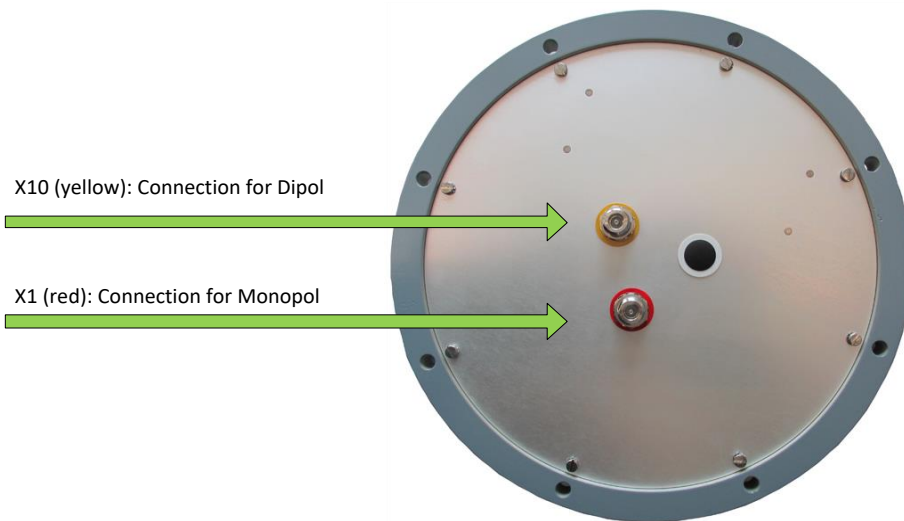
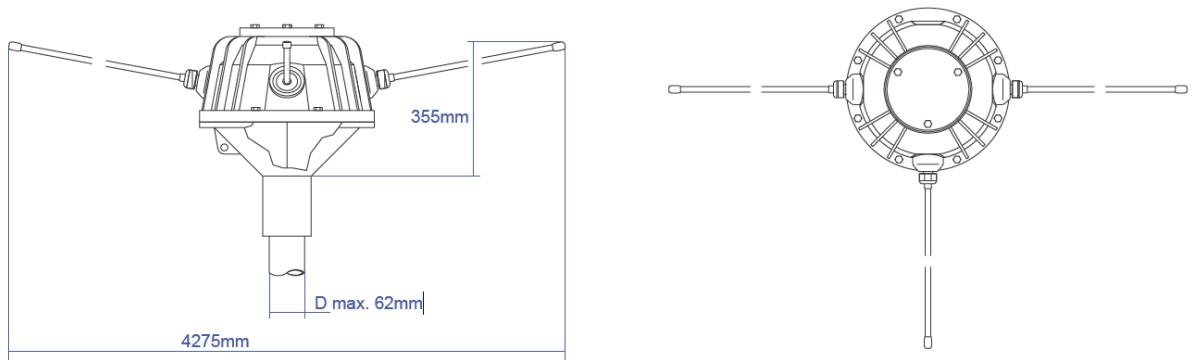
Data given without tolerance are typical values.

Design and specification are subject to change without prior notice, errors excepted.

Scope of Supply

Pos.	Description
1	Active / Passive Receiving Antenna HD 1 A/P – HA 1 A/P
2	Accessory Set ZS 13
3	USB stick with product documentation in pdf format

Dimensions



Coaxial cable connections to the AAN 300 on the underside of the antenna head

Accessories

Type Designation	Part No.	Description
ZS 13	0028.3713.00	Accessory set consisting of <ul style="list-style-type: none"> - 2 ea. N male plug Part No. ST.0015 - 2 ea. Rubber sleeve for N plug black Part No. A.0047

Variants and Order Information

Type Designation	Part No.	Description
HD 1 A/P – HA 1 A/P	0005.6635.00	Active/Passive Antenna System RAL 7000

Options

Option	Part No.	Description
RAL Color Code	depends on RAL color code	Painting in RAL color according to customer specification

Spare Parts

No.	Designation Type	Part-Number NSN	Max. Qty. (a)	MTBF/hrs MTTR/hrs	Dimensions/mm Weight/kg (b)	Qty (c) Qty (d)	Remark
1	Flat gasket 11	0005.6602.08 5330-12-320-6337	1	- -	270x3 0,05	- 1	
2	Flat gasket 12	0005.6602.09 5330-12-319-8961	1	- -	310x3 0,06	1 1	
3	Antenna rod STA 20/L/RAL7000	0005.4203.07	3	130.000 -	32x1970 0,30	1 1	RAL 7000
4	Active element APE HD1A/P-HA1A/P	0005.6634.00	1	40.000 -	200x200x50 0,80	- 1	
5	Manual HD 1 A/P – HA 1 A/P	056635		- -	DIN A4		Printed issue

- (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 color (RAL7035).
 Spare parts (housing, mast adapter, rods) in other colors are available.

Associated Products

For integration into the application environment associated products are available.

Type Designation	Part No.	Description
AAN 300	0008.7479.00	19-inch 1 HU Remote Power Supply and control Unit for use with HD 1 A/P – HA 1 A/P Doc. PIG 010608
TR 10/E1	0007.3411.00	2" supporting pipe 1 m high, aluminum, RAL 7035 Doc. PIG 010502
RF Coaxial Cable	2078.xxxx.00 ---	Assembled ready-made coaxial cable according to customer specification. Type of connectors and type of cable to be specified by customer.

Compatible Distribution Systems

The following distribution systems match ideally to be fed from this antenna.

Type Designation	Part No.	Description
AVA Series	depends on AVA configuration	<p>Antenna Distributor AVA series for the non-blocking switching and distribution of active and passive antenna signals for up to 20 receiver outputs.</p> <p>Frequency range 0.01 – 30 MHz</p> <p>A separate remote power supply is not needed. The aas.tech active antennas can be directly fed from an AVA series distributor.</p> <p>Doc. PIG 020156</p>
AVB Series	depends on AVB configuration	<p>Antenna Distributor AVB series for the non-blocking switching and distribution of active and passive antenna signals for up to 20 receiver outputs.</p> <p>Frequency range 1.5 – 30 MHz</p> <p>A separate remote power supply is not needed. The aas.tech active antennas can be directly fed from an AVB series distributor.</p> <p>Doc. PIG 020160</p>
AVS 2G Series	depends on AVS 2G configuration	<p>Antenna Distribution System AVS 2G series for the non-blocking switching and distribution of active and passive antenna signals for more than 20 receiver outputs</p> <p>Frequency range A: 0.01 – 30 MHz Frequency range B: 1.5 – 30 MHz</p> <p>Depending on the number of connected active antennas a separate remote power supply is needed.</p> <p>Doc. PIG 020601</p>