



PACSystems* RX3i Communication Protocols

Ethernet-enabled in-rack modules
enhance connectivity



GE Intelligent Platforms understands that today's connected world requires controllers that can communicate with third-party devices. By replacing proprietary networks with an Ethernet LAN and modern automation systems, OEMs and system integrators have access to a solution that is not only standards compliant, but that also improves connectivity, performance and profitability.

For mission-critical power and water infrastructure systems and industrial projects where redundancy is a key requirement, GE has augmented its Ethernet-enabled control systems offering by developing 3 new modules embedded with IEC61850, DNP3 and IEC60870-5-104 standard Ethernet communication protocols, which can be rack-mounted into its PACSystems RX3i controller. With these "in-rack" the RX3i can connect down to the IED level and up to the SCADA level without an external gateway device.

High-Performance

The PACSystems RX3i controller family has been expanded to include IEC61850, DNP3, and IEC60870-5-104 Ethernet-based communication protocols, enabling improved access to data and time-stamping of events via object-oriented programming. This enables customers with mission-critical power, water, and industrial applications to troubleshoot and identify the root cause of downtime and/or system disturbances and eliminate those disruptors.

Greater Profitability

GE Intelligent Platforms' Ethernet-enabled modules are available "in rack" and some can support fiber optics without external converters, thereby reducing engineering design cycles and system complexity and improving the operation's bottom line.

Improved Connectivity

The new modules enable two-way communication between the SCADA and device (IED) levels. By uniting the control and software layers under a common architecture, information stored in the controller becomes more accessible and actionable across the enterprise. The DNP3 and IEC60870-5-104 modules communicate 'up' to a SCADA system as servers, while the IEC61850 protocol communicates 'down' to an intelligent electrical device (IED) as a client.

FEATURE	BENEFIT
Modular System Configuration	<ul style="list-style-type: none"> Insight into operations to improve productivity and uptime
Integrated Solution	<ul style="list-style-type: none"> Reduced engineering time and improved time to market
Event-oriented Protocol	<ul style="list-style-type: none"> Enables greater access to data and time-stamping of events
Supports Fiber Optics	<ul style="list-style-type: none"> Noise immune More reliable communication over a greater distance Simplified system design

Specifications

Backplane Support

- Universal Backplane Only; Modules Uses PCI Bus.

Slots Module Occupies on Backplane

- One

Communication Ports

- Two RJ-45 ports; one MAC Address
- Two RJ-45 and Two SFP Cages (SFPs not included, available separately); 5 MAC addresses (IEC 61850)

Bus Speed

- 10/100Mbaud
- 10/100/1000Mbaud (IEC61850)

I/O Device Update Rate

- Configurable:
 - 10 ms to 3200 ms (Outstation and Server)
- Less than 1 sec (IEC 61850)

Maximum I/O Memory

- 12,072 points, 20000 events (Outstation and Server)
- 5000 variables (IEC61850)

Number of Drops Supported (IEC61850)

- Up to 8 Masters or Clients for either DNP3 or IEC60870-5-104
- 32 Devices

Internal Power Used

- 840 mA @ 3.3 VDC; 614 mA @ 5 VDC
- 3.3 V: 0.5 A with no SFP devices installed 1.2 A maximum (two SFP devices installed, 0.35 A per SFP device) 5 V: 1.5 A maximum (IEC61850)



Ordering Information

IC695EDS001	PACSystems RX3i DNP3 Ethernet Outstation
IC695EIS001	PACSystems RX3i IEC60870-5-104 Ethernet Server
IC695ECM850	PACSystems RX3i IEC61850

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