

MEOS™ ANTENNA



KONGSBERG



3.7 m S/X TT&C Antenna

MEOS™ TT&C Antenna is a 3.7m antenna with simultaneous S- and X-Band reception and S-Band uplink. The antenna sensitivity gives good margin for data reception from direct readout and remote sensing satellites.

Designed for optimal reliability, the MEOS™ Antenna utilizes the most modern industrial components available. It features a mature remote-control interface that provides for 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 Autotrack on all receive bands and polarisations, excellent G/T and sidelobe performance, the overall link budget is ideal for fast connectivity operations.

The antenna is equipped with standard filters that reject out of band signals. For example, S-band filtering provides in excess of 85dB rejection of the 5G 2.3GHz downlink band.

When integrated with a MEOS™ receiver and processing system, the total unit is a high-performance data reception and processing terminal.

HIGH RELIABILITY

- Robust ACU and servo units with low failure probability
- Self-test and remote diagnostics
- Resume operation automatically after a power break
- 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 2,2 - 2,3 GHz RHCP/LHCP (selectable or dual polarisation [option])
- S Band G/T Spec >13.5dB/K. Typically, >14dB/K across the band
- RF Out 2.2 – 2.3GHz
- Uplink 2025-2120 MHz RHCP/LHCP (selectable)
- EIRP >50dBW from a 100 W High Power Amplifier

X-Band

- 7,75 -8,5 GHz RHCP/LHCP (selectable or dual polarisation [option])
- X Band G/T Spec >28dB/K across the band
- IF Out 800MHz – 1550MHz

Consult factory for other options

ENVIRONMENT

- Temperature*:
 - Operational: -40° C to 60° C
 - Storage: -50° C to 60° C
- Relative humidity: 0-100 % including condensing
- Power requirements: 200 - 264 V AC, 50 – 60 Hz
 - Nominal 230 V @ 16 A
- Weight: approx. 1000 kg
- The antenna is fully CE tested

* can be optionally extended.

FEATURES

- Web based monitor and control, local and remote
- Fiber interface between antenna and indoor equipment for all RF links (RF over fiber), monitoring and control
- High torque XY positioner, no requirement for radome in all but the harshest environments
- ACU with program and Autotrack
- Tracking down to 0 degrees elevation
- GPS antenna and GPS time server in ACU
- External interfaces for integration by customer
- Positioner designed for L-, S-, C-, X- and Ka-band missions
- S-Band Uplink
- Single and dual band configuration available



TECHNICAL SPECIFICATIONS

MEOS™ 3,7 M S/X TT&C ANTENNA PERFORMANCE DATA

3,7 m Reflector ^{a)}	
Axis travel Speed	Max 9deg/s both axes
S Band G/T	>13.5 dB/K ^{b)}
X Band G/T	>28 dB/K ^{b)}
Pointing error	0.09° rms ^{c)}
Pointing resolution	0.005° on both axis
Velocity	10 deg/s
Wind speed operational	27 m/s
Wind speed survival	56 m/s
Tracking	Tracking from 0° elevation
a) Other sizes available on request	
b) Radome losses not included	
c) Based on CFD (Computational fluid dynamics) and FEDEM (Finite Element Dynamics in Elastic Mechanisms) analysis for a 3.8 m reflector with 27 m/s wind	

OPTIONS

- Dual polarity reception on S-band or X-band or both
- Pre-LNB filter on X-band
- Separate track receivers, on both polarities (RHCP & LHCP) and on both bands (S- & X)
- Radome

Consult KDA for other options

RELATED PRODUCTS

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



TT&C ANTENNA HPA



MEOS™ 3,7 m S/X TT&C ANTENNA FEED

Front page image: the Kongsberg Defence & Aerospace MEOS™ Antenna.

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