

# AIS 2/GPS

## Dual Band Antenna for the AIS system



### DESCRIPTION:

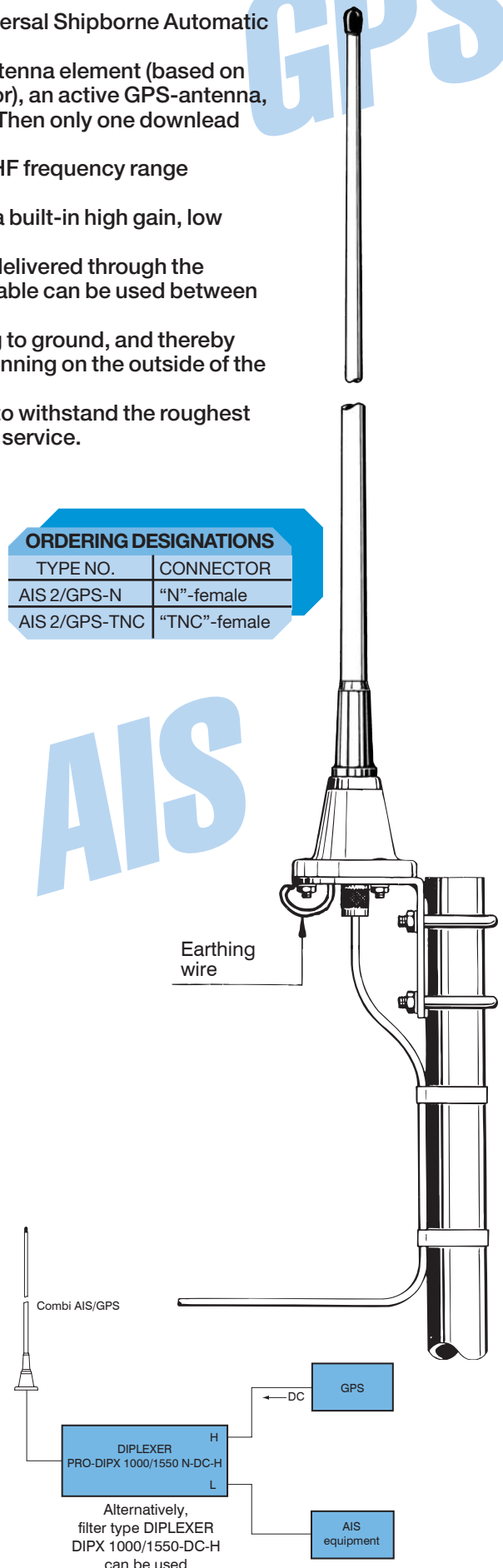
- ★ This active antenna has been designed for use by the Universal Shipborne Automatic Identification System (AIS) on all waterways.
- ★ The antenna consists of a high-performance glassfiber antenna element (based on CXL 2-1, the very wellknown antenna in the maritime sector), an active GPS-antenna, which is built into the antenna mount and a low-loss filter. Then only one download cable is necessary.
- ★ The antenna element is a  $1/2 \lambda$  antenna for the maritime VHF frequency range 150-170 MHz.
- ★ The GPS-antenna has a full hemispherical coverage, and a built-in high gain, low noise amplifier.
- ★ The necessary supply voltage (5 V DC) for the amplifier is delivered through the download coaxial cable. Up to 30 m of RG 214/U coaxial cable can be used between the antenna and the receiver/transceiver.
- ★ The earthing wire (see drawing) ensures static discharging to ground, and thereby also prevents noise pick-up from the ship's installations running on the outside of the coaxial cable.
- ★ By careful choice of materials, the AIS 2/GPS is designed to withstand the roughest of climate conditions, ensuring many years of trouble-free service.

### SPECIFICATIONS:

ELECTRICAL VHF	
MODEL	AIS 2/GPS
ANTENNA TYPE	$1/2 \lambda$ antenna element (based on CXL 2-1)
FREQUENCY	150-170 MHz
IMPEDANCE	Nom. 50 $\Omega$
POLARISATION	Vertical
GAIN	Approx. 2 dBi (0 dBd)
SWR	Typ. $\leq 1.5$
MAX. POWER	25 watt
ELECTRICAL GPS	
ANTENNA TYPE	Active patch antenna
FREQUENCY	1575 MHz
IMPEDANCE	Nom. 50 $\Omega$
POLARISATION	Circular right-hand
COVERAGE	Hemispherical
GAIN (in axial direction)	> 28 dBi
CROSS-POLARISATION ATT	> 10 dB (typ.)
Built-in Amplifier	
GAIN	> 30 dB (typ.)
NOISE FIGURE	< 1 dB (typ.)
$P_{1dB}$	Approx. +7 dBm
SWR (output)	$\leq 2.0$
SUPPLY VOLTAGE	5 $\pm$ 0.5 V DC (3 V respectively 12 V available on request)
SELECTIVITY	> 45 dB down at $\pm 45$ MHz
CURRENT CONSUMPTION	Approx. 25 mA
MECHANICAL (for the AIS 2/GPS)	
TEMP. RANGE	-30° C $\rightarrow$ +70° C
CONNECTOR	N-female or TNC-female
WIND SURFACE	Approx. 0.031 m <sup>2</sup>
WIND LOAD	Approx. 36 N (at 150 km/h)
COLOUR	Marine white
MATERIALS	Shroud : Polyurethane coated glassfiber MA housing : Lexan and chromed brass Mounting bracket: Stainless steel Clamps : Stainless steel
TOTAL HEIGHT	Approx. 1350 mm
WEIGHT	Approx. 700 g
MOUNTING	On 30-44 mm mast tube using stainless steel clamp, type "SM-MAS" (included)

### ORDERING DESIGNATIONS

TYPE NO.	CONNECTOR
AIS 2/GPS-N	"N"-female
AIS 2/GPS-TNC	"TNC"-female



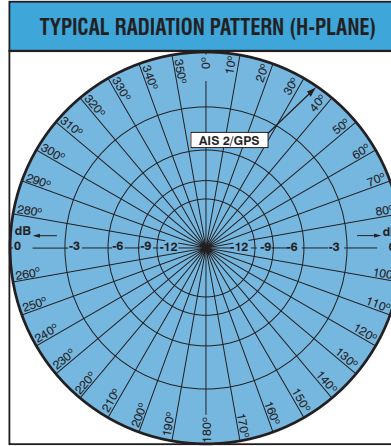
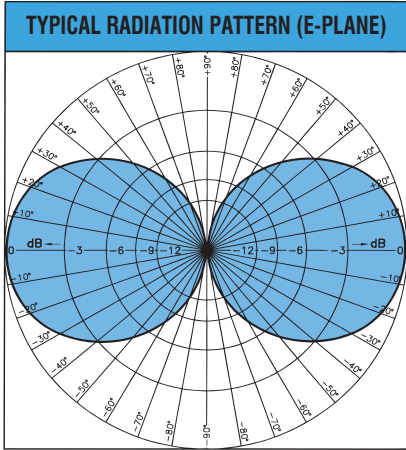
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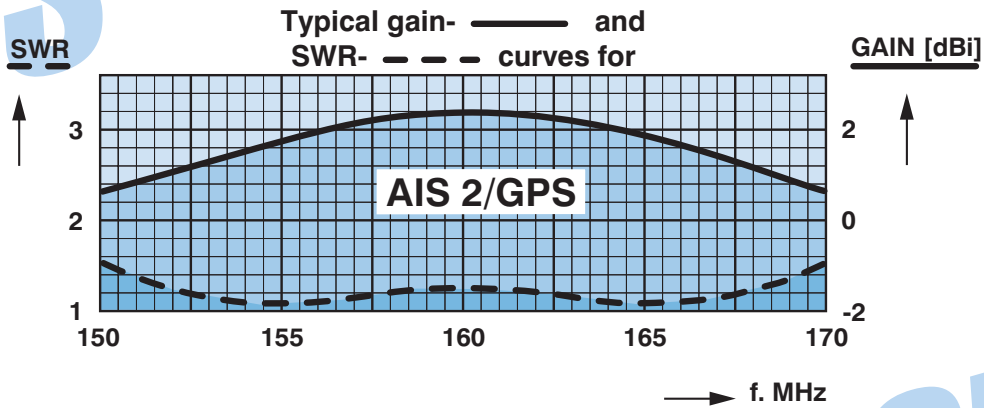
GPS

### RADIATION PATTERN AND SWR-CURVE FOR THE VHF BAND (150-170 MHz):



AIS

AIS



GPS

### TYPICAL RESPONSE CURVES AND RADIATION PATTERN FOR THE GPS-PART (1575 MHz):

