8-10 CMC-PN01 – Communication card, PROFINET

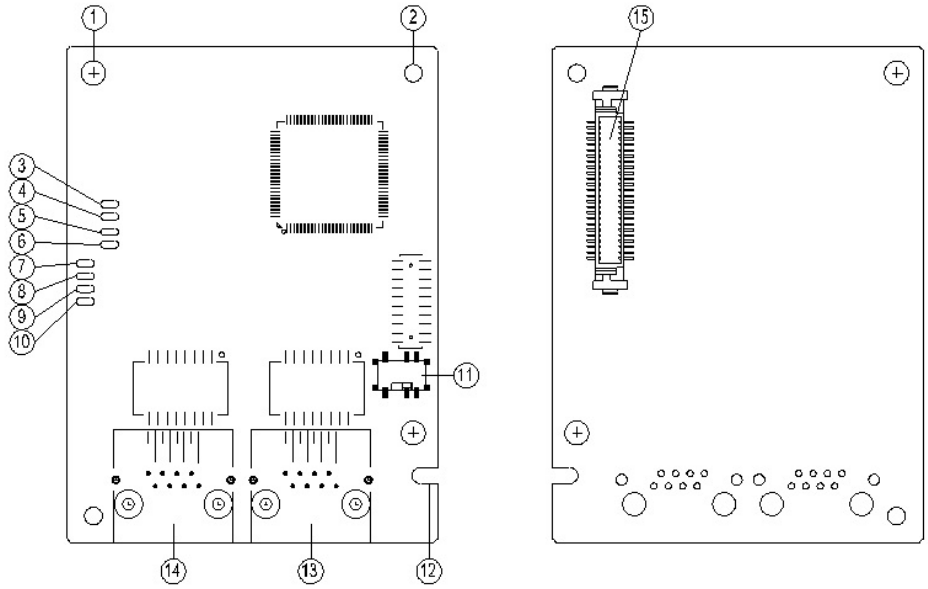
8-10-1 Features

CMC-PN01 connects CP2000 to PROFINET, so the drive is able to exchange data with the upper unit. It is a simple NET solution, which can reduce the cost and time of connection/ installing factory automation, also provide compatibility of similar components from multiple suppliers.

Connect CMC-PN01 to CP2000 via PROFINET device:

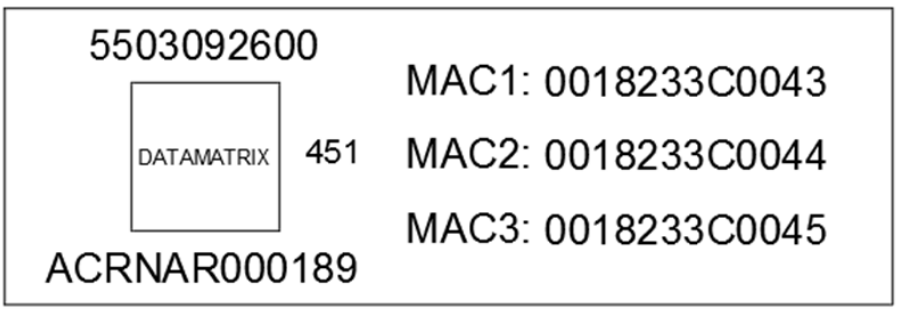
1. Control the AC motor drive via PROFINET
2. Change the drive parameters via PROFINET
3. Monitor the drive status via PROFINET

8-10-2 Product Profile



1. Screw fixing hole
2. Positioning hole
3. Ready out indicator
4. MT out indicator
5. SD indicator
6. BF out indicator
7. ACT PHY2 indicator
8. Link PHY2 indicator
9. ACT PHY1 indicator
10. Link PHY1 indicator
11. Switch
12.Fool-proof groove
13. RJ45 connection port (Port 2)
14. RJ45 connection port (Port 1)
15. Connection port of control board

MAC Address label definition



Def.	Explanation
MAC1	Port 1 MAC Address
MAC2	Port 2 MAC Address
MAC3	Interface MAC Address

8-10-3 Specifications

Network Interface

Interface	RJ45
Number of ports	2 ports
Transmission method	IEEE 802.3
Transmission cable	Category 5e shielding 100 M
Transmission speed	10/100 Mbps auto-negotiate
Network protocol	PROFINET

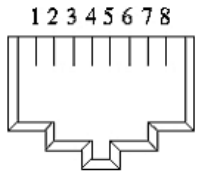
Electrical Specification

Power supply voltage	5 V_{DC}
Power consumption	0.8 W
Insulation voltage	500 V_{DC}
Weight (g)	27

Environment

Noise immunity	ESD (IEC 61800-5-1, IEC 61000-4-2) EFT (IEC 61800-5-1, IEC 61000-4-4) Surge Test (IEC 61800-5-1, IEC 61000-4-5) Conducted Susceptibility Test (IEC 61800-5-1, IEC 61000-4-6)
Operation	-10°C–50°C (temperature), 90% (humidity)
Storage	-25°C–70°C (temperature), 95% (humidity)
Vibration / Shock immunity	International standard: IEC 61800-5-1, IEC 60068-2-6 / IEC 61800-5-1, IEC 60068-2-27

8-10-4 RJ45 PIN Definition

RJ45	PIN No.	Signal	Definition
	1	Tx+	Positive pole for data transmission
	2	Tx-	Negative pole for data transmission
	3	Rx+	Positive pole for data receiving
	4	--	N/C
	5	--	N/C
	6	Rx-	Negative pole for data receiving
	7	--	N/C
	8	--	N/C

8-10-5 Communication Parameters for CP2000 Conneted to PROFINET

When operating CP2000 via CMC-PN01, set the control and operation command as controlled by communication card. When CP2000 is connected to PROFINET network, set up the communication parameters according to the table below.

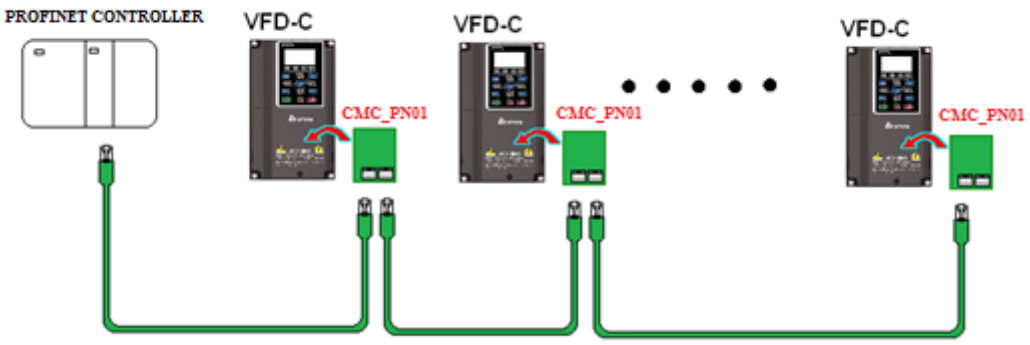
Parameter	Set value (Dec)	Explanation
Pr.00-20	8	The frequency command is controlled by communication card.
Pr.00-21	5	The operation command is controlled by communication card.
Pr.09-30	1	Set Pr.09-30 to 60xx or 20xx as the decoding method.
Pr.09-60	12	Identification: when CMC-PN01 is connected, Pr.09-60 will show value 12.

8-10-6 LED Indicator

LED	Status		Indication
Ready out	Yellow	ON	PN Stack operates in normal status
		Flashes	PN Stack operates in normal status, and waiting to sync with MCU
		OFF	PN Stack operates with error
MT out	Green	-	-
SD	Red	-	-
BF out	Red	ON	Connection with PROFINET Controller breaks off
		Flashes	Connection is normal, but an error occurs to the communication with PROFINET Controller
		OFF	Connection with PROFINET Controller is normal
ACT PHY1	Orange	ON	Online, exchanging data with the master
		Flashes	Off line, but handshaking data with the master
		OFF	Initial status
LINK PHY1	Green	ON	Network connection is normal
		OFF	Network is not connected
ACT PHY2	Orange	ON	On line, exchanging data with the master
		Flashes	Off line, but handshaking data with the master
		OFF	Initial status
LINK PHY2	Green	ON	Network connection is normal
		OFF	Network is not connected

8-10-7 Network Connection

Wiring of CMC-PN01 is as following:



When the hardware is installed and power on, the current set value of Pr.09-60 will be 12, and shows “PROFINET” on the display. If the above information does not show on the display, check the version of CP2000 and the connection of the card.

