

# MEOS™ Antenna TT&C



KONGSBERG

## MEOS™ Antenna TT&C

MEOS™ Antenna for TT&C applications comes with a 3.7m reflector and a dual band feed with simultaneous S- and X-Band reception and S-Band transmission. The antenna sensitivity gives sufficient margin for data reception from remote sensing satellites in LEO and MEO orbits.

Designed for optimal reliability, the MEOS™ Antenna utilizes the most modern industrial components available. It includes a mature remote-control interface which provides seamless integration into ground networks.

The X/Y positioner allows strong wind operation without a radome. The X/Y geometry supports overhead tracking with no signal drop. With Auto track on all receive bands and polarizations, excellent G/T and sidelobe performance, the overall link budget is ideal for fast connectivity operations.

The antenna is equipped with custom filters to reject out of band signals. For example, S-band filtering provides more than 85dB rejection of the 5G 2.3GHz downlink band.

When integrated with a MEOS™ receiver and processing system, the complete solution works as a high-performance data reception and processing terminal.

### HIGH RELIABILITY

- Robust ACU and servo units with low failure probability
- Dehydrator to supply dry air to the positioner, HPA, Electronics cabinet and feed to avoid internal condensation
- Heating of motors and the gears reduces wear
- Heating of HPA, to ensure start-up in the coldest conditions
- Drive chain replacement possible with reflector and positioner installed

### RF SYSTEM

- S-Band
  - Downlink 2200 – 2300 MHz RHCP/LHCP selectable or dual polarisation
  - G/T spec 14.5 dB/K, typical and mid band
  - S-band RF direct 2200 – 2300 MHz output
  - Uplink 2025 – 2120 MHz RHCP/LHCP selectable polarisation
  - EIRP > 50 dBW from a 100 W High Power Amplifier
- X-Band
  - 7750 -8500 MHz RHCP/LHCP selectable or dual polarization
  - X-band G/T Spec 27.5 dB/K, typical and mid band
  - IF Frequency: 800 – 1550MHz

Please contact KONGSBERG for other options.



### FEATURES

- X/Y design for elimination of overhead keyhole
- ACU with Program Track and Auto Track
- Easy installation with use of Auto Alignment
- Web based monitor and control
- Remote monitoring and control over fibre optic cable
- GNSS time server in ACU
- External interfaces for integration by customer
- S-Band Uplink
- High torque motors for heavy wind operation
- Virtually no preventive maintenance needed



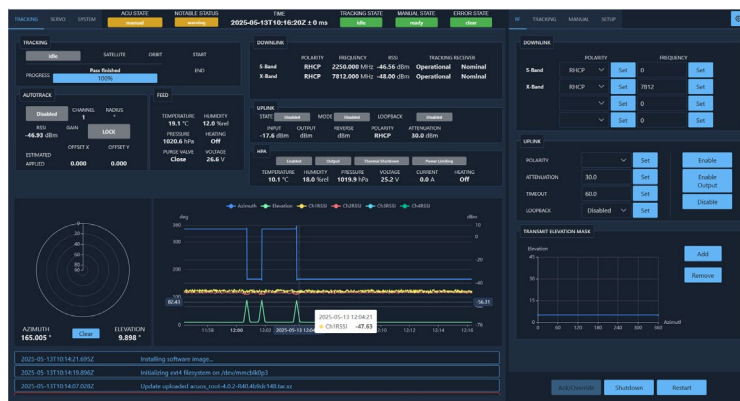
## Environment

- Temperature
  - Operational: -40° C to 60° C \*
  - Storage: -50° C to 60° C \*
- Relative humidity: 0-100 % including condensing
- Power requirements: 110 - 264 V AC, 50 – 60 Hz
- Nominal 230 V @ 25 A or 2 x 230V @ 16 A
- Weight: approx. 1000 kg
- The antenna is fully CE tested

## Options

- Radome
- MEOS™ Control for remote monitor and control.
  - Real time and historic status available
  - Monitor and Control for external units e.g. demodulators, modulators, (see MEOS™ Control Product data sheet)
- MEOS™ Capture - Data Capture system
- MEOS™ Connect

\* Can be optionally extended upon request



## 3.7 m S/X-band Performance

|                        |                                             |
|------------------------|---------------------------------------------|
| S Band G/T (2250 MHz)  | 14.5 dB/K*                                  |
| X Band G/T (8200 MHz)  | 27.5 dB/K*                                  |
| S-band EIRP            | > 50 dBW*                                   |
| Pointing error         | 0.09° rms**                                 |
| Pointing resolution    | 0.005° on both axis                         |
| Max Axis Travel Speed  | 6°/s                                        |
| Wind speed operational | 27 m/s                                      |
| Wind speed survival    | 56 m/s                                      |
| Tracking               | Tracking from 0° elevation                  |
| Travel                 | Mechanical ±91°, Tracking from 0° elevation |

\* Radome losses not included

\*\* Based on CFD (Computational fluid dynamics) and FEDEM (Finite Element Dynamics in Elastic Mechanisms) analysis for a 3.7 m reflector with 27 m/s wind



**MEOS**  
MULTI-MISSION EARTH OBSERVATION SYSTEM