8-3 CMM-DN02 -- Communication card, DeviceNet

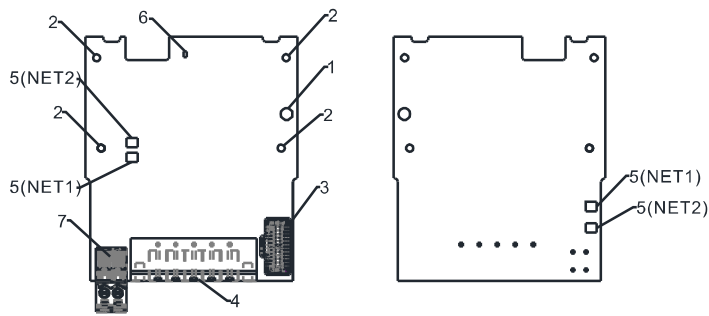## 8-3-1 Product Profile

Figure 8-33

Figure 8-34

Wire gauge: 0.25–0.5 mm^2 / (24–20 AWG)
Stripping length: 7–8 mm
Screw torque: 2 kg-cm / (1.7 lb-in.) / (0.2 Nm)

1. Screw fixing hole
2. Positioning hole
3. AC motor drive connection port
4. Communication Port
5. Indicator NET1 (MS), NET2 (NS)
6. POWER indicator
7. Ground terminal block

8-3-2 Features

1. Based on the high-speed communication interface of Delta's HSSP protocol, the AC motor drive can be controlled in real-time.
2. Supports Group 2 only connection and polling I/O data exchange.
3. For I/O mapping, supports a maximum of 32 words input and 32 words output.
4. Supports EDS file configuration in DeviceNet configuration software.
5. Supports all baud rates on DeviceNet bus: 125 Kbps, 250 Kbps, 500 Kbps and extendable baud rate mode.
6. Node address and baud rate can be set in the AC motor drive.
7. Power is supplied from the AC motor drive.

8-3-3 Specifications

DeviceNet Connector

Interface	5-PIN open pluggable connector. PIN interval: 5.08 mm
Transmission Method	CAN
Transmission Cable	Shielded twisted-pair cable (with 2 power cables)
Transmission Speed	125 Kbps, 250 Kbps, 500 Kbps and extendable baud rate mode
Network Protocol	DeviceNet protocol

Table 8-12

AC Motor Drive Connection Port

Interface	24 PIN communication terminal
Transmission Method	SPI communication
Terminal Function	1. Communication module communicates with the AC motor drive through this port. 2. The AC motor drive supplies power to communication module through this port.
Communication Protocol	Delta HSSP protocol

Table 8-13

Electrical Specifications

Power Supply Voltage	15 V_{DC} (supplied by the AC motor drive)
Insulation Voltage	500 V_{DC}
Communication Cable Power Consumption	0.85 W
Power Consumption	1 W
Weight	23 g

Table 8-14

Environmental Conditions

Noise Immunity	ESD (IEC 61800-5-1, IEC 6100-4-2) EFT (IEC 61800-5-1, IEC 6100-4-4) Surge Test (IEC 61800-5-1, IEC 6100-4-5) Conducted Susceptibility Test (IEC 61800-5-1, IEC 6100-4-6)
Operation / Storage	Operation: -10–50ºC (temperature), 90% (humidity) Storage: -25–70ºC (temperature), 95% (humidity)
Shock / Vibration Resistance	International standards: IEC 61800-5-1, IEC 60068-2-6 / IEC 61800-5-1, IEC 60068-2-27

Table 8-15

DeviceNet Connector

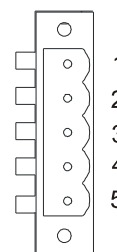| PIN	Signal	Color	Definition
1	V+	Red	24 VDC
2	H	White	Signal+
3	S	-	Ground
4	L	Blue	Signal-
5	V-	Black	0 V

Table 8-16   Figure 8-35

8-3-4 LED Indicator & Troubleshooting

There are two LED indicators on the CMM-DN02: NS LED and MS LED. NS LED and MS LED are dual-color LEDs, displaying the connection status and error messages of the communication module.

NS LED

LED Status	Indication	Corrective Action
OFF	No power supply or the CMM-DN02 does not pass the MAC ID test.	1. Check the power to the CMM-DN02 and see if the connection is normal. 2. Make sure there is at least one node on the bus. 3. Check if the baud rate of the CMM-DN02 is the same as that of the other nodes.
Green light flashes	The CMM-DN02 is on-line but does not connect to the master.	1. Configure the CMM-DN02 to the scan list of the master. 2. Re-download the configured data to the master.
Green light ON	The CMM-DN02 is on-line and normally connects to the master.	No action is required.

LED Status	Indication	Corrective Action
Red light flashes	The CMM-DN02 is on-line, but I/O connection is timed-out.	1. Check if the network connection is normal. 2. Check if the master operates normally.
Red light ON	1. Broken communication 2. MAC ID test failure 3. No network power supply. 4. CMM-DN02 is off-line.	1. Make sure all MAC IDs on the network are unique. 2. Check if the network installation is normal. 3. Check if the baud rate of the CMM-DN02 is the same as that of the other nodes. 4. Check if the node address of the CMM-DN02 is illegal. 5. Check if the network power supply is normal.

Table 8-17

MS LED

LED Status	Indication	Corrective Action
OFF	No power supply or device is off-line	Check the power supply of the CMM-DN02 and see if the connection is normal.
Green light flashes	Waiting for I/O data	Switch the master PLC to RUN status.
Green light ON	I/O data is normal	No action is required.
Red light flashes	Mapping error	1. Reset the CMM-DN02. 2. Re-power the AC motor drive.
Red light ON	Hardware error	1. See the fault codes displayed on the keypad and find the causes. 2. Return the unit to the factory for repair if necessary.
Orange light flashes	The CMM-DN02 is connecting with the AC motor drive.	If the flashing lasts for a long period of time, turn off the power to check if the CMM-DN02 and the AC motor drive install correctly and are normally connected to each other.

Table 8-18