The **sat-nms ACU19** is an antenna controller with optional inclined orbit tracking. It can be used as a cost-efficient antenna-positioning controller or as a full featured antenna tracking system. The system is based on the **sat-nms** ACU-ODM and provides three DC-motor-driver interfaces up to 15A/24V in the 19” 1RU chassis. Two model variants are available:

<table>
<thead>
<tr>
<th><strong>sat-nms ACU19</strong></th>
<th>Positioning Controller</th>
<th>Cost-efficient Pointing</th>
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</thead>
<tbody>
<tr>
<td><strong>sat-nms ACU19T</strong></td>
<td>Inclined Orbit Tracking</td>
<td>Positioning Step-track</td>
</tr>
</tbody>
</table>

The **sat-nms ACU19** can not only be used to point your antenna precisely to the satellite but also with the option to perform inclined orbit satellite tracking. The software implements the standard step algorithm.

The **sat-nms ACU19** includes:

- Three independent DC-drivers, which allow simultaneous driving of all 3 axes
- Limit switches, alarm circuits for mechanic protection
- Digital angle detectors with SSI interface measuring the azimuth, elevation, polarization
- A/D interface to measure the voltage across a precision potentiometer for polarization angle

The **sat-nms ACU19** unit includes an integrated web server and provides its operator interface via web browser. The **sat-nms ACU19** includes also http and ftp for remote diagnosis and support. The system is easy to maintain. All support can be performed remotely and the interface to high-level MNC systems is provided via Ethernet and TCP/IP.

In addition to that a local keypad and display are available to allow local control via the front panel.

### Key Features
- Web-based, user-friendly Operator Interface
- Operating via Front Panel Display and Keypad
- Step-track Algorithm as Option available
- Very compact rack-mount Design in 1RU
- Integrated DC motor Drivers up to 15A/24V
- HTTP Protocol for external MNC Interface

### Contact Information
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Technical Specification

Positioning

Operational Modes **sat-nms ACU19**
Manual Mode (Positioning)

Operational Modes **sat-nms ACU19T**
Manual Mode (Positioning) and Step-Track

PRESETS, Storage of **sat-nms** ACU System Configuration
99 (including Beacon Receiver Configuration of LBRX)

Position Encoding
Digital SSI (Azimuth, Elevation) (optional Resolver)

Quantization Error
Potentiometer (Polarization)

Resolver 16bit: 0.0055°
SSI 13bit: 0.044°, 16bit: 0.0055°, 17bit: 0.0028

Maximum Travel Rate of each Antenna Axis
1°/sec

Interface to Beacon Receivers selectable
**sat-nms** LBRX or analog Voltage Input

System Interfaces

To **sat-nms** MNC and **sat-nms** ACU-IDU
- Ethernet or RS232
- Opto-Coupler Input/ Mini Combicon MCV1.5/XX-G-3.5
- DC-PWM based 24V/ Combicon MCV2.5/XX-G-5.08
- Max. Motor Size 24V/10A

Azimuth, Elevation and Polarization Motors
- Opto-Coupler Input/ D-Sub9
- Resolver, SSI or A/D Input/ D-Sub9

Interlock and motors-off Switches
- Opto-Coupler Input/ Mini Combicon MCV1.5/XX-G-3.5

3 angular Detectors
- DC-PWM based 24V/ Combicon MCV2.5/XX-G-5.08
- Max. Motor Size 24V/10A

MNC Interface Specification

Ethernet Interface for **sat-nms** MNC and User Interface
10/100-Base-T, Via HTTP GET Requests

Operator Interface
Web Browser and Front Panel Display + Keypad

RS232 **sat-nms** MNC Interface
D-SUB9

Electrical and Mechanical Specification, Environmental Conditions

Supply Voltage
110 to 230V /50 to 60Hz 2A

Power Consumption
50 W + Motor Power

Temperature Range
-10° to 50°C

Humidity
Up to 90% non-condensing

Dimensions
19", 1RU, 450x45x380 mm (WxHxD)

Weight
5.5 kg