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CN-8012 Profibus-DP Network Adapter

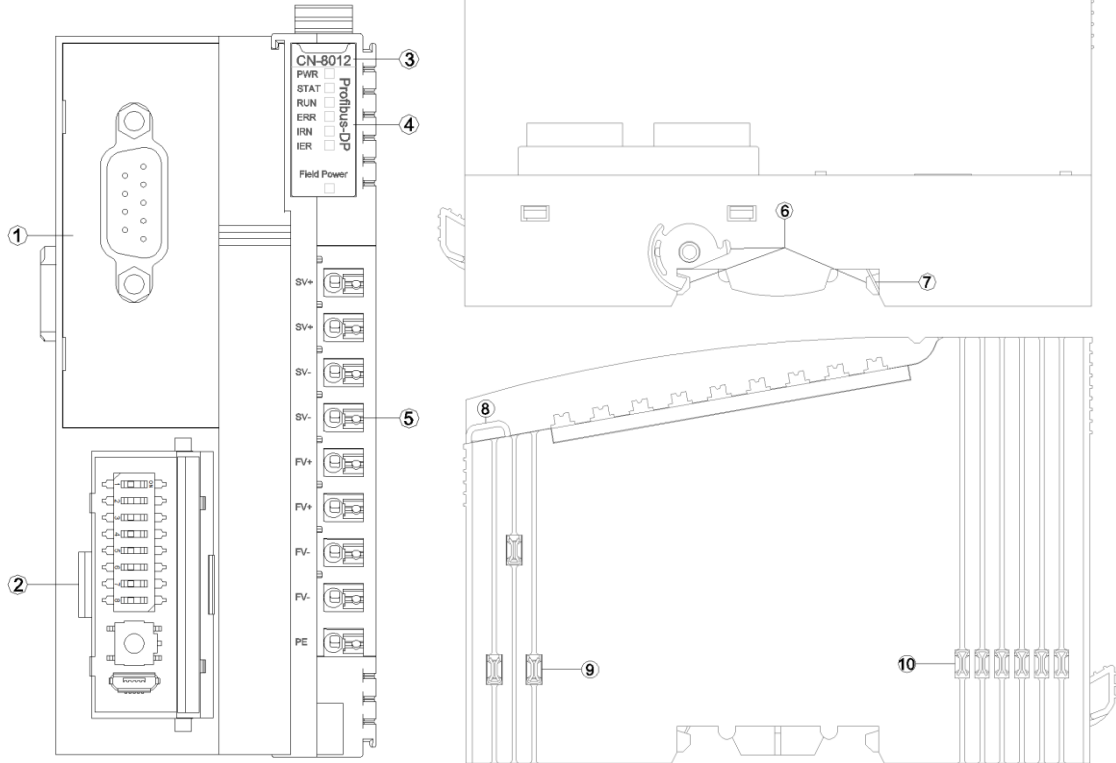
1 Module Overview

CN-8012 PROFIBUS-DP network adapter supports access of standard PROFIBUS-DP, and the protocol version it supports is DPV0.

2 Technical Parameter

Adapter Hardware Parameter	
System Power	Nominal:24Vdc, Range: 9-36Vdc Reverse Protection: YES
Power Consumption	30mA@24Vdc
Internal Bus Supply Current	Max: 2.5A@5VDC
Isolation	System Power to Field Power Isolation
Power Supply	Nominal:24Vdc, Range:22-28Vdc
Field Power Current	Max. DC 8A
IO Modules Supported	32 pcs
Wiring	Max.1.5mm (AWG 16)
Mounting Type	35mm DIN-Rail
Size	115*51.5*75mm
Weight	130g
Environment Specification	
Operation Temperature	-40~85°C
Operation Humidity	5%-95%(No Condensation)
Protection Class	IP20
Profibus-DP Parameter	
Protocol	PROFIBUS DPV0
Interface Type	DB9 female head
Station Type	PROFIBUS Slave
Station Address	Dial code switch configuration
Topology	Bus topology
Configuration Max. Length	232 bytes
IO data Max. Length	Input: Max. 244 bytes, Output: Max. 244 bytes, Sum of input and out put: Max. 288 bytes

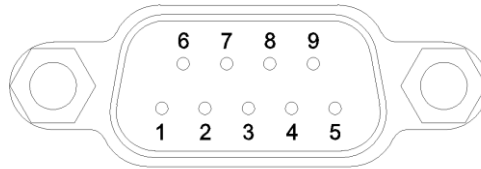
3 Hardware Interface



- ① Profibus-DP port
- 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 Profibus-DP Interface

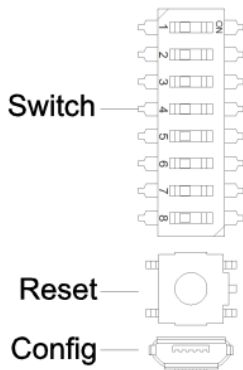
Profibus-DP port is 9 Pin terminals and its Pin definition is as below:



Interface Pin Definition

Pin	Definition	Description
1	Shield	Earthing of Shield
2	--	--
3	B	Data line B
4	CNTR-P	Direction control-P
5	DGND	Signal Grounded
6	VP(+)	+5v
7	--	--
8	A	Data lineA
9	CNTR-N	Direction control-N

3.2 Configuration Interface



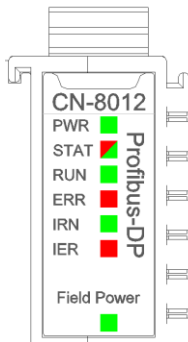
Switch: The station address of the Profibus DP adapter. It is set by an 8-bit binary hardware dial code switch, and each PROFIBUS adapter has a unique station address (1~127).



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: configured ports, it is standard MicroUSB interface for configuring device parameters and firmware upgrades.

3.3 LED Indicator

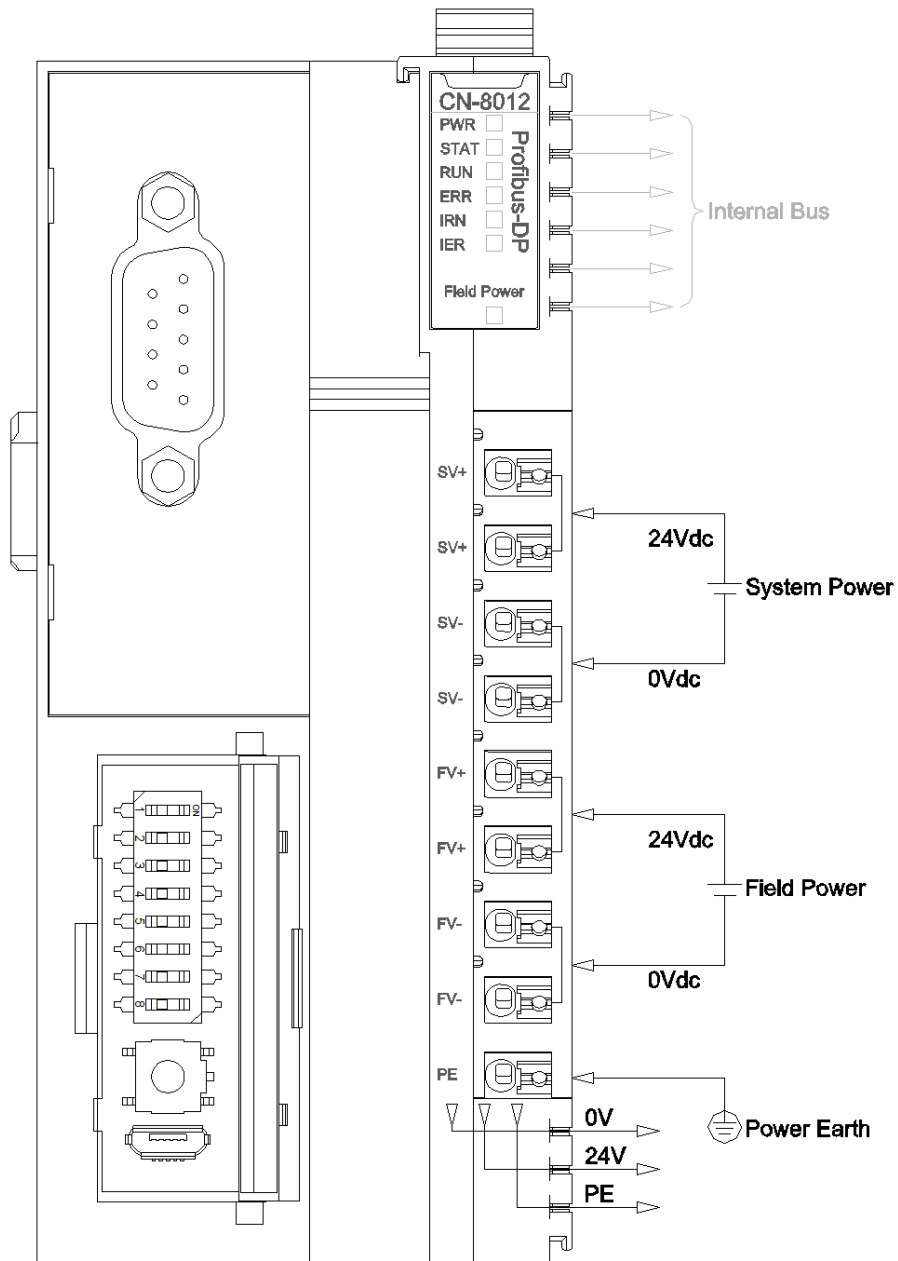


PWR Power State (GREEN)	Definition
ON	System Power Normal
OFF	System Power Failure
STAT Module State (RED/GREEN)	Definition
Double Flash (RED)	Module Soft Restarted by Hard-Fault
ON(GREEN)	Running
Single Flash (GREEN)	Stopping
Flash(2.5Hz) (RED/GREEN)	Boot Mode
Flash(10Hz) (RED/GREEN)	Firmware Updating
RUN Network State (GREEN)	Definition
OFF	DP off-line mode
ON	DP data exchanging mode
ERR Network Error (RED)	Definition
Off	DP data exchanging mode
Flash	DP off-line mode
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 State (GREEN)	Definition

ON	Field Power Normal
OFF	Field Power Failure

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.



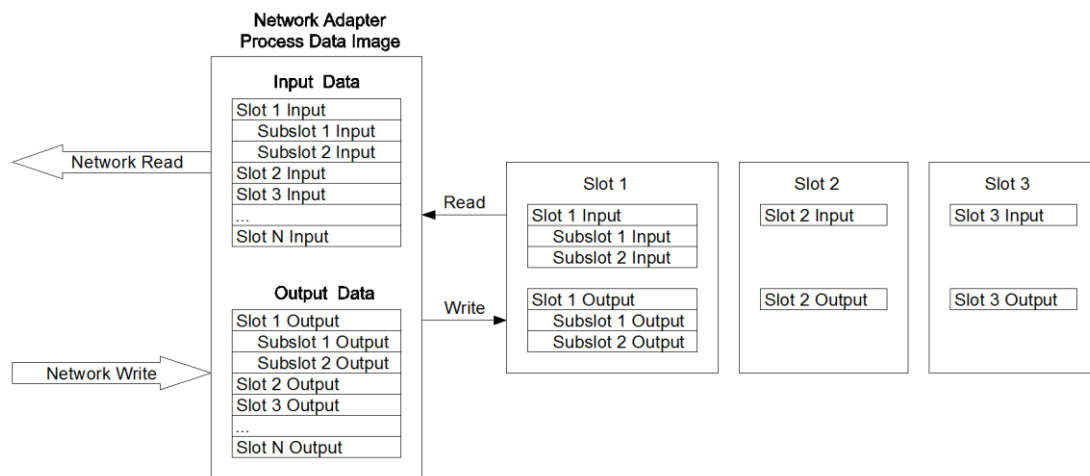
5 Process data definition

5.1 Adapter process data definition

Profibus-DP 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:



Real-time data exchange is conducted between the network adapter and the extended IO module, and the data address table could be dynamically allocated according to the different modules inserted in the IO slot.

The actual mapping address should be added IO module manually in STEP 7, TIA or other configured software, and the address would be automatically mapped, so the actual mapping address could be checked.

6 Configuration Parameter Definition

Configuration Parameter								
Bit No	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
Byte 0						Fault Action for Output	Fault Action for Input	Source of Configuration Data
Byte 1	DP Address							

Data declaration:

Source of Config Data: Parameter configuration mode (Default: 1, Field BUS configuration)

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, Hold Last Input Value)

0: Hold Last Input Value

1: Clear Input Value

Fault Action for Output: Output fault handling mode, when the IO module is offline, the adapter will process the IO module output data according to this mode. (Default: 1, Clearing Output Value)

0: Hold Last Output Value

1: Clearing Output Value

DP Address: DP slave device no. (Read-only, displayed as the value of the dial code switch)

A Dimension drawing

