PACSystems^{TM} RX3i

CANopen MASTER
(IC695CNM001)

POWER

MOD STATUS

NET STATUS

CNM001
CANOPEN MASTER

USB

STATION ADD

CANOPEN

CAN_GND-3
CAN_L_2
CAN_H_7

EMERSON_{TM}
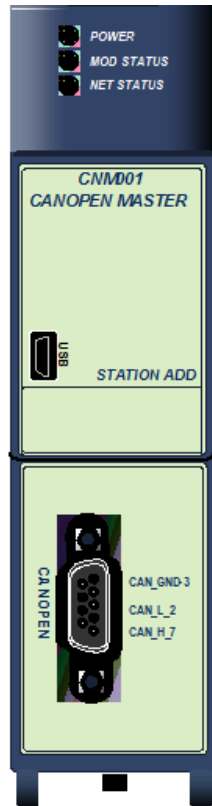
Introduction

The CNM001 module allows the RX3i Controller CPU to send and receive data on a CANopen network. It can act as master for up to five devices on the CANopen network.

The module's three LEDs display its operating and communications status. A 9-pin male D-connector interfaces to the CANopen network.

A CNM001 module can be installed in any I/O slot in the main rack in an RX3i system except slot 0, or the expansion slot.

Features

- TX PDO data scanning of up to 272 bytes (Includes 20 bytes of module status and slave status diagnostics.)
- RX PDO data scanning of up to 272 bytes
- Fault logging for loss or addition of CANopen slave devices that support Node Guarding, Heartbeat protocol, or have PDO counter health status monitoring enabled.
- Slave status bit per slave address to indicate in reference memory whether devices are healthy. (For devices that support either Node Guarding or Heartbeat protocol, or have PDO counter health status monitoring enabled

Note: *In the CANopen protocol, "transmit" and "receive" are defined from the slave's point of view. This means that TX PDOs are mapped to the CPU as %AI input scan data and RX PDOs are mapped as %AQ output scan data.*

Firmware Upgrades

The CNM001 module receives its firmware upgrades directly from the SYCON.net software using the USB port on the module.

CNM001 Module Specifications

Specification	Description
Mounting Location	RX3i main rack: Any slot except slot 0 or expansion slot.
Backplane Current Consumption	800mA at 3.3VDC
Hot swappable	Yes
RX3i CPU requirements	RX3i CPU Firmware version 7.70 or later

For product standards, product standards, general operating specifications and installation requirements, refer to the PACSystems RX3i System Manual GFK-2314.

Communications Specifications

Specification	Description
Maximum input data scanned by CPU	272 bytes (Includes 20 bytes of module status and slave status diagnostics)
Maximum output data scanned by CPU	272 bytes
Maximum number of supported slave devices	5
Maximum number of receive PDOs	15
Maximum number of transmit PDOs	30
Exchange of process data	Via Process Data Object (PDO) protocol transfer (synchronized, remotely requested and event driven (change of state))
Functions	Node guarding / life guarding Heartbeat protocol PDO mapping Synchronization Object (SYNC) protocol (producer)
Baud rates	10 kbits/s to 1 Mbits/s
Data transport layer	CAN Frames

Specification	Description
CAN Frame type	11 Bit

For product standards, general operating specifications, and installation requirements, refer to the PACSystems RX3i System Manual, GFK-2314.

Product Documentation

PACSystems RX3i CANopen Master Module User's Manual, GFK-2831
PACSystems RX3i CANopen Master Module Quick Start Guide, GFK-2832

For user manuals, product updates and other information go to the Support website, https://www.emerson.com/Industrial-Automation-Controls/support and refer to Controllers and IO, RXi Controllers.

Functional Compatibility

Subject	Minimum Version Required
Programmer version requirements	PAC Machine Edition Logic Developer, Release 7.00
CPU version requirements	RX3i CPU firmware version 7.70 on these CPU models: IC695CPE305, IC695CPE310, IC695CPU315, IC695CPU320 IC695CRU320 (including –QP)

Operational Notes

The CNM001 Master module implements the CANopen master protocol. For this release of the CANopen Master module, there are certain exceptions and special notes for operation, as listed below.

Subject	Description
Special CANopen operation	The CNM001 module supports RX PDO data scanning of up to 272 bytes. TX PDO data scanning of up to 252 bytes. up to 5 slave devices. a maximum of 15 receive PDOs. a maximum of 30 transmit PDOs. The CNM001 module does not support multiple masters.
Configuring the CANopen module	The CNM001 Master Module is configured in PAC Machine Edition as a 3rd Party module.
Configuring the CANopen network	A USB Mini Type B connector is used to download the CANopen network configuration from the SYCON.NET software to the module. The module is not configured through the RX3i backplane..
Upgrading module firmware	Firmware for the CANopen Master module is upgraded over the USB Mini Type B connector using the SYCON.NET software. This release does not support firmware upgrade through the RX3i CPU and backplane.

Release History

Catalog No.	Firmware Version	Date	Comments
IC695CNM001-CA	2.11	Sep-2019	Following Emerson's acquisition of this product, changes have been made to apply appropriate branding and registration of the product with required certification agencies. No changes to material, process, form, fit or functionality.
IC695CNM001-BA	2.11	June 2017	Address HW component obsolescence and updated agency compliance labeling to add WEEE. No changes to form, fit, or function.
IC695CNM001-AA	2.11	March 2013	Initial release.

Additional Information

PACSystems RX3i User Manuals

PACSystems RX3i and RX7i CPU Reference Manual, GFK-2222
PACSystems RX3i System Manual, GFK-2314

PACSystems RX3i CANopen Master Module User's Manual, GFK-2831
PACSystems RX3i CANopen Master Module Quick Start Guide, GFK-2832

For user manuals, product updates and other information go to the Support website, https://www.emerson.com/Industrial-Automation-Controls/support and refer to *Controllers and IO*, *RX3i Controllers.*

Technical Support & Contact Information

Home link: http://www.Emerson.com/Industrial-Automation-Controls

Knowledge Base: https://www.emerson.com/Industrial-Automation-Controls/support

Note: If the product is purchased through an Authorized Channel Partner, please contact the seller directly for any support.

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