HMAM – Hiltron Motorised Antenna Mount

High Speed three Axis Antenna Mount

High precision satellite antenna positioner for use in ***professional satellite communication systems***. Combining ***affordability*** with the ***reliability*** and ***precision*** expected from ***professional-grade communications equipment***.

FEATURES

- All kinds of reflectors with a diameter between 1.2 and 2.7 meters can be attached.
- Three axis motorized system with >180 degrees of continuous azimuth adjustment.
- 90 degrees of elevation adjustment range.
- Fully adjustable polarization.
- Positioning accuracy is up to +/- 0.02° (depending on temperature and wind load).
- IP-based control from a PC running a graphical user interface compatible with standard web browsers.
- Integrated database for potentially accessible satellites.
- Ethernet interface and control via SNMP for M&C.
- The ACU and the associated motor-control electronics are contained in an weatherproof outdoor housing.

OPTIONS

- Extension to a satellite tracking system.
- Inclined orbit tracking.
- Integration of parabolic reflectors according to customer preference.
- Integration of de-icing system
- Choice of standard steel mounts or non-penetrating mounts.
- Handheld control unit for manual pointing.
- Extended temperature range.
- Increased accuracy by optical encoders.
- Increased hardness against salt water environment.

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The HMAM motorized satellite antenna mount is designed for Tx/Rx Antennas up to 2.7m diameter. It includes high-grade drives for azimuth and elevation plus a high-accuracy polarization drive and is based on our standard HACU antenna positioning system. A combined head and drive are incorporated, forming a three axis motorized system with up to 240 degrees of azimuth adjustment, 90 degrees of elevation adjustment range and fully adjustable polarization. Details on positioning accuracy and position display resolution can be found in the specification.

Supplied with the HMAM is a flexible support plate allowing the attachment of all kinds of reflectors. The rotating pedestal mount is made of corrosion-resistant hot-dip galvanized steel. The azimuth and elevation drive motors operate through a reduction gear. The azimuth movement is accomplished via an axle bearing with a drive motor and allows the entire satellite arc to be covered from any position on the planet. The elevation movement is via a jackscrew with a further drive motor. This design and the use of true angle indicators provide highly reliable and very accurate positioning far beyond the stability of commercial grade actuator devices.

The very high rigidity of the construction ensures essentially zero backlash. The HMAM can operate in winds of up to 125 km/h and survive up to 200 km/h.

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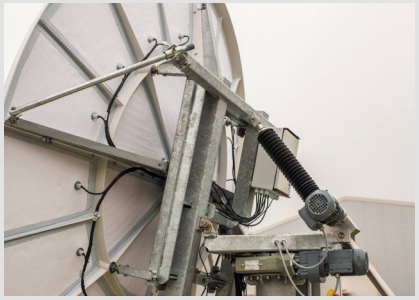
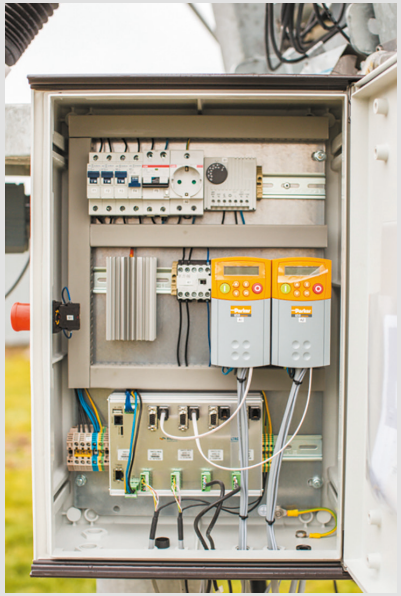
The *HMAM* Family / Components

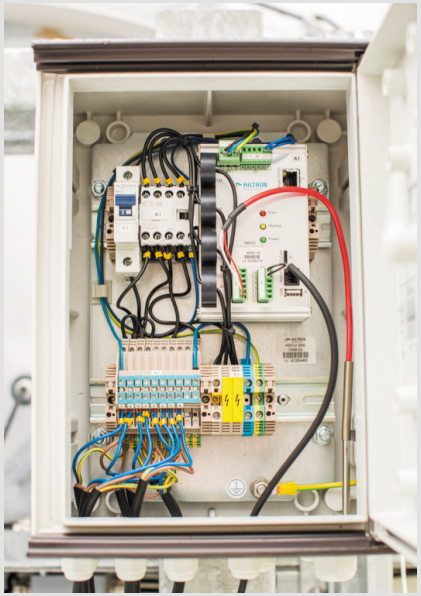


HMAM – Detail View

HMAM – Ku-Band Feed



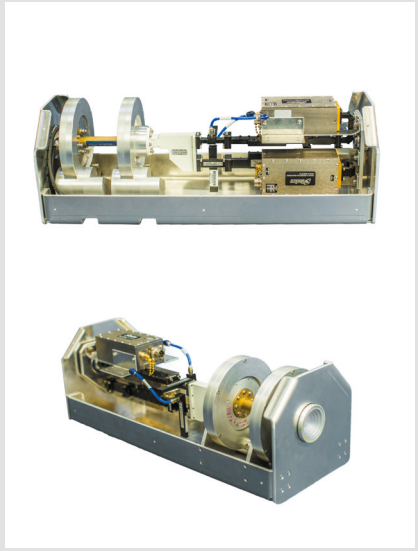
HACU- Hiltron Antenna Control Unit



HDCU- Hiltron De-icing Control Unit

HMAM – Detail View

HMAM – Ka-Band Feed



HMAM - Ka-Band Feed Opened Housing

HMAM – Detail View

HMAM – Detail View

HMAM – Detail View

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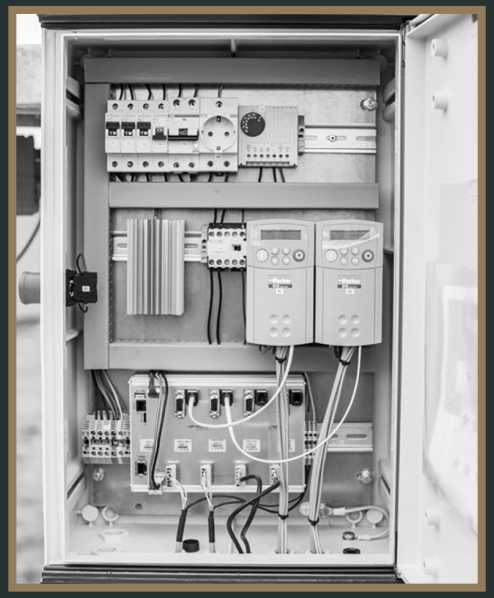
The entire system is built to withstand standard atmospheric pollutants and to operate from zero to 95 per cent humidity over a temperature range of 35°C (option 55°C) down to -25°C. As an option the entire system can be built to withstand pollutants such as salt encountered in coastal and industrial areas.

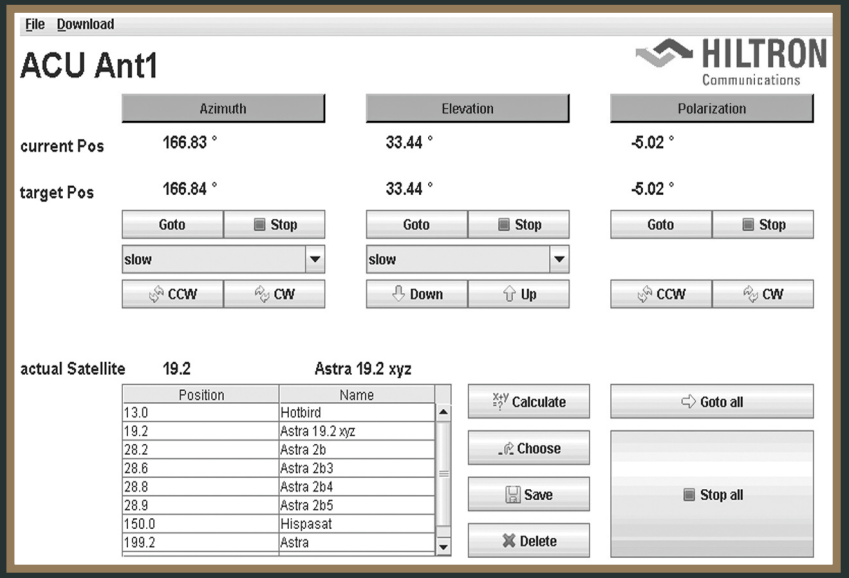
Options for the Hiltron HMAM motorized antenna mount include a satellite tracking system, inclined orbit tracking, integration of parabolic reflectors according to customer preference, a handheld control unit, de-icing systems, and a choice of standard steel mounts or non-penetrating mounts.

The antenna control unit and associated motor-control electronics are contained in a weatherproofed outdoor housing with a hinged front access port secured by dual key screws. An emergency cut-off switch is accessible from the outside of this housing. The figure below shows the interior of the antenna control unit.

The antenna control unit is designed for IP-based control from a PC running a graphic user interface compatible with standard web browsers. The control GUI displays all the information required to set and maintain azimuth, elevation and polarization, including current position and target position plus a database of potential accessible satellites.

Once a satellite is selected, precise access parameters can be calculated at the press of a single button. Azimuth and elevation can be adjusted at up to three different speeds.





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SPECIFICATIONS

Mount

Mount Type:	Elevation over Azimuth
Travel Range (mechanical)	+/- 90° (option: +/- 135°)
Azimuth:	-15° to +60° (mechanical elevation)
Elevation:	-95° to +95°
Polarization:	
Travel Rate:	(slow/medium/fast speed mode)
- Azimuth:	Up to 5°/s (in fast speed mode)
- Elevation:	Up to 2.5°/s (in fast speed mode)
- Polarization:	Up to 4°/s
Wind Load:	Depend on antenna and mounting e.g. for 2.4 m antenna kingpost mounted
- Operational:	125 km/h (positioning accuracy degraded)
- Survival:	200 km/h (in survival position)
Ambient Temperature:	-25°C to +35°C (option: -25°C to +55°C)
Humidity:	Up to 95% non-condensing
Atmosphere:	To withstand standard atmospheric pollutants, as an option to withstand pollutants as encountered in coastal and industrial areas
Weight:	160kg (without reflector and feed,reflector size up to 2.7M)

Positioning

Position Accuracy:	Absolute up to +/- 0.2° (AZ & EL) (option with optical encoder: +/- 0.05°)
Position Accuracy:	Reproducible up to +/- 0.07° (AZ & EL) (option with optical encoder: +/- 0.05°)
Position Accuracy:	Relative in the range of +/-2° up to +/- 0.03° (AZ & EL) (option with optical encoder: +/- 0.02°)
Power Drive:	Power Drive: Three different Speed Modes (slow/
- Azimuth:	medium/fast)
- Elevation:	Frequency inverters
- Polarization:	Frequency inverters PWM – DC Voltage
Housing:	Outdoor cabinet, IP65
M&C Interface:	Ethernet, Web-interface, SNMP
Additional features:	Emergency stop
Supply Voltage:	95-245VAC; 47-63Hz (for ACU control module) 230VAC +/- 15% single phase; 50/60 Hz 400VAC +/- 15% 3phase (alternatively) 208VAC +/- 15% 3phase (only upon special order)