

Model EC130 Single or Dual Motorized Switch Controller



Figure 1

ERI Model EC130 Motorized RF Switch Controller Front Panel

Features

- Controls one or two motorized coaxial or waveguide switches
- An optional RF sensor connects to a built-in detector to prevent switch activation when RF is present
- Control and status connections made Cat-5 or Cat-6 ethernet cables with RJ45 connectors
- Switch selectable for 12V or 24V DC control voltage
- Built-in customer configurable SNMP control capabilities

The EC130 switch controller is designed to operate either one or two industry-standard motorized coaxial or waveguide RF switches. The new EC130 motorized switch controller is designed to control one or two motorized switches and includes an SNMP interface. Adding an optional ERI Model VDM303 RF Power Detector, the EC130 will detect the presence of RF applied to the switch and prevent accidental switch activation while under power. The control interface and interlock connections are made with CAT5 or CAT6 cables with RJ45 connectors. The controller is contained in a 5.25-inch standard 19-inch rack-mountable chassis. The front panel, shown in figure 1 above, has menu navigation and parameter set buttons, a red/green LED that indicates the interlock closure status, and a switch lock. The rear controller panel, shown in figure 2, provides the status and control connection to the RF switch, a transmitter control interlock circuit, and a remote status and control interface. The transmitter control interlock circuit ensures that RF power is removed from the RF switch before changing its position. It will also prevent RF power from being applied when the switch is not locked in an operating position.



Figure 2

ERI Model EC130 Motorized Switch Controller Rear Panel

RF Switch Requirements

The controller requires that the motorized RF switch voltage DC matches the controller voltage DC (either 12V or 24V available). The switch must have two form A (Normally Open Contact) limit switches in each position. The RF switch control system is expected to have a three-terminal interface such that the switch is driven by briefly applying the control voltage to two of the three pins. Using three pins, two pairs of two pins can be formed using one of the three pins in each pair. One pair will drive the switch to position one and the other to position two. The common pin is connected to the positive terminal of the switch controller's power supply.

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Remote Control Interface

The switch controller SNMP remote control interface is brought out through the rear panel via an RJ45 Ethernet connector. It can be connected to a switch or router to provide remote access to the EC130 switch controller. Each RF switch can also be controlled by a standard remote contact closure interface provided at the 2-pin Phoenix Plug connector on the rear panel controller. The status of the switch should be taken from the switch connection. When the key-lock switch is in the EXT position, the switch can be triggered by using a momentary dry contact closure between pins 1 and 2 of the EXT Phoenix plug. For example, a push button switch or an NPN transistor can be used as a remote control device. The device must only supply continuity to the circuit for 50-100 ms to initiate RF switch control. The remote control circuit is driven by the controller's 24 VDC power supply and is connected to a PLC input connection.

Note that the switch lock key position determines whether the control is done from the front panel, the remote interface, or the networked SNMP control. The three sources are not enabled at the same time. However, the remote position indicator circuit is powered regardless of the position of the switch lock.

RF Power Detector



Figure 3 VDM303 RF Detector

The EC130 provides two inputs for each of the motorized switches it controls. ERI offers the Model VDM303 RF Detector for this purpose, or any RF sampling device that provides a 4-20 mA signal can be used. The EC130 has a built-in 24VDC power supply to power the RF Detector. The RF connections A1 and A2 should only be placed on ports 1 and 4 or 2 and 3 if both are used. If a shorting cap is used on port 4, a single power detector on port 1 is all that is needed. RF connections A1 and A2 will only affect the operation of Switch A. Likewise, RF connections B1 and B2 will only affect the operation of Switch B.

Model EC130 Specifications

AC Input

Voltage	84 to 264 VAC
Frequency	47 to 63 Hz
Current	1.2 A (120 VAC) 0.8 A (240 VAC)

DC Control Power

Voltage	12 or 24 VDC
Max Current	1.0 A (12 VDC) 0.5 A (24 VDC)

Optional RF Detector

Inputs Included	Four (4), Two each for two switches
DC Power	+24 VDC
Input Required	4 to 20 mA

Environmental

Operating Temperature	32 ° to 11 ° F.	0 ° to 50 ° C.
Storage Temperature	-4 ° to 158 ° F.	-20 ° to 70 ° C.
Humidity	30% to 85% (non-condensing)	

Mechanical

Front Panel Dimensions		
Width	19.00 inches	483 millimeters
Height	5.25 inches	133 millimeters
Chassis Dimensions		
Width	17 inches	432 millimeters
Height	5.04 inches	128 millimeters
Depth	11.20 inches	284 millimeters
Weight	13 pounds	5.9 kilograms

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