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Omron: PROFINET and Modbus TCP to SERIAL Gateway

The EJ1N-HFU-ETN Ethernet to serial gateway makes it possible to integrate devices communicating in serial Modbus RTU over an Ethernet based PROFINET or Modbus TCP network.

As standard many industrial devices are equipped with serial interfaces, with Modbus RTU as the most commonly used protocol. By using the EJ1N-HFU-ETN Ethernet to serial gateway, these devices can be included in a PROFINET or Modbus TCP network without additional serial interface control or wiring.

-CelciuX° / E5_C / MX2

Originally the EJ1N-HFU-ETN was designed to integrate CelciuX ° temperature controllers into Ethernet networks. However, by directly linking to the end plate of the gateway (EJ1N-EDU), the same unit can be used to communicate with other devices via serial Modbus RTU. An example of this is the E5_C temperature controller or the MX2 (or JX, RX, SX) inverter. It is also possible to serially connect the EJ1N-HFU-ETN units via the EDU end-plate.

-Switch

The gateway is equipped with a built-in switch with three RJ45 Ethernet ports. As well as linking to the controller, it is also possible to connect other Ethernet devices, such as an HMI unit. Alternatively a PC can be connected via one of these ports in order to remotely access the control installation.

-PROFINET

The gateway can be included in a PROFINET network by using the flexible deployment of standard GSDML files. In your PROFINET configuration tool it is then easily possible to convert Modbus RTU to PROFINET and vice versa, thus the normal cyclical PROFINET communication can be shared.

-Modbus TCP

As Modbus TCP is a variant of the Modbus RTU serial protocol, no conversion of parameters is required. In this mode, Modbus TCP sends commands to the devices and the Ethernet Modbus TCP gateway converts these into the correct serial Modbus RTU commands. If using an Omron PROFINET master it is also possible to send explicit Modbus TCP messages. Non-cyclical information (data that you want to know but that is not continuous e.g. only once per hour or day) can be easily exchanged via Modbus TCP.

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