GFK-2933A
October 2014

Ethernet DNP3 Slave/Outstation Module
IC695EDS001

IMPORTANT PRODUCT INFORMATION

IC695EDS001-AA, version 1.00

Documentation

GFK-2224, *TCP/IP Ethernet Communications for PACSystems User's Manual*

GFK-2225, *PACSystems TCP/IP Station Manager Manual*

GFK-2332, *PACSystems RX3i Ethernet Module IPI*

GFK-2911, *PACSystems RX3i* IC695EDS001 *DNP3 Outstation Module User Manual*

GFK-2912, *PACSystems RX3i* IC695EDS001 *DNP3 Slave Module Quick Start Guide*

GFK-2933*, PACSystems RX3i Ethernet DNP3 Slave Module IPI*

For user manuals, product updates and other information go to the Support website, http://www.ge-ip.com/support, and refer to *Controllers and I/O*, *RXi Controllers.*

Upgrades

Upgrade Kit: 41G2060-MS10-000-A0

This includes a compatible Ethernet Firmware Upgrade Kit and DNP3 Slave Firmware Kit in one package.

Release History

Catalog No.	Firmware Version	Date	Comments
IC695 EDS001-AA	1.00	October 2014	Initial release.

Functional Compatibility

Subject	Minimum Version Required
Programmer version requirements	Proficy* Machine Edition Logic Developer, Release 8.5 SIM 7 or later
Ethernet Firmware Version Requirements	Ethernet (ETM001) Primary Firmware Release 6.30 (Build: 41A1) Ethernet (ETM001) Boot Firmware Release 3.60 (Build:45A1)
Ethernet Hardware Requirements	Only Compatible with IC695EDS001-AA or later ***Note*** Not compatible with IC695ETM001 hardware
RX3i CPU version requirements	CPU320/CPU315 Primary Firmware Release 8.05 CPU320/CPU315 Boot Firmware Release 5.10 CPE310/CPE305 Primary Firmware Release 8.05 CPE310/CPE305 Boot Firmware Release 7.10 CRU320 Primary Firmware Release 8.05 CRU320 Boot Firmware Release 5.10 (Other CPU models are not supported) CPU310/CMU310/NIU001 Primary Firmware Release 6.71

New Features and Enhancements

Subject	***Description***
Initial Product Release (V1.00)	The PACSystems RX3i DNP3 Slave/Outstation Module, catalog number IC695EDS001, or EDS001, implements the DNP3 Outstation protocol. It permits a PACSystems RX3i controller to be connected to a DNP3 network using a standard Ethernet TCP/IP connection scheme. It allows a DNP3 Master to poll data from the Slave Station, and can set up the Master to receive unsolicited communications from the Slave.. Two auto-sensing 10BaseT/100BaseTX RJ 45 shielded twisted-pair Ethernet ports permit direct connection to either a 10BaseT or 100BaseTX IEEE 802.3 network without an external transceiver. Line, Star and Daisy Chain topologies are supported. The RX3i DNP3 Slave/Outstation Module, catalog number IC695EDS001 (or EDS001), hosts the DNP3 Outstation protocol on a common RX3i ETM module hardware platform. Thus, many of the specifications and behaviors are shared with the ETM001 module. IC695EDS001 is an Ethernet-connected module which fits in the RX3i backplane and permits the RX3i to behave as an Outstation on the DNP3 network. The data exchanges between the EDS001 module and DNP3 Master(s) are configurable, using a single COMMREQ instruction in the ladder logic or Structured Text program., . The Ethernet DNP3 Slave Module provides: • Data exchanges up to 12,072 points and 20,000 events supported. • Four DNP3 Data Objects supported: DI, DI w/time, DO, DO w/time, CROB, analog output values, time setting, and class polls. • Multiple RX3i memory types may be utilized for DNP3 data exchange. • Binary DI/DO. • Analog (32-bit signed, 16-bit signed or single-precision floating point • Supports unsolicited data communications with DNP3 Master. The Ethernet DNP3 Slave Module specifications: • Up to 4 EDS001 per RX3i, as allowed by available power and slots. • Module can be installed in any available RX3i main rack I/O slot. • Module supports insertion into and removal from an RX3i backplane which is under power. • Firmware upgrade via RX3i CPU using WinLoader software utility.

Problems Resolved by Release 1.00

Subject	ID code	Description
NA	NA	NA

Restrictions and Open Issues

Restrictions and Open Issues in Release 1.00

Restriction/Open Issue	*Description*
White Listing of Master LLA	The EDS001 module allows the establishment of a white list of allowed connections, both TCP/IP and LLA Master Station addresses. The parameters for this feature are such that they can be enabled independently. However LLA white listing is to be used **WITH** TCP/IP white listing, not by itself.

Operational Notes

Operational Notes

Subject	*Description*
Station Manager un-responsive	Station Manager can become un-responsive when there is high polling rate, or high point load on the EDS001 module.
Use of Redundant IP with the EDS001 in a CRU application	DNP3 is a connection oriented protocol, and during a roll switch of a CRU controller the MAC address of the Redundant IP will change, typically causing TCP/IP connections to be re-connected, It is likely that a DNP3 Master with a connection to a EDS module in this type of configuration will experience a connection change, causing the DNP3 data to be temporarily un-available.
Use of SOE parameter with the EDS001 in a CRU application	It is not recommended that SOE be used in CRU applications, as on a roll switch the EDS module can lose buffered events, or hold them for a future roll switch.
Use of Master Set DNP3 Unsolicited mode with the EDS001 in a CRU application	It is not recommended that a Master use unsolicited mode with CRU applications, as on a roll switch the EDS module can lose buffered events, or hold them for a future roll switch. Also the Master may not know to re-issue the Unsolicited Enable command to the EDS module on a roll switch.
Synchronizing the LSI bits between CRU CPU's	This is not recommended, as it may cause the ST block that contains the ComReq setup to pre-maturely execute on a roll switch. Independent bits, or Symbolic bits should be used for the LSI data.
Using Point Push with Analog Data	Analog points when pushed will take on the default variance size specified by the ComReq parameter.