
YASKAWA

CANopen®

High-speed distributed control with a high level of reliability

# Sigma-5
# CANopen Network Module

The CANopen Network Module for Sigma-5 servoamplifiers (SGDV-OCB01A) provides an interface for a CANopen communication network. It enables the user to achieve high-speed distributed control with a high level of reliability.

CANopen is a protocol commonly used in the automation, test and material handling industry. The specification of this protocol is maintained and developed by the CiA (CAN in Automation) organization (www.can-cia.org).

## CANopen Network Module features

The CANopen Network Module offers a wide range of functions based on the following:

- CANopen DS-301 specification
- Drive profiles according to DS-402, V2.0 support the following modes:
  - Profile Position Mode
  - Homing Mode
  - Profile Velocity Mode
  - Profile Torque Mode
  - Interpolated position mode
- Additionally 2 touch probe functions are implemented
- Rotary switches for setting node ID – up to 127 nodes
- Communication rate of up to 1 Mbps
- Standard 9-pin D-type connector
- Two indicator LEDs according to CiA303-3

## Components of the SGDV-OCB01A hardware interface


**S1: Address Switch - Sets the most significant bit of the CAN node address (hexadecimal format).**

**S2: Address Switch - Sets the least significant bit of the CAN node address (hexadecimal format).**

**ERROR: Indicates the status of the CAN physical layer and indicates errors due to missing CAN messages.**

**RUN: Indicates the status of the CANopen network state machine.**

**S3: Baud Rate Selection Switch**
**Sets the baud rate using the DIP switch S3.**

**CN11 connector:**
**D-SUB 9-Pin Plug CAN Bus Connector**

**CN12 connector:**
**14-Pin high density Serial Port connector**

SGDV-OCB01A is an add-on board, compatible with Sigma-5 series servo drives SGDV - □□□□ E □.

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# Standard Specifications

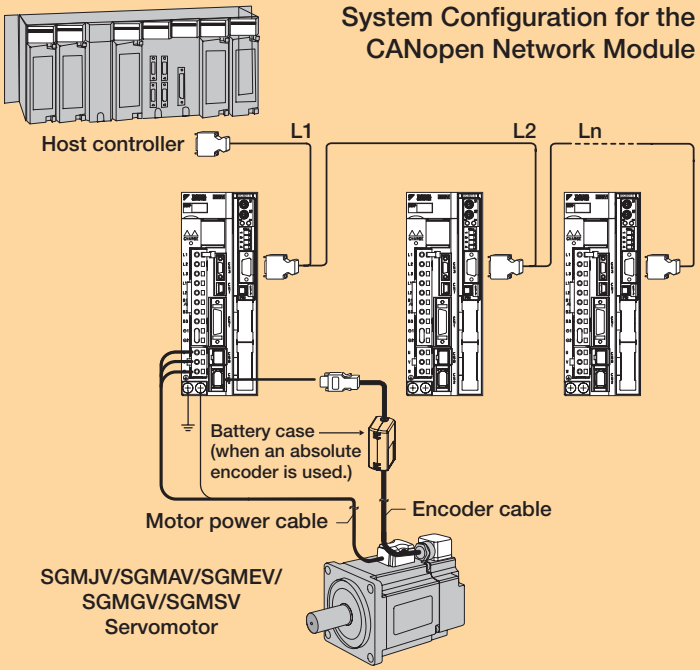
| Items | Specifications |
|---|---|
| Applicable SERVOPACK | Σ-V Series SGDV-□□□□E□ SERVOPACK, all models |
| Placement | Attached to the SERVOPACK |
| Power Specification | Supplied from the control power supply of the SGDV SERVOPACK |
| CANopen communication standards | DS-301, V4.02 |
| CAN bit rates | 10, 20, 50, 125, 250, 500, 800, 1000 Kbps |
| CAN identifier | Standard 11 bit |
| CANopen node-ID | 1-127 (set by two rotary switches) |
| Connector | Sub-D 9 |
| SDO communication | 1 server |
| Block transfer | No |
| Segmented transfer | Yes |
| PDO communication | Producer and consumer, default setting according to DS-402 |
| Supported RPDOs | 1 to 4 |
| Supported TPDOs | 1 to 4 |
| SYNC | Consumer |
| Time stamp | No |
| Emergency messages | Producer |
| Node guarding | No |
| Heartbeat | Producer and Consumer |
| Non-volatile storage | Yes |
| CANopen profile for drives | DS-402, V2.0 |
| Axis types | Linear and Rotary |
| Motor type | Brushless AC servo |
| Current consumption | 0.28 A from 5 V DC Servo Drive supply |

| Conformance Standards |
|---|
| CiA Specifications |
| Safety Standard UL508 |
| Material Compliance UL94V-0 |
| RoHs Directive 2002/95/EC |
| WEEE Directive 2002/96/EC |
| Low Voltage Directive 73/23/EEC |
| EMC Directive 89/336/EEC |

## Best in Class Servo Drives

The Sigma-5 servo system fits in motion applications demanding high dynamic and accuracy, fast positioning and perfect multi-axes synchronisation.

### System Configuration for the CANopen Network Module



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