

## COM-9460 Control Output Module



**ROP-9470 Relay Output Assembly (as needed)**



**Cable Expansion to Desired I/O Capacity**

### Gateway Expansion for Legacy Hardware

The COM-9460 Control Output Module (COM) and accompanying ROP-9470 Relay Assemblies are accessory panels for the ePAQ-94XX Multifunction Gateway products used within the automated substation. They enable the ePAQ-94XX Gateway to supply expansion control output relay points for your enterprise SCADA System.

Each ROP unit provides 16 control relays, supplying 8 momentary trip/close or 8 magnetically latched control points. Additional ROP-9470 units may be added up to the COM-9460 capacity of 128 points. Further expansion capacity is then available through additional COM-9460 modules.

COM-9460 units are mounted in a 3.5" X 19" circuit board assembly and connected to the ePAQ Multifunction Gateway via RS-422 lines. One or more ROP-9470 units are connected via ribbon cables to their controlling COM-9460 Module.

Each COM-9460 Module includes front panel LEDs to provide a local indication of communications activity (TX/RX), as well as power and microprocessor "heartbeat"; thus, provides for quick diagnostics and easier maintenance.

- **19" Rack Mounted configuration**
- **Each Relay Output Assembly (ROP) contains 16 (KUP) Relays (8 trip/close pairs) or 8 Magnetically Latching (KUL) Relays**
- **Output Connections: 5mm Terminal Blocks (#12 AWG)**
- **Expansion of up to 16 ROP-9470 Panels (128 Control Points) per each COM-9460 Board (for up to 32,768 Control Points).**
- **Communications: Each COM-9460 has two (2) four-wire RS 422 communication Lines (for Data Pass-through or Redundancy).**
- **COM Units may be configured in a Redundant Architecture for Automatic Failover**
- **Power: 24 VDC (supplied by ePAQ)**

## SPECIFICATIONS

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Control Outputs	Each COM-9460 controls one or more ROP-9470 Relay Output Assemblies Each ROP-9470 contains 16 control relays (8 momentary control points) or 8 magnetically latching relays Maximum expansion up to 256 COM-9460 units, controlling up to 16 ROP-9470s (32,768 control points).
Relay Types	TYCO/P&B type KUP, KUEP, KUL and equivalents
Placement	COM-9460 units may be “stacked” at one location or distributed via RS-422 links to where control outputs are required.
Isolation	Inputs are isolated from logic circuits using optical isolation and DC-DC Converters Minimum 2KV RMS (analog input to logic isolation) SWC/fast transient – IEEE C. 37.90.1, IEEE Standard 1613-2009 Power line surge – IEC 1000-4-2 Electromagnetic emissions – FCC Part 15, Class B Electromagnetic compatibility – ED 61000-4-3 Dielectric rating – 1000 Vdc, on all inputs Overload rating 500 Vdc (common mode to ground)
Configuration	The operating firmware of the COM-9460 may be field configured via the RS-422 line from the master ePAQ Substation Gateway; thus, eliminating site visits for firmware changes and updates.
Baud Rate	4 Mbps
Ports	Two (2) four wire RS-422 ports for serial communications with ePAQ Substation Multifunction Gateway Second RS-422 ports will allow multiple COM-9460s to be linked together in parallel or to allow COM-9460s to share the same RS-422 channel to the Gateway Unit.
Power	24 Vdc +/- 20% Power is via the ePAQ Substation Gateway RS-422 line, thus eliminating the need for separate power cabling
LED Indicators	Three (3) LED front panel indicators to monitor power, communications and central processor health and the local/remote status. Each control point has an LED to show when the relay coil is energized.
Physical	3.5”H X 18.87”W    COM-9460 7.0”H X 18.87”W    ROP-9470
Environment	-40° to +75°C, (-40° to 175°F) 0-95% humidity (non-condensing)

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