

## sat-nms MANTN18/24 electrically motorized antenna

The **sat-nms** MANTN18 or MANTN24 antenna is a fully electrically motorized 1.8m antenna or a 2.4m antenna. The antenna can be electrically positioned into elevation and azimuth, as well as into the polarization axis. The system can be used as a simple positioner or with a software upgrade in step track mode to track inclined orbit satellites. The customer operator interface acts via web browser, HTTP protocol via TCP/IP or serial interface with an ASCII protocol.

In order to cover these user requirements, the system is divided into three main modules:

- **sat-nms** 1.8m or 2.4m antenna
- **sat-nms** 3AxMo - 3 axes mount
- **sat-nms** ACU-ODM – Antenna Control Unit

For step track mode a beacon receiver can be connected directly to the **sat-nms** ACU- ODM.

- **sat-nms** LBRX - L-Band Beacon Receiver

The compact design of the **sat-nms** ACU Outdoor Module and **sat-nms** Beacon Receiver allows the integration of the complete Antenna Control Unit into a cabinet at the antenna.

The image shows two overlapping browser windows displaying the sat-nms web interface. The top window, titled 'Antenna Control Unit ODM', shows the '1,8m Antenna' control page. It features a navigation menu on the left with buttons for 'Pointing', 'Target', 'Tracking', 'Test', 'Setup', 'Info', and 'Help'. The main content area displays a table with the following data:

Azimuth	Elevation	Polarization
114.681°	46.844°	-60.700°
Az. target value 114.686°	El. target value 46.845°	Pol. target value -60.300°

Below the table, there are fields for 'Target name' (Telecom 2D), 'Tracking mode' (OFF), 'Beacon level' (-95.56 dBm), 'Temperature' (42.7 °C), and tracking status for AZ and EL. The bottom window, titled 'Beacon Receiver', shows the '1,8m Antenne' status page. It displays the 'Input level' as -71.28 dBm and a list of receiver parameters:

RF receive frequency	11202.970 MHz
Frequency tracking offset	1 kHz
Frequency tracking	ON
Attenuation	0 dB
Measurement bandwidth	12 kHz
Post detector filter	0.5 Hz
Noise level	n/a
Analog output voltage	0.00 V
Temperature	54.0 °C

At the bottom of this window, there are four status indicators: 'Receive level alarm' (OK), 'Frequency tracking alarm' (OK), 'Synthesizer lock alarm' (OK), and 'D/C supply alarm' (OK).

### Key Features

- Wide Range 3 axes controlled antenna
- Web-based, user-friendly operator interface
- Step track as option available
- Together with **sat-nms** LBRX a complete step track system in a cabinet at the antenna
- HTTP protocol or RS232 for external M&C interface

### Contact Information

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## Technical Specification

<b>Antenna</b>		<i>MANTN18</i>	<i>MANTN24</i>
Effective Aperture		1,8m	2,4m
Type		Dual Offset	Dual Offset
Frequency	Tx	13.75 – 14.50 GHz	13.75 – 14.50 GHz
	Rx	10.70 – 12.75 GHz	10.70 – 12.75 GHz
Polarization		Linear, orthogonal	Linear, orthogonal
Gain	Tx	46.5 dBi @ 14.25GHz	49.0 dBi @ 14.25GHz
	Rx	45.0 dBi @ 11.95GHz	47.5 dBi @ 11.95GHz
Sidelobe Envelope		29-25 Log th dBi	2.5°...7°
		8 dBi	7°...9,2°
		32-25 Log th	9.2...48°
		-10 dBi	> 48°
Cross- Polarization		35dB within 1dB Contour	35dB within 1dB Contour
Antenna Noise Temperature		33K @ 30°EI	30K @ 30°EI
Feed Interface	X-Port	WR-75	WR-75
	Y-Port	WR-75	WR-75
3dB beamwidth		Tx 0.8° @ 14.3 GHz	Tx 0.6° @ 14.3 GHz
		Rx 1.0° @ 12.0 GHz	Rx 0.7° @ 12.0 GHz
G/T with 80°K LNB @ EI=30°		24 dB/K	26.4 dB/K
<b>Mount</b>		<i>MANTN18</i>	<i>MANTN24</i>
Mount Type		Elevation over Azimuth	Elevation over Azimuth
Mast Pipe Interface		114mm Diameter	168mm Diameter
Travel Range	Azimuth	+/- 60°	+/- 60°
	Elevation	10-90°	10-90°
	Polarization	-45° to +135°	-45° to +135°
Travel Rate	Azimuth	0.5°/s	0.5°/s
	Elevation	0.2°/s	0.2°/s
	Polarization	0.5°/s	0.5°/s
Wind Load	Operational	125 km/h	125 km/h
	Survival	200 km/h	200 km/h
Temperature		-20°C to 55°C	-20°C to 55°C
Humidity		0 to 100%	0 to 100%
Atmosphere		Salt, pollutants as encountered in costal and industrial areas	Salt, pollutants as encountered in costal and industrial areas
Weight		kg	kg
<b>Positioning</b>			
Position Encoding		SSI Optical Encoder in Azimuth and Elevation Potentiometer in Polarisation	
Display Position Resolution		0,001°	
Interface to beacon receivers selectable		<b>sat-nms</b> LBRX and analog voltage input 0..10V	
Tracking Accuracy (Option)		Better than 10% of receive 3dB beamwidth (RMS)	
M&C Interface		Ethernet or RS232 and summary fault indication per relay	
Supply Voltage		24VDC or 230VAC	
More Technical Data		see ACU-ODM data sheet	