

## 16.21 RX3i CEP Carrier: IC695CEP001

### RX3i CEP Expansion Carrier: IC694CEE001

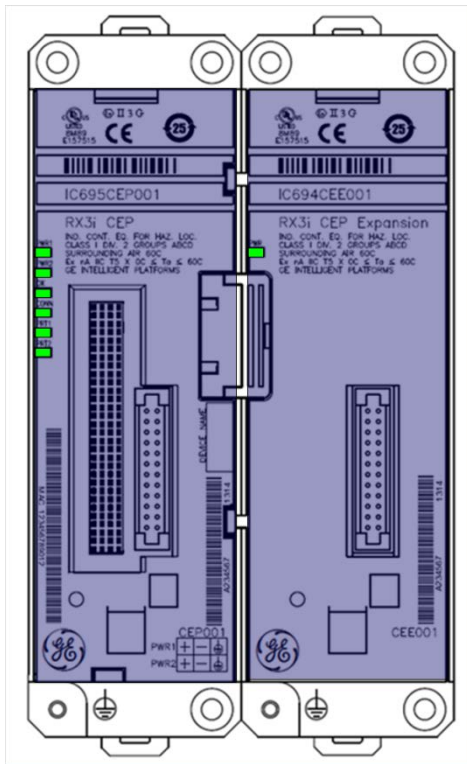


Figure 406: IC695CEP001 with IC694CEE001 Attached

The PACSystems RX3i Carrier IC695CEP001 interfaces a remote node, consisting of one RX3i I/O module, to a PROFINET I/O Local Area Network (LAN).

The optional RX3i Expansion Carrier IC694CEE001 attaches to the RX3i CEP001 Carrier and provides the ability to add one additional RX3i IC694 I/O module to the remote node.

The RX3i CEP001 Carrier functions as a PROFINET IO-Device. The RX3i CEP001 Carrier's main Remote I/O functions include:

- Scanning all the modules within the remote node (input and output scan)
- Publishing data on the PROFINET network to a PROFINET IO-Controller at a user-specified production period
- Receiving data from a PROFINET IO-Controller on the PROFINET network at a customer-specified production period
- Managing PROFINET communication and module configuration between a PROFINET IO-Controller and modules within the remote node
- Managing the state of the I/O when communications is lost
- Publishing fault information (alarms, diagnostics, and such) to the PROFINET IO-Controller
- Provides power to the CEE001 Expansion Carrier

The insertion and removal of I/O modules is the same as in an RX3i Universal Backplane. Refer to Section 2.6.4.

The RX3i CEP001 Carrier provides two RJ-45 Ethernet receptacles. It supports 10/100BASE-TX Ethernet standard interface.

#### 16.21.1 Features

- Full programming and configuration services for all supported RX3i I/O Modules using Proficy Machine Edition. Refer to the section, [Supported I/O Modules](#).
- Support daisy-chain/line, star, or ring (redundant media) network topologies.
- Two switched Ethernet ports: two eight-conductor RJ-45 shielded-twisted pair 10/100 Mbps copper interfaces.
- USB port for field updates of firmware using WinLoader.
- Supports Hot-standby CPU Redundancy using PROFINET I/O: requires RX3i CEP001 2.01 GSDML version 2.3 or later.
- Supports HART® Pass Through using PROFINET.

**Note:** The USB port is for firmware upgrades only. It is not intended for permanent connection.



**Note:** The CEP001 Carrier requires a user-supplied +24 Vdc power source.

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## 16.21.2 Normal Operation of Individual LEDs: CEP001 & CEE001






### 16.21.2.1 Power LEDs

The RX3i CEP001 Carrier has two Power LEDs, PWR1 and PWR2 that indicate whether the power is applied and is within range corresponding to the two power sources.

	Green, ON	Power is applied at the minimum specified level
	OFF	The power supply does not have power or has failed.





### 16.21.2.2 OK LED

The OK LED indicates whether the CEP001 Carrier is able to perform normal operation.

	Green, ON	RX3i CEP001 is OK
	Amber, ON	Either the RX3i CEP001 Carrier or IO module has a fault
	Amber, blink pattern	Fatal error. Flashes once between error codes.
	Fast blinking	CEP001 has no valid MAC addresses
	OFF	CEP001 has an unrecoverable fault







### 16.21.2.3 Connect LED

The CONN LED indicates the status of PROFINET connections.

	Green, ON	At least one PROFINET connection (AR) exists with an IO-Controller
	Amber, blink pattern	Fatal error. Flashes once between error codes blinked on the OK LED
	Amber, blink in 1Hz	No device name configured
	OFF	No PROFINET connection (AR) exists

### 16.21.2.4 Port LEDs




The RX3i CEP001 has two Port LEDs, PRT1 and PRT2 that indicate link speed, link connection and link activity corresponding to the two external Ethernet ports.

	Green, ON	Link connected, 100 Mbps
	Green, blinking	Port active, 100 Mbps
	Amber, ON	Link connected, 10 Mbps
	Amber, blinking	Port active, 10 Mbps
	Amber, blink pattern	Fatal error. Flashes once between error codes blinked on the OK LED
	OFF	The associated Ethernet port is not connected to an active link (can be disabled by configuration)

**Note:** Multiple LEDs can blink in patterns that indicate special conditions, such as a request for module identification. Refer to *PACSystems RX3i PROFINET Scanner IC695CEP001 User Manual*, GFK-2883.

### 16.21.2.5 Power LED (IC694CEE001)

The RX3i Expansion Carrier CEE001 has one PWR LED to indicate whether the power provided by the RX3i CEP001 Carrier is within range.

	Green, ON	OK
	Amber, ON	Power 24Vdc and/or 5Vdc is not in specified range
	OFF	No power

### 16.21.3 Ordering Information

IC695CEP001	RX3i CEP001 Carrier with RJ-45 Copper Ethernet Interface
IC694CEE001	RX3i CEE001 Expansion Carrier

### 16.21.4 Specifications

PROFINET support	PROFINET Version 2.3 Class A IO-Device	
RX3i Controller version required	IC695CPU315/CPU320/CPE305/CPE310/CPE330/CRU320, firmware v8.50 or later IC69PNC001 PROFINET IO-controller with firmware version 2.20 or later	
RXi Controller version required	RXi Controller, ICRXICTL000, with firmware version 7.80 or later is compatible with CEP001 up to version 2.01, but is not compatible with CEP001 version 2.30.	
Proficy Machine Edition version required	Version 8.6 with SIM 3 or later	
Power requirements <sup>96</sup>	IC695CEP001: 5.25W (0.22 A) at 24 Vdc with or without Expansion Carrier (IC694CEE001) DC power supply input range: 19.2 to 30 Vdc	
Module dimensions	177.2 x 51 x 35 mm (6.98" x 2.01" x 1.38"). Same for CEP001 and CEE001.	
Operating temperature	0°C to 60°C (32°F to 140°F) maximum surrounding air temperature	
Number of Ethernet port connectors	IC695CEP001: Two RJ-45 10/100Base-TX receptacles IC694CEE001: None	
USB connector (for firmware upgrades)	IC695CEP001: One Micro-B connector. USB 2.0 compliant running at full-speed (12 MHz) in device mode IC694CEE001: None	
PNS status and control bits	32 input status bits and 32 output control bits	
I/O data update on the PROFINET LAN	Configurable: 1ms, 2ms, 4ms, 8ms, 16ms, 32ms, 64ms, 128ms, 256ms and 512ms	
Number of IP addresses	One; supports Classless Inter-Domain Routing (CIDR)	
Number of MAC addresses	Three; one per external port and one internal. External MAC addresses are only used for specialized Ethernet protocols such as MRP or LLDP.	
I/O station maximum limits	Number of I/O modules per station	IC695CEP001: One IC695CEP001 with IC694CEE001: Two
	I/O data per station	1024 bytes total 512 bytes of input data 512 bytes of output data
Configuration	Configured using Proficy Machine Edition when used with a PACSystems RX3i PROFINET Controller module as part of an RX3i High-speed I/O LAN system. V2.3 GSDML file available for import into 3rd-Party tools.	

For product standards and general specifications, refer to *Appendix A*.

<sup>96</sup> Value does not include the power consumption of the installed I/O modules. When calculating the total power requirements, add the power consumption of the I/O modules according to the I/O module datasheet.