Introduction

The EKI-1242ECMS industrial fieldbus gateway provides seamless communication between Fieldbus and Ethernet devices with its support for different protocol devices, thereby being capable of integrating new and existing Modbus RTU/TCP devices into EtherCAT networks. The EKI-1242ECMS is a simple and cost-effective way to bring the advantage of fast I/O data transfer between devices.

Specifications

Ethernet Communication

- **Protocols**: EtherCAT, Modbus TCP
- **Number of Ports**: 4
- **Speed**: 10/100 Mbps, auto MDI/MDIX
- **Connector**: 8-pin RJ45
- **Protection**: Built-in 1.5 kV magnetic isolation

Serial Communications

- **Port Type**: RS-232/422/485, software-selectable
- **No. of Ports**: 2
- **Protocol**: Modbus RTU
- **Port Connector**: DB9 male
- **Data Bits**: 5, 6, 7, 8
- **Stop Bits**: 1, 1.5, 2
- **Parity**: None, odd, even, space, mark
- **Flow Control**: XONXOFF, RTS/CTS
- **Baud Rate**: 50 bps ~ 921.6 kbps
- **Serial Signals**: RS-232: TxD, RxD, CTS, RTS, DCD, RI, GND
  RS-422: TxD+, TxD-, RxD+, RxD-, GND
  RS-485: Data+, Data-, GND

Software

- **Modbus RTU/TCP**
  - **Mode**: Master
  - **Functions Support**: 1, 2, 3, 4, 5, 6, 15, 16, 23
  - **Max. Number of Connections**: 64
- **EtherCAT**
  - **Type**: Slave
- **Max. Total I/O Data Size (SDO&PDO objects)**
  - **Input**: 512 bytes
  - **Output**: 512 bytes
  - **FFMMU Channels**: 4

Features

- Supports dual power input for power redundancy
- Seamlessly integrate Modbus RTU/TCP and EtherCAT communication protocols
- Modbus master mode supports up to 64 connections
- Mountable via DIN rail and wall mount
- Designed for protocol extensibility and adaption
- Built-in real-time diagnostics to enhance device management efficiency
- "I" models support a wide operating temperature

General

- **LED Indicators**: System: power, system status, protocol status
  LAN: speed, link/active, error
- **Reboot Trigger**: Built-in WDT
- **MicroSD Card**: Configuration backup and restore

Mechanics

- **Dimensions (W x H x D)**: 42 x 140 x 95 mm (1.66" x 5.52" x 3.75")
- **Enclosure**: Metal with solid mounting hardware
- **Mounting**: DIN rail, wall
- **Weight**: 0.497 Kg

Power Requirements

- **Power Input**: 12 ~ 48 VDC, redundant dual inputs
- **Power Connector**: Terminal block
- **Power Consumption**: 5.2 W

Environment

- **Operating Temperature**: -10 ~ 60 °C (14 ~ 140 °F)
  "I" models: -40 ~ 75 °C (-40 ~ 167 °F)
- **Storage Temperature**: -40 ~ 85 °C (-40 ~ 185 °F)
- **Operating Humidity**: 10 ~ 95% RH

Regulatory Approvals

- **EMC**: CE, FCC Part 15 Subpart B (Class A)
**Dimensions**

Unit: mm [in.]

**Ordering Information**

- **EKI-1242ECMS**  
  Modbus RTU/TCP to EtherCAT Fieldbus Gateway
- **EKI-1242IECMS**  
  Modbus RTU/TCP to EtherCAT Fieldbus Gateway with Wide Operating Temperature