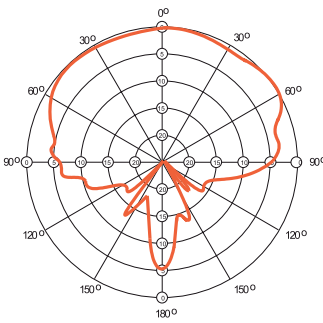
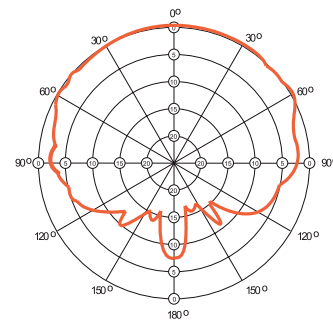


AT-4000 SERIES

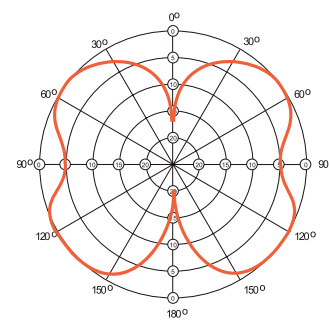
RADIATION DIAGRAMS



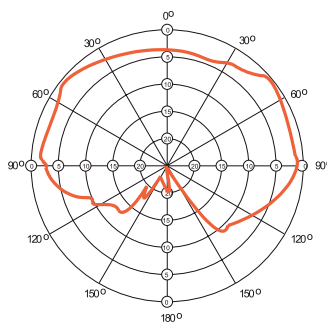
IFF 1090 MHz



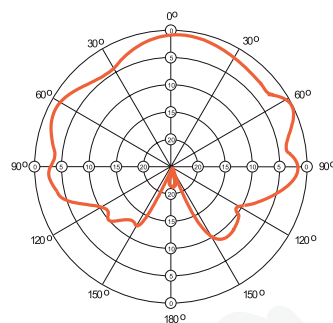
GPS 1227 MHz



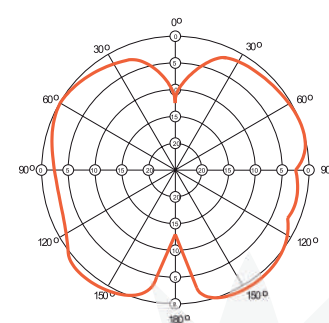
VHF 140 MHz



INMARSAT-C (RX)



INMARSAT-C (TX)



UHF 220 MHz

SCAN ME



AEROMARITIME



FEATURES:

Special antenna system for mobile applications with limited space, especially onboard of submarines.

- ❖ Suitable for pressure-tight and non-pressure-tight masts
- ❖ ESM support up to 2 GHz for Ship-to-Ship and Ship-to-Air
- ❖ Omnidirectional radiation patterns for LoS comms
- ❖ Hemispherical radiation patterns for SATCOM
- ❖ Iridium Compatible

AT-4000 SERIES

Multifunctional Communications Antenna System

AT-4000 SERIES

Over 150 AEROMARITIME antenna systems have been delivered for submarines worldwide. These systems provide omnidirectional transmission and reception for communication, navigation, and electronic support measures applications in space-limited environments. They are installed in pressure-proof, seawater-resistant radomes with low magnetic signature flanges.

ELECTRICAL DATA

Frequency Ranges	VHF	116 - 164 MHz
	UHF	220 - 400 MHz
	IFF	1030/1090 MHz
	GPS	1227.6/1575.42 MHz
	Inmarsat-C Receive Band	1530 - 1545 MHz
	Inmarsat-C Transmit Band	1626.5 - 1646.5 MHz
	UHF-LINK 16	960 - 1215 MHz
	IRIDIUM	1610 - 1626.5 MHz
	GSM 900	890 - 960 MHz
	GSM 1800	1710 ... 1880 MHz
Impedance	nominal	50 Ohms
VSWR	VHF, UHF, IFF	3:1 max.
	GPS, Inmarsat-C	2:1 max.
Isolation (incl. filters)	between VHF, UHF, IFF	> 30 dB
Polarization	VHF, UHF, IFF	Vertical
	GPS, Inmarsat-C	Right Hand Circular
Antenna Gain	VHF, UHF	approx. 3 dBi
	IFF	> -6 dBi
	GPS, Inmarsat-C	approx. 0 dBi
Amplifier Gain	GPS	> 15 dB
	Inmarsat-C	> 40 dB
Radiation Pattern	Horizontal	Omnidirectional
	Vertical (UHF, VHF)	Equivalent to a Half Wave Dipole
	Vertical (IFF, GPS, Inmarsat-C)	Hemispherical
Output Power	Inmarsat-C	> 30 W (High Power Amplifier)
Transmit Power Handling	VHF, UHF	50 W (CW)
	IFF	1 kW Peak (2% Duty Cycle)
	Inmarsat-C (Antenna Input)	- 3 dBm ± 1 dB
Connector Type	N - female	

ENVIRONMENTAL CONDITIONS

Shock	Vertical	165 g for 1 ms
	Horizontal	400 g for 1 ms
	Vertical/Horizontal	55 g for 6 ms
Temperature	Operating	-25 °C to +55 °C
	Non-Operating	-40 °C to +70 °C
Pressure	Operating	70 bar
	Tested	90 bar

MECHANICAL DATA

Antenna	Diameter	176 mm
	Length	1215 mm incl. connectors
	Weight	approx. 44 kg
Interface Module	Supply Voltage	115 V AC, 50 - 60 Hz
	Power Consumption	RX approx. 40 W, TX approx. 200 W
	Dimensions L x W x H	332 x 250 x 111 mm
	Weight	approx. 8 kg
Remote Control	Dimensions L x W x H	125 x 120 x 80 mm
	Weight	approx. 0.8 kg



STANDARD SUBMARINE ANTENNA TYPE OVERVIEW

	VHF 116-164 MHz	UHF 220-400 MHz	IFF	GPS Galileo	Inmarsat-C	LINK 16 960-1215 MHz	HF-RX 2-30 MHz	VHF-Low 30-88 MHz	ext. VHF-Diplexer additional	RF-cables
AT - 4125 Basic										3
AT - 4125 Option 1										4
AT - 4125 Option 2										3
AT - 4125 Option 3		220-512 MHz								3
AT - 4125 Option 4										3

ACCESSORY



Interface Module

The Interface Module is a part of the antenna system AT 4125. All necessary DC power and control signals are supplied from the Interface Module by means of a bias-tee via the inner conductor of a common coaxial cable to the GPS/Inmarsat-C antenna.



Power Supply

The Power Supply PS 4125 has to be supplied with the 115VAC/50Hz shipboard mains and it mainly supports the active HF - antenna in the AT 4125 antenna system with the required DC-power. The DC-power for the active antenna will be provided by means of a bias-tee via the inner conductor of the coax cable heading to the active antenna amplifier of the HF-antenna inside the AT4125 antenna. Vice versa the received HF-signal of the active antenna will be conveyed via the same inner conductor of the coax cable from the AT4125 antenna to the Power Supply.



Remote Control Unit

The remote control provides the switching of power. In ON-condition, indicated by a signal Lamp, the Inmarsat-C and GPS functions are active. In OFF condition, the IFF equipment is switched to the Antenna.

Radome

The antenna will be covered by a radome, made of epoxy fibreglass material. The reinforced pressure-tight radome is pressure proof test up to 90 bar.



VHF-Diplexer

The VHF-Diplexer Filter Unit separates the incoming VHF-signal from the AT4125 antenna and combines the outgoing VHF-signal from the VHF-Low and the VHF-High transceiver. At the Band1 port the RF-signal in the VHF-Low Band from 30MHz to 88MHz will be provided to the corresponding VHF-Low transceiver, whereas at the port Band2 the RF-signal of the VHF-High Band between 100MHz and 164MHz will be presented to the VHF-High transceiver. Vice versa the VHF-Diplexer Filter Unit combines the RF-signal from the VHF-Low transceiver and the VHF-High transceiver to a Common signal which will be fed to the VHF-antenna port.