B1-CMES

Ethernet Communication Module



Introduction

The B1-CMES is an Ethernet and IoT communication module for FATEK B1 and HB1 series PLCs.

It is a compact left-side expansion module that does not occupy additional expansion module space. With the B1-CMES installed, the B1-CPU PLC can directly support FATEK IoT services without requiring a Gateway or HMI. By configuring the IP address, the PLC can connect to controllers or computers over Ethernet in either client (active) or server (passive) mode.

This module is compatible with B1 and HB1 series PLCs manufactured after a specific year*. With this module, remote monitoring and diagnostics of the PLC can be easily achieved.

When installed, the module occupies Port1 / Port2 on B1 hosts and Port3 / Port4 on HB1 hosts. Port1 (Port3) operates in FATEK server mode and can be used for ladder program editing and debugging. Port2 (Port4) supports Modbus-TCP server mode and FATEK client mode. After configuration, the PLC communication port parameters will be automatically adjusted according to the selected operating mode.

Features

- Support FATEK IoT Services iMonitor
- Multi-client accessible
- Modbus Server operation mode
- FATEK Server and Client operation mode
- IP-based access control
- TCP/IP support 8 connections (Server operation mode)

Specification

Network Specification

- **Network Interface:** 10/100BaseT
- **Network Protocol:** TCP/IP
- **Application Protocol:** FATEK, Modbus/TCP, DHCP, DNS, NetBIOS
- **PLC Interface:** Port1 (Port3), Port2 (Port4)
- **PLC Interface speed:** 307.2Kbps
- **Operating mode:** Fatek：Server / Client
- **Modbus:** Server
- **Application ports:** Modbus TCP: 502, FATEK: 500
- **Security mechanism:** IP-based access control
- **Configuration:** Via Ethernet using a dedicated utility program.
- **Firmware update method:** Via network connection.

IoT Specification

- **iMonitor:** CMES supported 10 dataitems limited

Common Specification

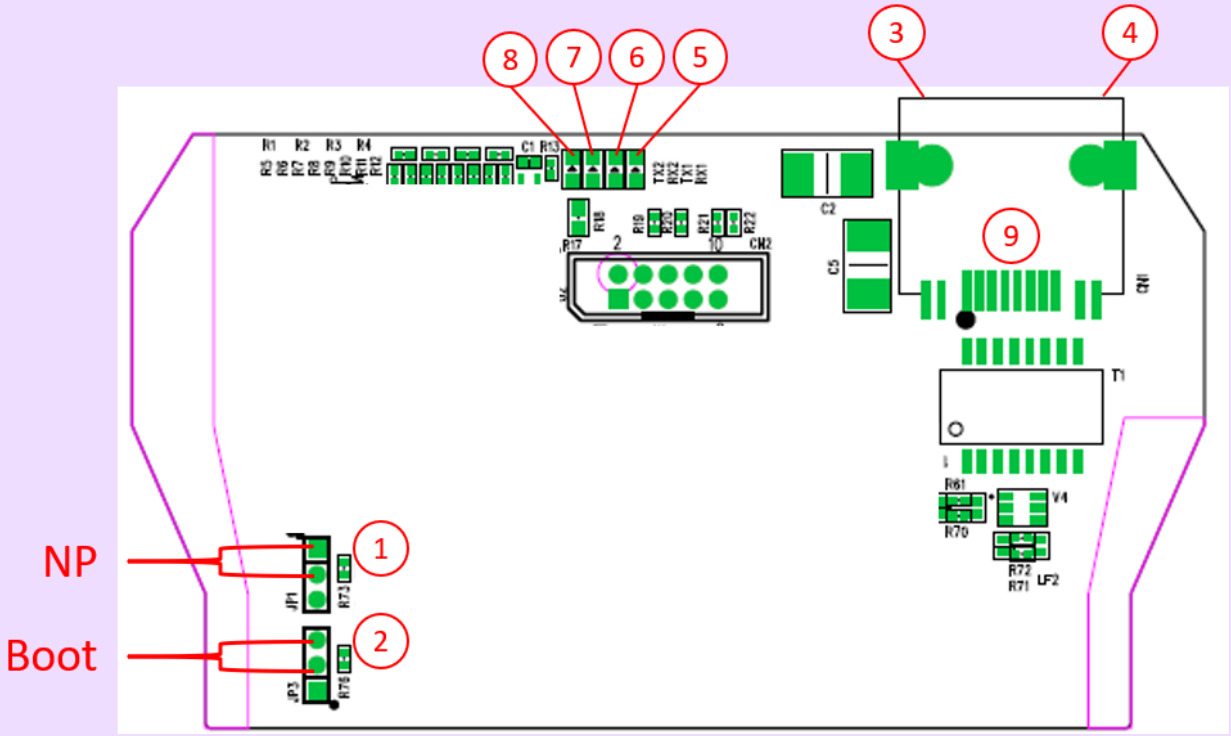
- **Indicator(s):** LINK/ACT (Yellow LED)、SPEED (Green LED)
- **Internal Power Consumption:** 5V, 250 mA
- **Operating Temperature:** 5 ~ 55 ℃
- **Storage Temperature:** -25 ~ 70 ℃
- **Dimension:** 25(W)x90(H)x54.8(D) mm

*B1-CMES is forward compatible with B1 series PLC produced after 2023

*If B1-CMES is installed on an incompatible B1 CPU, the CPU will stop and show an error code (R4049=13, (Y0,Y1,Y2,Y3)= (1,0,1,1))

Jumper Setting

B1-CMES



① **NP Jumper:**
When the two upper pins are shorted, the password protection function is disabled.

② **Boot Jumper:**
When the two upper pins are shorted, the system will forcibly enter **Boot mode** after power-on.

③ **Ethernet Status LED (LINK/ACT) - Yellow:**
On: The Ethernet connection is established.
Blinking: Network data activity is present.

④ **Ethernet status LED (SPEED) - Green:**
On: Connected at **100Base-TX** speed.
Off: Connected at **10Base-T** speed.

⑤ **Port1 (Port3) RX LED (Green):**
On: Indicates that data is **received from** Port1 (Port3) of the PLC.

⑥ **Port1 (Port3) RX LED (Green)**
On: Indicates that data is **transmitted to** Port1 (Port3) of the PLC.

⑦ **Port2 (Port4) RX LED (Green):**
On: Indicates that data is **received from** Port2 (Port4) of the PLC.

⑧ **Port2 (Port4) TX LED (Red):**
On: Indicates that data is **transmitted to** Port2 (Port4) of the PLC.

⑨ **Ethernet connector:** Standard **RJ45** connector.