YASKAWA

JOHB-SMP3

All-in One: Multi-Protocol Ethernet based communication option card

Data Sheet

EtherNet/IP™

EtherCAT®

PROFINET®

Modbus

The Multi-Protocol Ethernet option card (JOHB-SMP3) is a single circuit board option card for Yaskawa AC drives that contains multiple industrial Ethernet protocols. You can use a series of configuration switches on the circuit board to select the correct protocol for your application. Highly versatile and easy stock control.

Multi-Protocol Ethernet Option Card Specification

Item	Specification
Category	AC Drive option card
Name	Multi-Protocol Ethernet Communication Option card (MPE)
Model	JOHB-SMP3-MA
Supported Protocols	• Modbus TCP/IP • EtherNet/IP • EtherCAT • PROFINET
Supported message connections	• Explicit message: Explicit class 3, non-connection • I/O message: Class 1, Waiting only, input only
I/O assembly instance	• Input: 13 types (4-47 bytes) • Output: 13 types (4-47 bytes)
Conforming EtherNet/IP Specifications	Conformance Level CT 17: Certification
Recommended connector type	Cat5e Shielded cable
Physical layer type	Insulating physical layer
IP address setting	Configurable via drive parameters or network
Communication speed	Configurable via drive parameters or network: 10/100 Mbps, auto-negotiation
Number of connections	• Explicit message: 6 • I/O message: 2
Duplex mode	• Half duplex • Auto negotiate • Full duplex
Address Startup mode	• Fixed • BOOTP • DHCP
Ambient Temperature	-10°C to +50°C (14°F to 122°F)
Humidity	Up to 95% RH (non-condensing)
Storage Temperature	-20°C to +60°C (-4°F to 140°F) allowed for short-term transport of the product

Set the communication protocol using DIP switch S1 on the option, and the protocol is determined by the DIP switch setting when the power is applied.

Note: With default settings, the communication protocol is not selected. When you energize the drive with the default setting, you will see oFA00 [Option Not Compatible with Port] or PSE [JOHB-SMP3 Protocol Set Error].

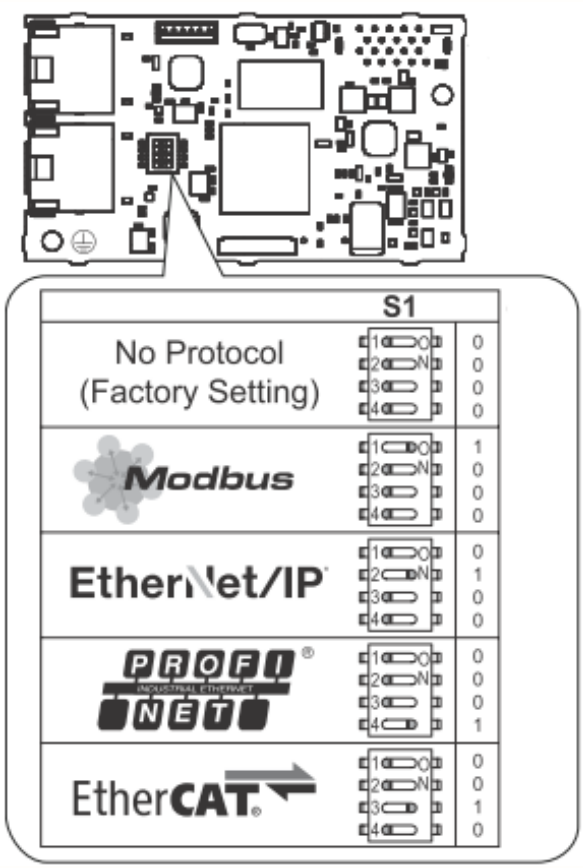

Fig. 1 Examples of DIP switch settings

Supported drive communication by JOHB-SMP3 option card:

AC Drive	Modbus TCP/IP	ProfiNet*[1,2]	EtherNet/IP*[2]	EtherCAT
A1000	•	•	•	•
D1000	•		•	•
R1000	•		•	•
U1000	•	•	•	•
CR700	•	•	•	•
GA500	•	•	•	•
GA700	•	•	•	•

***1** The Multi-protocol card with firmware 8204 will be shipped with 4 protocols (EtherCAT, EtherNet/IP, ProfiNet and Modbus TCI/IP).

JOHB-SMP3 option cards with firmware 8203 are shipped with 3 protocols, EtherCAT, EtherNet/IP and Modbus TCP/IP. To use ProfiNet communication with the MPE card, the user must upgrade the option card firmware. The firmware of the JOHB-SMP3 multi-protocol option card can be updated using a web browser using the embedded RJ-45 ethernet ports of the card. Check the JOHB-SMP3 option card online info for more details.

The protocol firmware can be found on the label placed on the ethernet ports of the option card, or on the option card packaging (PRG).

Fig. 2 Example of firmware version 8203 on the option card packaging

***2** Drives equipped with the JOHB-SMP3 option card can be connected to network in either star or line topology.

- Star Topology
  Use either one of the communication connectors CN1A (Port 1) or CN1B (Port 2).
- Line Topology (Daisy-Chained)
  Use the communication connectors CN1A (Port 1) and CN1B (Port 2) at the same time. A switch is not necessary for this connection.

At this time, the JOHB-SMP3 option card does not support the Device Level Ring (DLR) or Rapid Spanning Tree (RSTP) features (firmware update will follow). To use this option in a ring topology, prepare a separate device that supports STP and RSTP in the same network.

JOHB-SMP3 Option Card online info

Use this page to download manuals and configuration files for your selected protocol

JOHB-SMP3 option card online info

JOHB-SMP3 option card firmware

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