



9293S3 Antenna Control Unit

Modem 9293S3 antenna control system comprises an Antenna Control Unit (ACU) and Antenna Drive Unit (ADU) which are linked via dedicated Ethernet or fiber connections. This system is compatible with RS232/RS485, Ethernet, optical fiber and other network communication modes. Compared with the traditional control system, the stability, response time, anti-interference ability and expansibility of this system have been significantly improved. In addition, the upgrade and maintenance of this system can be operated remotely based on the Internet and LAN, as well as providing users with a software one-button upgrade interface.



Fig 1: Photo of ACU

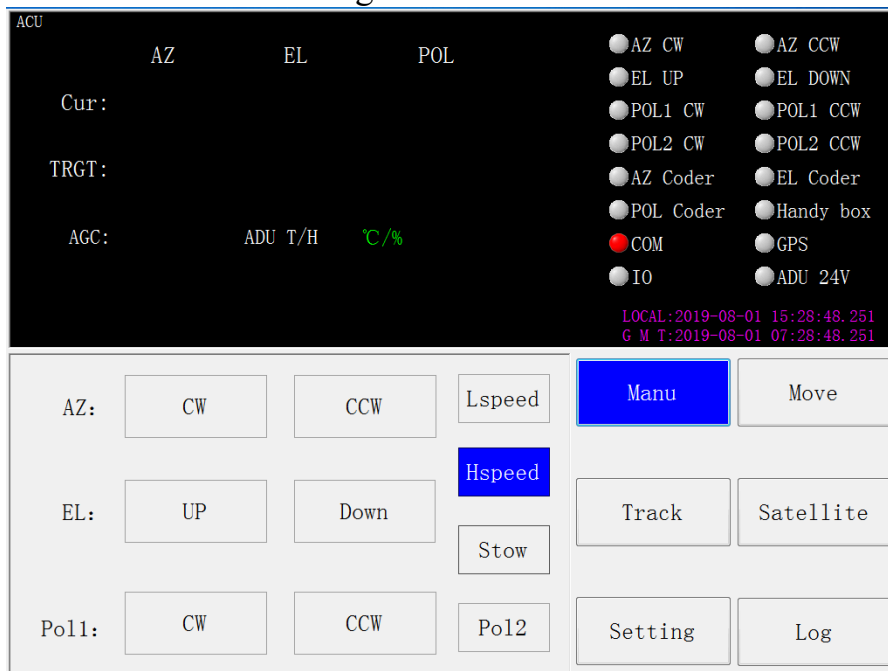


Fig 2. The photo of ACU display



Features

- Key Stroke Operation
- Target Tracking
- Unlimited Satellite Positions Preset
- Steptrack, Program Track
- Three Axis Control for Az, El and Polarization
- Antenna Position Setting
- Wherever position antenna locates, the position can be set at the operating panel or computer.
- Single-speed drive
- Big Screen Display of alarm, antenna position and fault indication.
- Remote Control
- Linked Via Ethernet communication ports on the rear panel of the ACU.
- Software and hardware travel limit switches ensure the safety operation.
- Simplified site cabling
- Support Ethernet and Fiber
- Full software Upgradeability
- Support HDMI Extended display

Technique Specifications of the Antenna Control Unit

| Item | Description |
|-------------------------|--|
| Tracking accuracy | Step tracking: better than one tenth of the receiving 3dB beam width in winds of 30mph gusting to 45mph |
| Angle sensor | Single-speed brushless resolver and 12-bit or 16bit tracking RDC integrated circuit, Precision : $\leq 0.1^\circ$ RMS (12bit), 0.01° RMS (16bit) |
| Display resolution | AZ、EL (16bit: 0.01° , 12bit: 0.005°), POL (0.1°) |
| Power input requirement | ADU working voltage: 380 ($\pm 10\%$) V, 50 ($\pm 5\%$) Hz; Power capacity: 5KW ACU working voltage: 220 ($\pm 10\%$) V, 50 ($\pm 5\%$) Hz; |
| Tracking | External beacon machine: RS232/ (0-10v) analog |



| | |
|-----------------------------|---|
| interface | voltage input interface is optional, the connector is DB9(K) Built-in beacon machine: N-TYPE (K) |
| Telecommunication interface | StandardRJ-45 network port |
| Operation environment | Operating temperature of ACU : -10°C ~ + 50°C; Operating temperature of ADU : -20°C ~ +65°C; |

Table 1

The system block diagram

The overall block diagram of 9293S3 antenna control system is shown in figure 1. Indoor equipment includes antenna control unit (ACU), tracking receiver and monitoring computer. Outdoor equipment includes antenna drive unit (ADU), drive motor, encoder and limit device.

ACU uses standard RJ-45 network cable to communicate with the monitoring computer, receives monitoring commands and data and reports servo status.

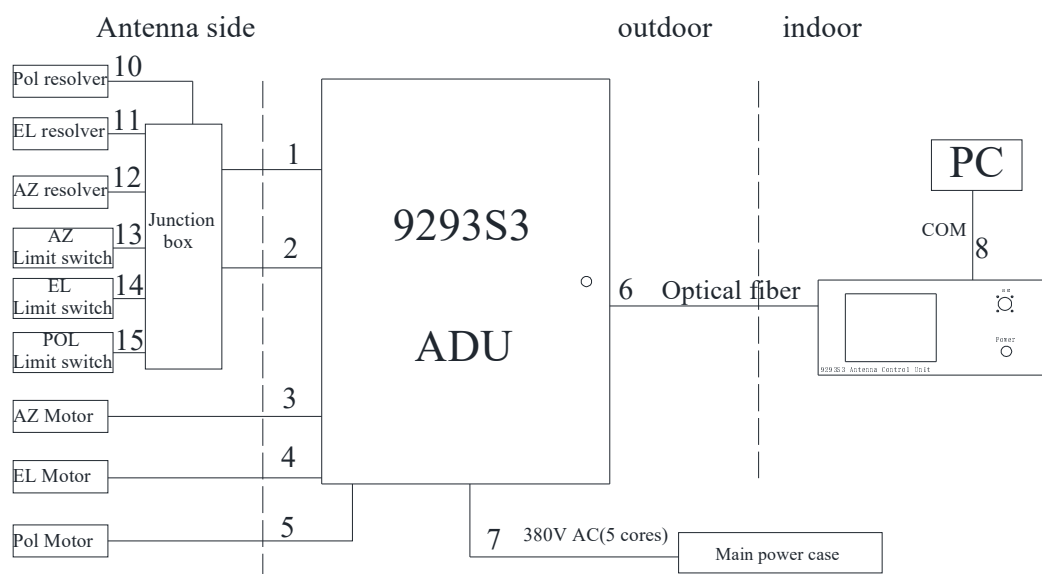


Fig1 Antenna servo system composition diagram

Antenna Drive Unit (ADU) –Single Speed

The Antenna Drive Unit (ADU) provides multiple axis drive control



interface for AZ,EL and POL, in which AZ and EL drive axle adopt three-phase asynchronous motor . The POL drive adopt single-phase AC motor and can provide multiple POL motor drives for the convenient application of multiple band of POL or circular-linear switchover.

- Provide angle display
- Optical Fiber ADU-ACU Link
- Fault self-inspection
- Time Synchronization via GPS/Computer(Optional)
- Full software one-button upgrade
- Emergency stop switch

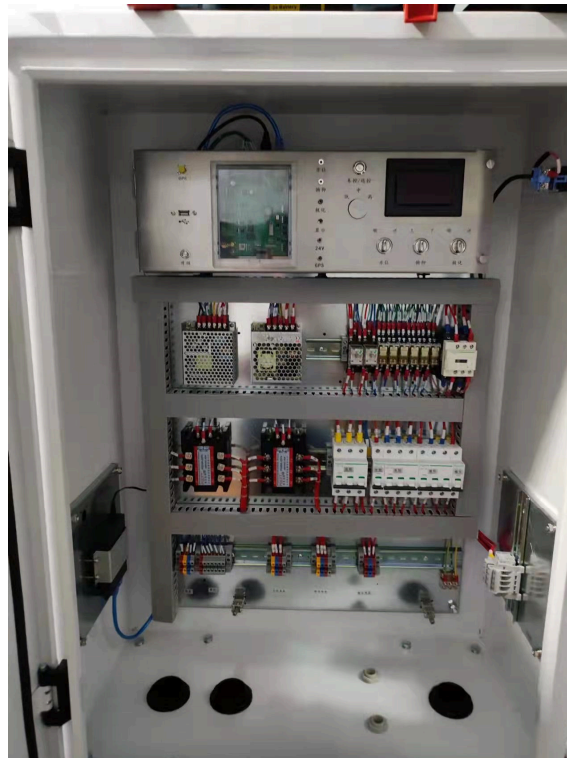


Fig 3. The photo of ADU