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CN-8034 Ethernet/IP Network Adapter

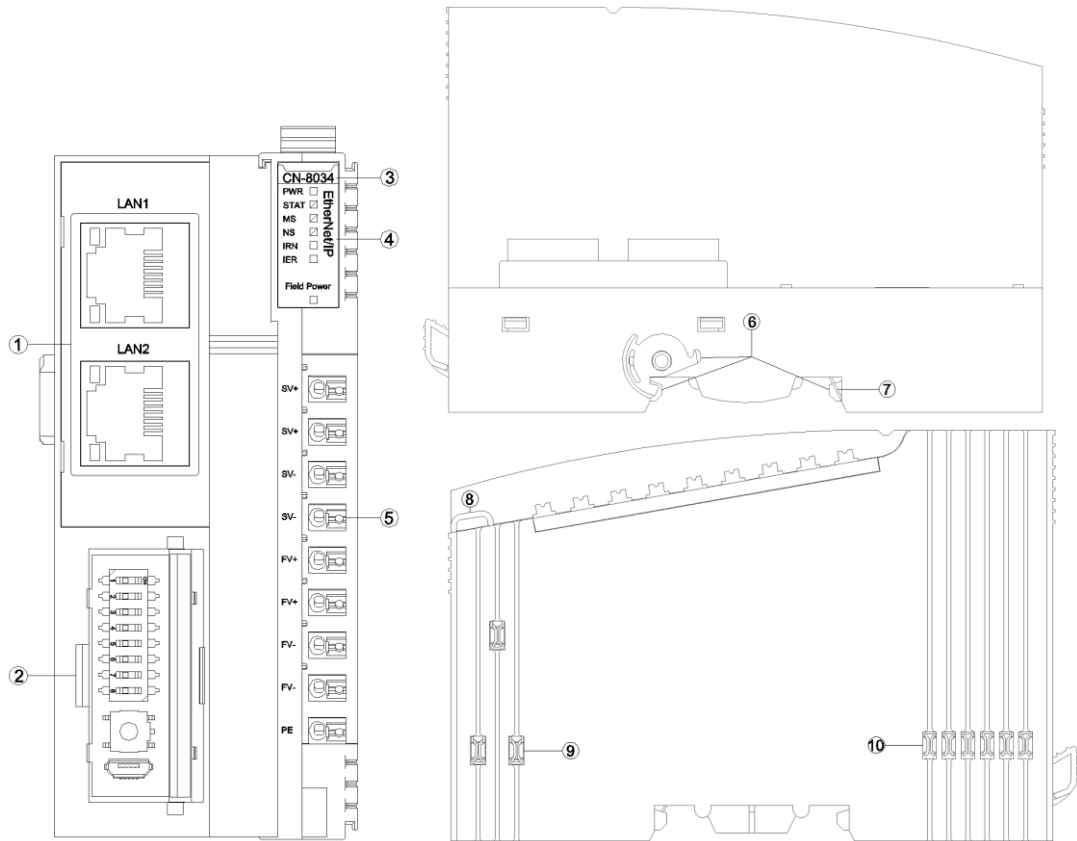
1 The module overview

The CN-8034 Ethernet/IP I/O module supports standard Ethernet/IP protocol access. The adapter supports a Max. input of 504 bytes and a Max. output of 504 bytes. It supports 32 pcs of extended IO modules.

2 Technical Parameters

Hardware Specification	
System Power	Nominal: 24Vdc, Range: 9-36Vdc Protection: Overcurrent Protection, Reverse Protection: YES
Power Consumption	110mA@24Vdc
Internal BUS Supply Current	Max.2A@5VDC
Isolation	System Power to Field Power Isolation
Field Power Supply	Power Supply: 22~28V (Nominal 24VDC)
Field Power Supply Current	Max. DC 8A
I/O Modules supported	32 pcs
Wiring	Max.1.5mm {AWG 16}
Mounting Type	35mm Size DIN-Rail
Size	115*51.5*75mm
Weight	130g
Environment Specification	
Operational Temperature	-40~85°C
Operational Humidity	5%~95% RH(No Condensation)
Protection Level	IP20
Ethernet/IP Parameter	
Protocol	Ethernet/IP
Max. input length	504 Bytes per assembly instance
Max. output length	504 Bytes per assembly instance
Max. no. of explicit message connections	10
Max. no. of implicit message connections	5
Max. no. of CIP connections	10
Network Interface	2*RJ45
Speed	10/100Mbps, MDI/MIDX, Full-Duplex
Max.Bus Legenth	100m

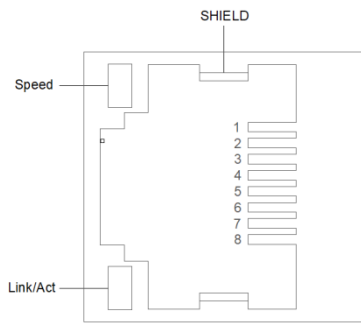
3 Hardware Interface



- ① Network Interface
- ② Config Interface
- ③ Module Type
- ④ LED Indicator
- ⑤ Wiring Terminal
- ⑥ Buckle
- ⑦ Grounding Resilient Sheet
- ⑧ Fixed Wiring Harness
- ⑨ Field Power
- ⑩ Internal Bus

3.1 Network Interface

LAN1/LAN2 are the Ethernet/IP Ethernet port which support switch functions, 10Mbps and 100Mbps data rates, MDI/MID-X auto crossover.



Speed: Network Speed LED Indicator (Green)

ON:100M

OFF:10M

Link/Act: Link State, Active State (Orange)

ON:Link UP

OFF:Link DOWN

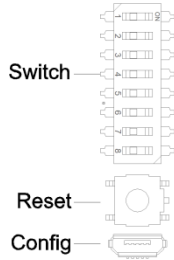
Flash:Active

SHIELD: RJ45 Shield Interface

RJ45 Pin definition

Pin	Definition	Description
1	TD+	Transmitter Signal Positive
2	TD-	Transmitter Signal Negative
3	RD+	Receiver Signal Positive
4	--	--
5	--	--
6	RD-	Receiver Signal Positive
7	--	--
8	--	--

3.2 Configuration Interface



Switch: the DIP switch is used for setting the IP address (the default IP address is 192.168.1.200).

When the dial value is 0, all 4 bytes of the IP address are configured by the software or use the default IP address (192.168.1.200).

When the dial code value is not 0, the last byte of the IP address is determined by the dial code value, and the first three bytes could be configured by the software or use the default address(192.168.1).

The relationship between IP address and dial code value is shown as below:

Dial - code Switch Bit Number (ON: 1, OFF: 0)								Dial - code switch value	IP Address
1	2	3	4	5	6	7	8		
0	0	0	0	0	0	0	0	0	Configured by software (or default)
1	0	0	0	0	0	0	0	1	x.x.x.1
0	1	0	0	0	0	0	0	2	x.x.x.2
1	1	0	0	0	0	0	0	3	x.x.x.3
.
.
0	1	1	1	1	1	1	1	254	x.x.x.254
1	1	1	1	1	1	1	1	255	x.x.x.255

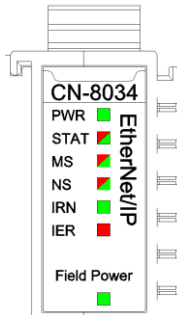
Note: The default IP address after device reset is 192.168.1.200

Reset: Module reset button, long pressing the button for more than 5 seconds and all parameters of the module will be restored to the default value. When the Reset button is activated, a green indicator will light up in the upper left corner of the button.

Config: Configure port, a standard Micro USB interface for configuring device

parameters and firmware upgrades.

3.3 LED indicator

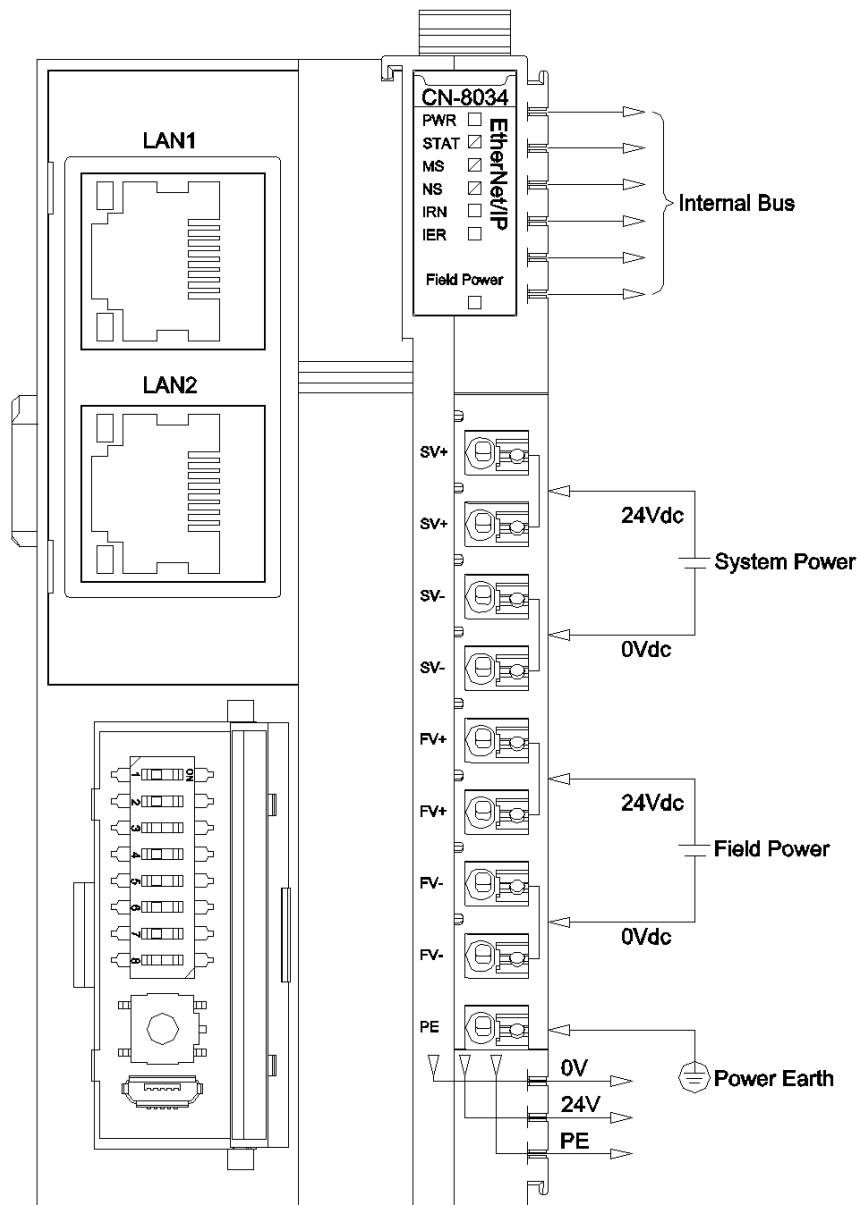


PWR Power State (RED)	Definition
ON	System Power Normal
OFF	System Power Failure
STAT Module State (RED/GREEN)	Definition
Double Flash (RED)	Module Soft Restarted by Hard-Fault
ON(GREEN)	Running
Single Flash (GREEN)	Stopping
Flash(2.5Hz) (RED/GREEN)	Boot Mode
Flash(10Hz) (RED/GREEN)	Firmware Updating
MS module state indicator	Definition
ON(GREEN)	Module running state correct
Flash(1Hz) (GREEN)	Module not configured
Flash(GREEN/RED/GREEN)	Module power on self-test state
Flash(1Hz) (RED)	The module detects a recoverable failure state
Red(GREEN)	The module detects an unrecoverable failure status
OFF	Module power off
NS network state indicator	Definition
ON(GREEN)	The connection has been established.IP address configuration completed, at least one CIP connection established, the master connection does not time out.
Flash(1Hz) (GREEN)	The connection not established.IP address configuration completed, CIP connection not established, the master connection does not time out.
Flash(GREEN/RED/OFF)	Module power on self-test state.
Flash(1Hz) (RED)	The connection times out, IP address configuration completed, the master connection times out.
ON(RED)	Duplicate IP, the IP address is already in use.
OFF	Not powered, no IP address.
IRN - IO RUN(GREEN)	Definition
ON	IO initialization normal

OFF	IO initialization failure
IER - IO Error (RED)	Definition
OFF	IO communication normal
Double flash	IO communication failure
Field Power - Indicator	Definition
ON	On-site power supply normal
OFF	On-site power supply abnormal

4 Wiring

Please note when wiring: for the internal construction, two terminals of SV+ have been short-connected, two terminals of SV- have been short-connected, two terminals of FV+ have been short-connected, and two terminals of FV- have been short-connected. For external it only needs to access one system power supply and one field power supply.



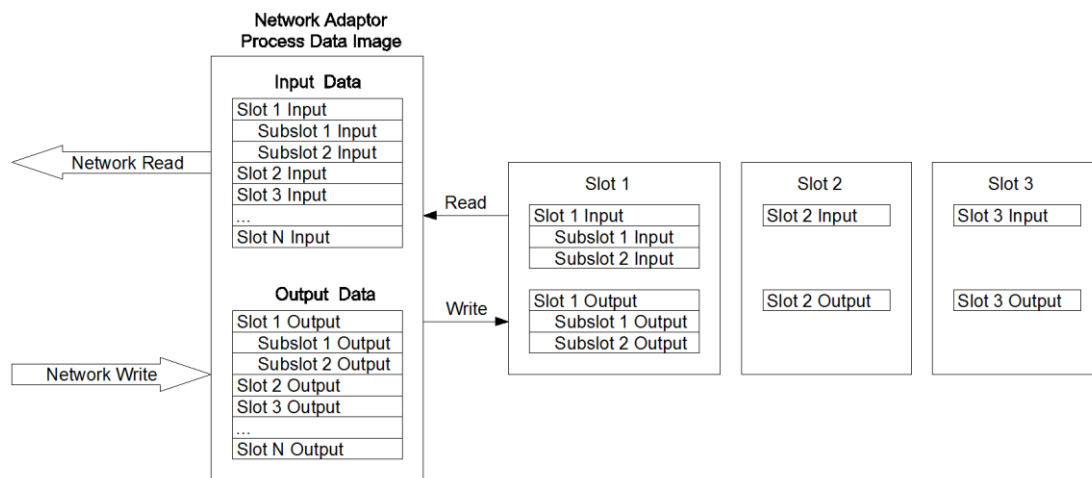
5 Process data definition

5.1 Adapter process data definition

Ethernet/IP adapter itself has no input/output process data.

5.2 IO module process data mapping

The network adapter reads and writes input and output process data of IO module in real time through the internal bus, and its data mapping model is shown as follow:



The maximum number of input bytes of the Ethernet/IP network adapter is 504 bytes, and the maximum number of output bytes is 504 bytes.

6 Configuration parameters definition

Configuration parameters								
Bit No	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
Byte 0	Reserved			O-->T Transfer Format	T-->O Transfer Format	Fault Action for Output	Fault Action for Input	Source of Config Data
Byte 1	MAC Address[0]							
Byte 2	MAC Address[1]							
Byte 3	MAC Address[2]							
Byte 4	MAC Address[3]							
Byte 5	MAC Address[4]							
Byte 6	MAC Address[5]							
Byte 7	IP Address[0]							
Byte 8	IP Address[1]							
Byte 9	IP Address[2]							
Byte 10	IP Address[3]							
Byte 11	Net Mask[0]							
Byte 12	Net Mask[1]							
Byte 13	Net Mask[2]							
Byte 14	Net Mask[3]							
Byte 15	Net Gateway[0]							
Byte 16	Net Gateway[1]							
Byte 17	Net Gateway[2]							
Byte 18	Net Gateway[3]							
Byte 19	T-->O Size (Bytes)							
Byte 20								
Byte 21	O-->T Size (Bytes)							
Byte 22								

Data description:

Source of Config Data: Parameter configuration mode (Default: 0)

0: Configured software configuration

1: Field Bus configuration

Fault Action for Input: Input fault handling mode, when IO module is offline, the adapter will process IO module input data according to this mode. (Default: 0)

0: Hold Last Input Value

1: Clearing Input Value

Fault Action for Output: Output fault handling mode, when the fieldbus is offline the adapter will process the IO module output data according to this mode. (Default: 0)

0: Hold Last Output Value

1: Clearing Output Value

T-->O Transfer Format: T-->O Input conversion format, read only.

O-->T Transfer Format: O-->T Output conversion format, read only.

MAC Address: MAC address, read only.

IP Address: IP Address

Subnet Mask

Gateway Address

T-->O Size (Bytes): O-->T length (Bytes) , read only.

O-->T Size (Bytes): O-->T length (Bytes) , read only.

A Dimension drawing

