

PROFINET to Modbus-RTU Gateway for EJ1 Temperature Controllers

# EJ1N-HFU-ETN

## Versatile PROFINET Slave Unit Provides Gateway to EJ1N Temperature Controllers and Modbus

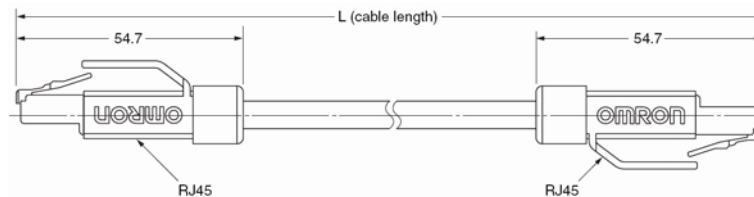
- PROFINET communication unit physically connects directly onto EJ1N temperature controllers – no wiring needed.
- Provides a low-cost Ethernet interface to Modbus-RTU devices for simplified wiring.
- Up to 31 slaves can be attached to each gateway.
- Use stand-alone with an EJ1C-EDUA-NFLK End Unit to connect RS-485 serially to MX2 AC Drives, E5□N Temperature Controllers, and other Modbus devices for a low cost gateway to PROFINET on Ethernet cable.
- Three Ethernet ports built in; use them to connect to additional nodes.
- The unit supports Modbus on TCP requests at the same time as being a PROFINET slave.
- Complies with EC Directives for sales to Europe.
- Function blocks for CJ-Series PLCs simplify programming to back up or restore the setup data in a node.



## Ordering Information

Description	Part Number
Gateway PROFINET to Modbus and EJ1N-TC	EJ1N-HFU-ETN
End unit for EJ1N with RS-485 communications port	EJ1C-EDUA-NFLK
PROFINET Master for CJ-series PLCs, NJ-series Machine Automation Controllers	CJ1W-PNT21
Smart Slice PROFINET Communication Unit	GRT1-PNT
DV PROFINET communication option board for DV drive	3G3DV-APRO-2C

## Ethernet Cables



Description	Connector type	Cable length L	Model
Double-ended EtherCAT Cable with Straight Connectors	RJ45/RJ45 on both ends	0.5 m	XS5W-T421-BMD-K
		1 m	XS5W-T421-CMD-K
		2 m	XS5W-T421-DMD-K
		5 m	XS5W-T421-GMD-K
		10 m	XS5W-T421-JMD-K

# System Configuration

## Option 1



Gateway with 2- and 4-loop EJ1 temperature controllers

EJ1N-HFU-ETN Communications Gateway

EJ1 Temperature Controllers and EJ1C-EDUA-NFLK End Plate

## Option 2



Gateway with end unit EJ1C-EDUA-NFLK and Omron and/or third party devices on RS-485 Modbus RTU.

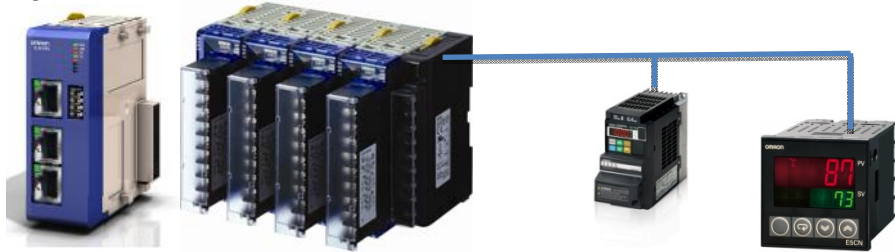
EJ1N-HFU-ETN Communications Gateway

EJ1C-EDUA-NFLK End Plate

MX2 (RS485)

E5CN (RS485)

## Option 3



Gateway with EJ1 Temperature Controllers, end unit EJ1C-EDUA-NFLK and Omron and/or third party devices on RS-485 Modbus RTU.

EJ1N-HFU-ETN Communications Gateway

EJ1 Temperature Controllers with EJ1C-EDUA-NFLK End Plate

MX2 (RS485) AC Drive

E5CN (RS485) Panel Mount

Option 4

CJ2-Series PLC with PROFINET master unit CJ1W-PNT21



Use the three ports on the EJ1N gateway to create a daisy chain to the next node and/or branch.

EJ1N-HFU-ETN Communications Gateway



SmartSlice I/O with 2-port PROFINET interface GRT1-PNT



AC Drives with PROFINET interface (DV-Series)

Specifications

Item	Specification
Classification	PROFINET IO Device
Conformance class	Class A
Supported RT class	Class 1
Minimum update rate	8 ms
Number of Modbus RTU nodes	31
Ambient operating temperature	-10° to 55°C
Ambient operating humidity	25% to 85% RH

## Programming Software

- IP address and device name can be set by any PROFINET scan-tool. Omron's CX-Configurator FDT is a PROFINET scan-tool; CX-Configurator FDT Version 1.2 is included in CX-One Automation Software Suite version 4.03.
- For PROFINET a GSDML file and CX-ConfiguratorFDT are used to configure the Omron PROFINET master CJ1W-PNT21.
- GSDML files support network interface modules: MX2 Inverter, EJ1 TC2 and TC4 Temperature Controllers, and a generic Modbus node. The MX2, E5CN and EJ1 configuration tools require a local connection to program them.

## Backup and Restore Functions

DIP switch settings on the EJ1N-HFU-ETN gateway enable the PLC to monitor when to initiate a backup or restore action.

## Documentation and Links

Description	Media	Publication number
How to setup the EJ1N-HFU-ETN	FAQ online	<a href="http://www.myomron.com/index.php?action=kb&amp;article=1422">http://www.myomron.com/index.php?action=kb&amp;article=1422</a>
How to setup IP address on the EJ1N-HFU-ETN	FAQ online	<a href="http://www.myomron.com/index.php?action=kb&amp;article=1413">http://www.myomron.com/index.php?action=kb&amp;article=1413</a>
GSDML File for EJ1N-HFU-ETN	File	<a href="#">EJ1-PROFINET-GSDML</a>
Function Block Files: EJ1 Backup and Restore	File	<a href="#">EJ1_BACKUP_RESTORE</a>
Instruction Sheet for EJ1N-HFU-ETN	PDF	<a href="#">INST-EJ1N-HFU-ETN</a>
Modbus Address Reference Sheet for EJ1N	PDF	<a href="#">H142X-E-01</a>
Startup Guide: How to configure PROFINET master and EJ1N-HFU-ETN and EJ1N-TC units	PDF	<a href="#">SG-EJ1-PROFINET</a>