Ci-CC30

ControlNet Bus HUB

Repeater

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Summary

This series is designed for industrial grade ControlNet HUB Repeater, support ControlNet protocol, Support 3 Chs Fieldbus serial ports data communication, Hub repeater and star link. It can extend the ControlNet Fieldbus transmission distance, change fieldbus diagram, at same time, it has photon coupled isolation and Anti signal interference functions, Baud rate can be set via DIP. The product is Industrial grad designed, Casing: IP40 protection, wave grain aluminum reinforce case option, DIN rail mounting, DC(9~36V) power input, support Fieldbus ports error Relay alarm output, dual redundant power input and isolation protection. -40~75℃ Operating Temperature, can meet various Industrial situation.

Characteristic

- Support 3 ControlNet bus, according to ControlNet Protocol ,Baud Rates:5Mbps
- 3 Ports HUB function, support star link and extend the ControlNet Fieldbus transmission distance
- Support Dial switch for setting communication rate(all ports baud rate must be same)
- Support 3Chs photon coupled isolation ports, Isolated Voltage 1000V, and 4000V Anti-thunder protection
- Support 4 dual colors LED Indicator, Fieldbus ports error Relay alarm output
- DC (9~36V) dual redundant power input, With DC1500V voltage isolation and reverse connect protection
- IP40 protection, Metal case (wave grain aluminum reinforce case option), 35mmDIN-Rail Installation
- Operating Temperature: -40℃ to 75℃ suitable to various Industrial work situation

Specification

Bus data interface

- Interface type: BNC-F coaxial cable interface, conform to ControlNet protocol standard
- Support ControlNet bus standard
- Baud Rates:5Mbps
- Signal Delay (electrical interface): ≤1.2us
- Isolated voltage 1000V,4000V Anti-thunder protection
- Resistor: without terminal resistor, connect external when necessary

Power

- DC (9~36V) dual redundant power input, industrial standard voltage DC24V, consumption is less than 4W, With DC1500V voltage isolation and reverse connect protection, adopt 5 cores 5.08mm industrial terminal port (please use industrial standard power, otherwise it will occur unit error or damage).

Protection

- Relay: Fieldbus ports error Relay alarm output
- Contact rating: 1A @24V DC, Industrial Terminal port

Mechanical

- Dimensions (H×D×W): 136mm×104.8mm×52.8mm
- Weight:800g
- Casing: IP40 protection, wave grain aluminum reinforce case option
- Installation: Wall mounting or DIN rail mounting

Environmental

- Operating Temperature:-40 ℃ ~75 ℃ (-40 ℃ ~85 ℃ optional)
- Storage Temperature: -40℃~85℃
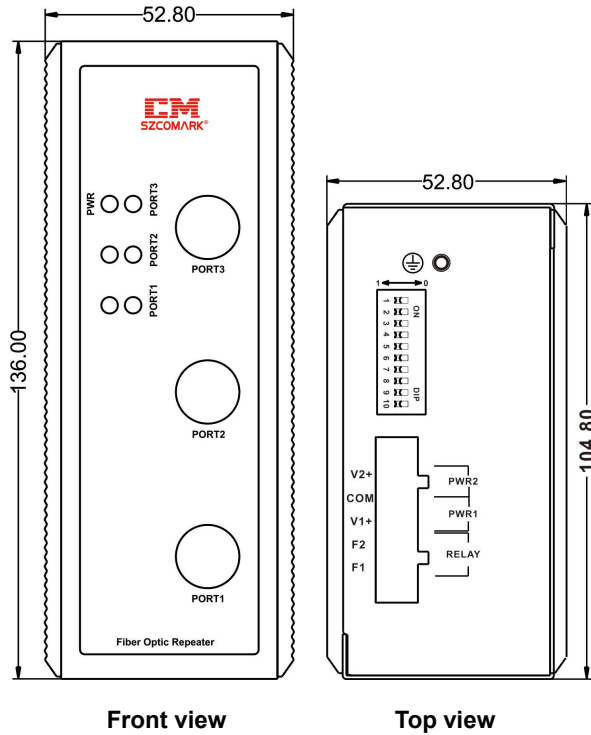- Ambient Relative Humidity: 5%~95%(non-condensing)

Warranty

- Warranty Period: 5 years

Certifications

- IEC61000-4-2(ESD): Power ±4KV Contact, ± 15KV Air; Relay ±2KV Contact, ±15KV Air; Data Cable ±15KV Air
- IEC61000-4-4(EFT):Power ± 1KV, Data Cable ± 1KV
- IEC61000-4-5(Surge):Power ± 2KV CM/ ± 1KV DM, Relay±2KV CM/ ±1KV DM
- IEC60068-2-27(Shock)
- IEC60068-2-32(Free Fall)
- IEC61000-6-2(General Industrial Standard)
- EN50121-4 (rail transit)

Overall Dimension

Front view   **Top view**

52.80

136.00

52.80

104.80

PWR PORT3
PORT2
PORT1
PORT3
PORT2
PORT1

V2+
COM
V1+
F2
F1

PWR2
PWR1
RELAY

Fiber Optic Repeater

LED Indicators

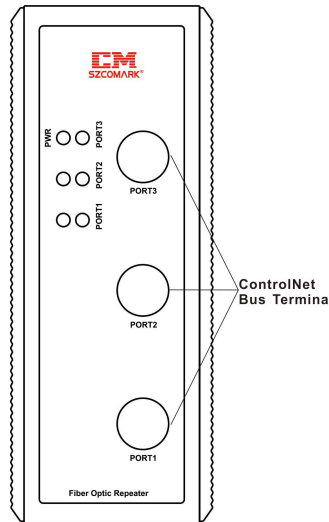| LED	state	Description	Alarm
PWR	off	Non-connect or error	No
	Green light	Power is ok	No
	Red light	Power Error	No
PORT1-3	off	Fieldbus is closed	No
	Red light	The following conditions are called copper link failure: 1. No data received within 2 seconds on corresponding electric port. 2. Wrong setted.	Yes

	Red shine	Electric port fault but has data sending	Yes
	Green light	Copper port is normal	No
	Green shine	Copper port is normal, can received data	No

Terminal Resistor

Resistor is to eliminate the effect of the signal reflected in communication cable, in Actual configuration, the Terminal resistors of the two ends of line should be on the state of "ON", the ones of intermediate node should be on the state of " OFF", otherwise, it may make communication error. Suggest to use ControlNet standard connector and line.

Connection

1. Bus cable wiring methods: make standard ControlNet bus cable (RG6) coaxial connector (M) insert directly this device M coaxial head, and screw connection set tightly.
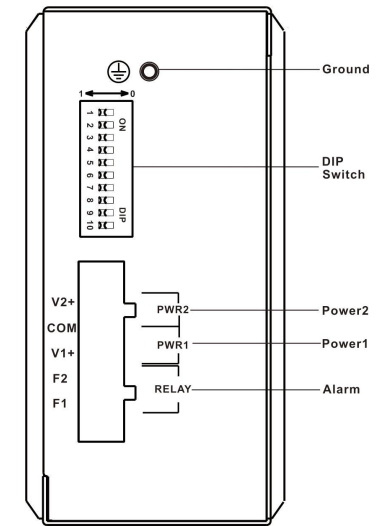

PWR PORT3
PORT2
PORT1
PORT3
PORT2
PORT1

ControlNet
Bus Terminal

Fiber Optic Repeater

2. Power and Relay alarm output connection:
   a) this device supports dual redundant input, V1 +, V2 + respectively connect the anode of power supply (DC9~36V), COM with cathode (double power sharing).
   b) Relay alarm output connection: F1, F2 in normal open. When the alarm is closed, make F1, F2 both
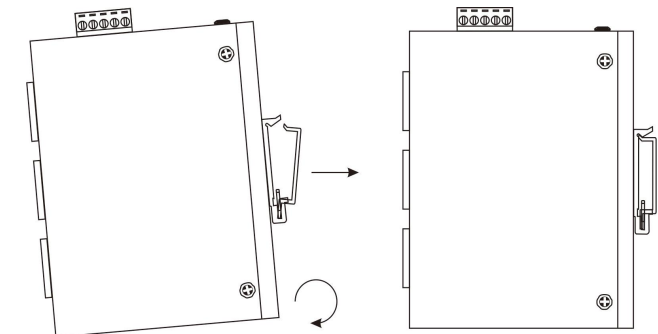
contacted in series with external alarm circuit (e.g., buzzer, etc.).(When there is no electricity on device, the relay is closed.) As shown in the figure below.

Ground
DIP Switch

V2+
COM
V1+
F2
F1

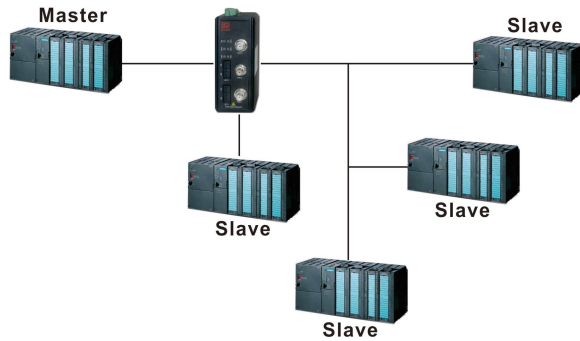PWR2
PWR1
RELAY

Power2
Power1
Alarm

DIN-Rail Installation

In order to use in industrial environments expediently, Ci-CC30 adopt 35mm DIN-Rail installation, the installation steps as follows:

Step 1: Examine the DIN-Rail attachment

Step 2: Examine DIN Rail whether be firm and the position is suitability or not.

Step 3: insert the bottom of the DIN-RAIL into the slot, then insert the top of the DIN-RAIL into the slot.

Step 4: after insert the DIN-RAIL into the slot, check the device is installed into the slot firmly.

Typical Application

Troubleshooting

Fault Symptoms	What to Do
PWR off	Check and ensure the power supply meets the requirement, and terminal wiring is correct or not.
PWR Red light	Device working error
PORT1~3 Off	Check the port dial switch is 0000
PORT1~3 Red shine	Check the port dial switch is 0000
LED Normal, can't communicate	Check the systems time delay spec meet the fieldbus standard, please note the unit time delay addition effect, please modify PLC parameter.

Package Checklist

Please check accessories completely when open the box.

Packing list is as follows:

- ControlNet HUB Repeater (with industrial terminal block for power equipment)
- Product specification
- Product warranty card

Cautions

- Please use DC24V Industrial standard power. Please use 0.75mm² above quality copper line.
- When relay alarm output, the voltage and current can exceed the rated one(1A@24VDC), otherwise, it will damage the unit.
- This device is precision communication instruction, please insure its ground connection well, the device ground connection is via the landing screw on the sideboard, please use the professional landing line, which is less than 2.5 mm² , and landing resistor is less than 5Ohms.

Order Information

Part No.	Product series	Description
Ci-CC30	3*copper	ContrilNet HUB repeater, 3 Chs ControlNet Ports, 5Mbps baud rate.

Attached List (Ci-CC30 series Baud rate switch set)

SW	Function
S1…S3	must be 000
S4…S7	ControlNet BUS Baud rate set, must be 0000
S8…S10	must be 000