



The Model 8861A is a microprocessor-based controller for azimuth, elevation, and two separate motorized polarization axes on antennas from 3.6 to 11 meters.

Model 8861A is a compact controller for single speed positioning of 3-phase azimuth and elevation motors up to 1 hp, and 3-phase or single-phase feed motors up to 1/4 hp. With the controller installed at the antenna pedestal, you can use toggle switches on the 8861A to operate the unit directly, or use the 8860 Antenna Tracking Controller or an earth station control computer for remote control via an RS-422 serial link. A serial command set is available for custom monitor and control, enabling you to send move commands to the APC from an 8860 controller located up to 1000 meters away.

Azimuth and elevation resolution is 16 bits, with feed 1 and 2 axes resolution at 10 bits. The APC reads the azimuth and elevation position from brushless resolvers, and the feed 1 and 2 position by potentiometer. Digitizing transducer information at the antenna, rather than at the tracking controller, improves position measurement accuracy. The APC reports antenna position via the serial interface with a resolution of 0.0055°.

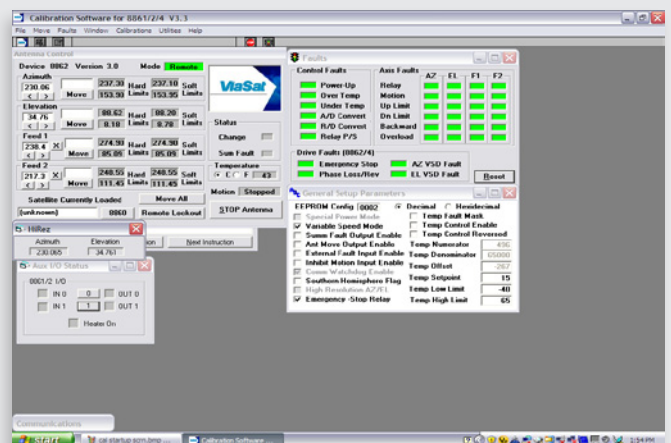
PC-BASED CALIBRATION SOFTWARE

Included with the unit is PC-based calibration software that performs site calibration of the controller to the antenna position transducers. The installer can calibrate the 8861A using a laptop computer connected to the RS-232 port of the APC, or from an earth station M&C via an RS-422 port. Programmable hardware and software limits prevent movement of the antenna beyond physical limits. The 8861A saves calibration data to non-volatile memory for automatic restoration following a power outage.

The 8860 Antenna Tracking Controller and a suitable receiver are required for satellite tracking.

8861A AT-A-GLANCE

- » Low-cost, single-speed controller
- » Microprocessor-based, four axis control
- » PC-based antenna calibration software
- » Non-volatile storage of calibration parameters for automatic restoration after power failure
- » Jog control at the antenna
- » Azimuth and elevation 3-phase AC motors up to 1 hp
- » Transducers digitized near antenna for accurate position
- » Brushless resolver azimuth and elevation transducers
- » Remote control up to 1000 meters from the antenna
- » High resolution/accuracy resolvers available
- » CE compliant



Model 8861A Antenna Position Controller Specifications

MECHANICAL

Enclosure	NEMA 4
Dimensions	508 x 508 x 203 mm (20H x 20W x 8D in.)
Weight	15.9 kg (35 lb.)

ENVIRONMENTAL

Temperature Range	Operational -40° C to +55° C ¹
Humidity	0 to 100% condensing

ELECTRICAL

Input Power	208 VAC, 50/60 Hz, (5 Wire -Y), 30A or 380-415 VAC, 50/60 Hz, (5 Wire -Y), 20A
Circuit Protection	Thermal / Magnetic breaker
Communication Link	RS-422 primary and RS-232 for calibration.

POSITION CONTROL

AZIMUTH AND ELEVATION CONTROL

Control Type	3-phase reversing contactors
Motor Type	3-phase AC induction, 1 hp or less
Motor Protection	Thermal overload relay
Antenna Sizes	Up to 11 meter
Limit Switches	Dual contact, logic interlocked
Motor Control	Simultaneous control of four axes (azimuth, elevation, Feed 1, and 2)

AZ / EL POSITION TRANSDUCER

Type	Brushless resolver
Excitation	7,500 Hz, 4.4 Vrms, 4.2 mA
Converter Resolution	0.0055°
Axis Repeatability	±0.014° typical

MOTORIZED FEED CONTROL

Control Type	Relays in reversing configuration
Motor Type	Single 3-phase motor and/or Single 1-phase motor 1/4 HP or less
Motorized Feed Transducer	Potentiometer
Converter Resolution	10 bit (0.18°)
Repeatability	(0.35°)

OPERATOR CONTROLS & INDICATORS

Jog Control	4 Axes Momentary contact
Local / Remote	Toggle switch
Indicators (LED)	4 Axes Movement (green) Communication (green) Fault (red)

MODES OF OPERATION

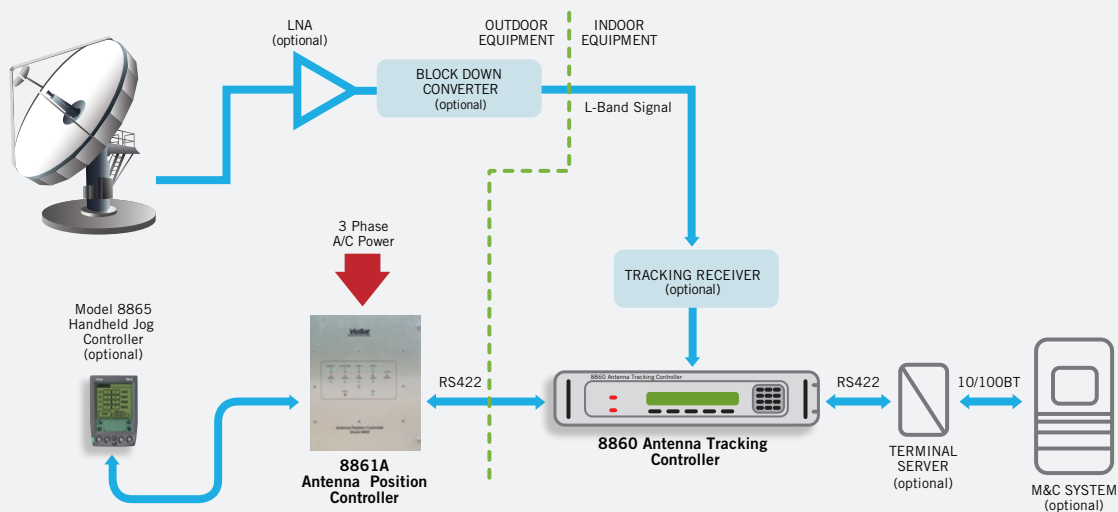
Local	Front panel controls
Remote	Via SAbus command set
Setup/Calibration	Via RS-232 port using PC and calibration software

AUXILIARY I/O

Auxiliary Inputs	Two optically isolated inputs addressable via the SAbus
Auxiliary Outputs	Controlled via the SAbus
Contact Closure	Form C Rating: 1 A, 30 VDC maximum
Number of Outputs	2

NOTES

¹ Optional low temperature cable kit for positioning below -10° C (14° F)



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