Thrane & Thrane

SAILOR® 900 VSAT

A paradigm shift for maritime VSAT antenna systems

SAILOR 900 VSAT is an advanced maritime stabilized Ku-band antenna system built with the same high quality and performance that has made SAILOR the leading name in professional maritime communication equipment. Prior to starting the actual design process Thrane & Thrane collected extensive ship motion data over a sustained period. This data was used in the industry's first and only custom Vessel Dynamics Simulator, which allowed us to simulate ship forces and significantly increase life time testing.

Reduce Costs

Every SAILOR 900 VSAT antenna system comes factory-tested, equipped ready-to-go with standardized top quality RF components (BUC, LNBs). This means the antenna is shipped fully balanced and does not need to be adjusted prior to installation on board. The planning time is practically nil, the preparation time is minimal and installation time is significantly reduced. These factors combine to make SAILOR 900 VSAT the most cost effective Ku-band antenna on the market to deploy. More possibilities for savings come from the fact that SAILOR 900 VSAT requires a single 50 Ω coax cable to provide the antenna with both DC power, data and control information.

Increase Up Time

The decision to install VSAT on a ship stems from the desire to have always-on broadband connectivity at a simple flat rate fee. These networks are readily available from many providers all over the world both for geographically restricted single satellite beams but also in the form of quasi-global overlapping Ku-band satellite footprints. Regardless of how and where you operate the SAILOR 900 VSAT, you can be confident of maximum availability because the system has several features to make sure your broadband connection is up, and stays up. Set-up is simple and straightforward through the same type of web interface as the world-leading SAILOR FleetBroadband systems; this information can also be accessed remotely. The antenna electronics run built-in testing (BIT) which constantly monitors the operation of the antenna.

Top Performer and Built to Last

SAILOR 900 VSAT is a powerful, easy and quick to deploy three axis stabilized VSAT antenna platform with integrated GPS and the highest RF performance in the 1m antenna class. Combined with this measured and tested performance, Thrane & Thrane is making sure that SAILOR 900 VSAT works with all leading VSAT Modem Units (VMU) on the market, including iDirect iNFINITI 5100, Evolution X5, Comtech CDM 570L, etc.

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SPECIFICATIONS

Frequency band	Ku-Band (VSAT)
Reflector size	103 cm / 40.6”
Certification	Compliant with CE (Maritime), ETSI
System power supply range	20 - 32 VDC
Total system power consumption	370 W peak, 175 W typical

FREQUENCY BAND

Rx	10.70 to 12.75 GHz
Tx	13.75 to 14.50 GHz (extended)

ANTENNA CABLE

ACU to ADU cable	Single 50Ω coax for Rx, Tx, ACU-ADU modem and power

ANTENNA CONNECTORS

ADU	Female N-Connector (50Ω)
ACU	Female N-Connector (50Ω)

ABOVE DECK UNIT (ADU)

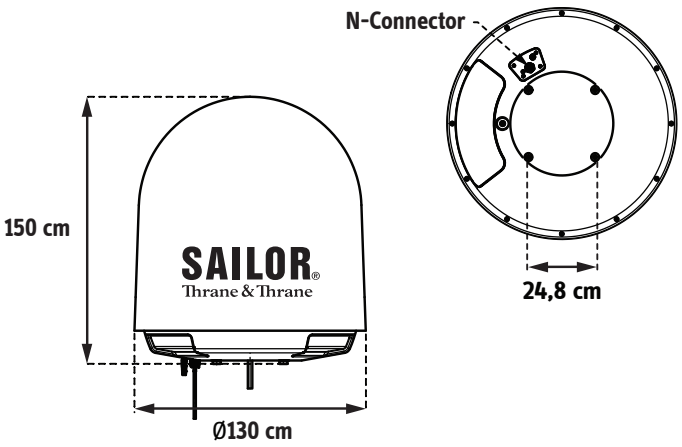
Antenna type, pedestal	3-axis (plus auto skew) stabilised tracking antenna with integrated GPS
Antenna type, reflector system	Reflector/sub-reflector, ring focus
Transmit Gain	42.1 dBi typ. @ 14.25 GHz (excl. radome)
Receive Gain	40.3 dBi typ. @ 11.70 GHz (excl. radome)
System G/T	17.9 dB/K typ. @ 11.70 GHz, at ≥30° elevation and clear sky (incl. radome)
BUC output power	8 W
EIRP	≥49 dBW (incl. radome)
LNB	2 units multi-band LNB’s (band selection by ACU)
Tracking Receiver	Internal “all band/modulation type” and VSAT modem RSSI
Polarisation	Linear Cross or Co-Pol (selected by ACU)
Elevation Range	-23° to +125°
Azimuth Range	Unlimited (Rotary Joint)
Ship motion, angular	Roll +/-30°, Pitch +/-15°, Yaw +/-10°
Ship, turning rate and acceleration	15°/s and 15°/s²
ADU motion, linear	Linear accelerations +/-2.5 g max any direction
Satellite acquisition	Automatic - w. Gyro/GPS Compass input
Vibration, operational	Sine: IEC 945 (8.7.2), DNV A, MIL-STD-167-1 (5.1.3.3.5). Random: Maritime
Vibration, survival	Sine: IEC 945 (8.7.2) dwell, MIL-STD-167-1 (5.1.3.3.5) dwell. Random: Maritime survival
Shock	MIL-STD-810F 516.5 (Proc. II)
Temperature (ambient)	Operational: -25°C to 55°C Storage: -40°C to 85°C
Humidity	100%, condensing
Rain / IP class	IEC 945 Exposed / IPX6
Wind	80 kt. operational 110 kt. survival
Ice, survival	25 mm / 1”
Solar radiation	1120 W/m² to MIL-STD-810F 505.4
Compass safe distance	1.3 m / 4.3” to IEC 945
Maintenance, scheduled	None (Tamb > 10 °C)
Maintenance, unscheduled	All electronic, electromechanical modules and belts are replaceable through service hatch
Built In Test	Power On Self Test, Person Activated Self Test and Continuous Monitoring w. error log
Power OFF	Automatic safe mode
Dimensions (over all)	Height: H 150 cm / 58.9” Diameter: Ø 130 cm / 51.3”
Weight	135 Kgs. / 298 lbs.

ANTENNA CONTROL UNIT (ACU)

Dimensions, Rack Mount	1U 19” ACU HxWxD: 4.4 x 48 x 33 cm HxWxD: 1.75” x 19” x 13”
Dimensions, Bulkhead Mount	Stand-alone ACU HxWxD: 4.3 x 25.5 x 27.8 cm HxWxD: 1.67” x 10.0” x 10.9”
Weight, Rack Mount	4.5 kgs. / 10 lbs.
Weight, Bulkhead Mount	2.7 kgs. / 6 lbs.
Temperature (ambient)	Operational: -25°C to +55°C / -13°F to +131°F Storage: -40°C to +85°C / -40°F to +185°F
Humidity	IEC 945 Protected, 95% (non-condensing)
IP class	IP31
Compass safe distance	0.1 m / 4” to IEC 945
Interfaces	1 x N-Connector for antenna RF Cable (50 Ohm) w. automatic cable loss compensation 2 x F-Connectors (75 Ω) for Rx / Tx to VSAT Modem 1 x Ethernet Data (VSAT Modem Control) 1 x RS-422 Data (VSAT Modem Control) 1 x RS-232 Data (VSAT Modem Control) 1 x NMEA 0183 (RS-422) and prepared for NMEA 2000 for Gyro/GPS Compass input 2 x Ethernet (User) 1 x Ethernet (ThraneLink, service, set-up etc.) 1 x DC Power Input 1 x Grounding bolt
Input power	20 - 32 VDC, 370 W peak, 175 W typical
Modem protocols (ABS)	iDirect OpenAMIP Comtech ROSS Open Antenna Management (ROAM) ESS Satroaming
Display	OLED (red) display, 5 pushbuttons, 3 discrete indicator LEDs and ON/OFF switch
No transmit zones	Programmable, 8 zones with azimuth and elevation

VSAT MODEM

Modem types supported	iDirect iNFINITI 5000 series iDirect Evolution X5 Comtech CDM-570L/625L Comtech CDM-570L with ROSS (ROAM) Generic VSAT Modem



Subject to change without further notice.

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