# CP202-2CI

# CAN-Bus to Ethernet Server

# User Manual


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## 【Summarize】


CP202-2CI is an industrial grade CAN-Bus server which supports two CAN-Bus ports and a Fast Ethernet port. The user can easily complete the interconnection of CAN-Bus network and Ethernet network, to further expand the scope of CAN-Bus network. The CAN-Bus port communication rate 5K~1000Kbps has three operating modes of the TCP Server, TCP Client and UDP, support the most three connection, support across gateway, router communication, is convenient for user to visit the IP address or domain name and other functions. The host through the network centralized management, simple and convenient. It can be widely used in PLC control and management, building automation, healthcare automation system, the measurement instrument and dynamic environment monitoring system.


## 【Packing list】

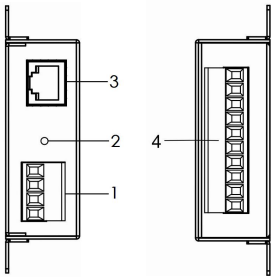
The CAN-Bus device server is shipped with the following items. If any of these items are missing or damaged, please contact your customer service representative for assistance.

- Industrial CAN-Bus Device Server x 1
- Documentation and software CD x 1
- User manual x 1
- Warranty card x 1
- Terminal resistance 120Ω x 2
- Wall mounting ears x 2

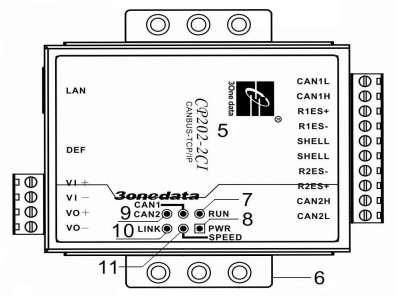
## 【Feature】

- Support IEEE802.3, IEEE802.3u
- Support TCP Server, TCP Client and UDP working mode
- Support ARP, ICMP, UDP, TCP, IP, HTTP, DHCP and DNS protocol
- Support 10Base-T/100Base-TX auto speed control, Half/full duplex and MDI/MDI-X auto detect
- Support 2 Port CAN-Bus
- Support CAN-Bus baud rate 5K~1000Kbps
- Support across gateway, router communication
- Support static and dynamic IP access
- Support the heartbeat time and disconnect timeout function
- Support the automatic recovery function in the network connection is disconnected
- Support CAN-Bus port segment frame setting, to meet user message demand segmentation
- Support power input 9~24VDC, connection reverse protection function
- Industrial grade design, -40~75℃work temperature
- IP40 protection grade, wall mounting

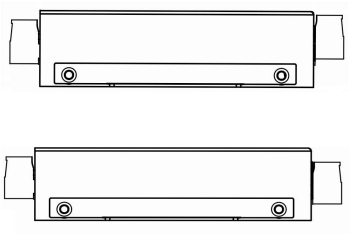
## 【Panel layout】




Front and Rear view




Top view

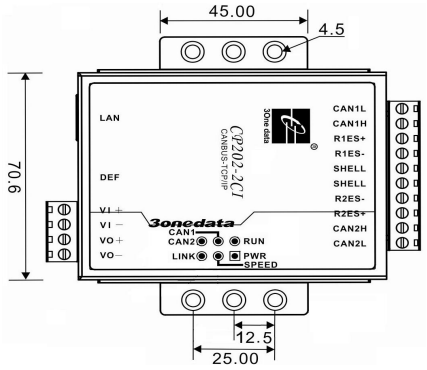


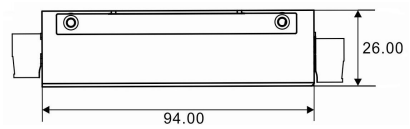
Side view

1. Power input terminal block
2. Restore default settings (DEF)
3. 10Base-T /100Base-TX Ethernet port
4. CAN-Bus port terminal block
5. Equipment information
6. Wall mount ears
7. Run LED
8. Power indicator
9. CAN-Bus Link/ACT LED
10. Ethernet port Link/ACT LED
11. Ethernet port speed LED

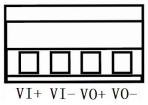
## 【Dimension】

Unit (mm)



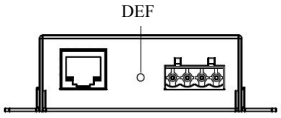

## 【Power supply input】




| Power terminal | Description |
|---|---|
| VI+ | Power input + |
| VI- | Power input - |
| VO+ | Retain |
| VO- | Retain |

CP202-2CI CAN-Bus server provide DC power input, voltage input is the two terminal form (VI+, VI－), plug type 2 core spacing of 5.08mm terminals, wherein the power input range of 9 ~ 24VDC. The power support is not polarity that the device can still work normally after the reverse.

## 【Factory Default】

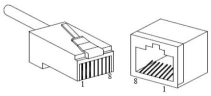



Reset: restore the factory settings button, press and hold the DEF button, disconnect the power supply and then give the device to power up, continue for about 5 seconds to restore the factory settings.

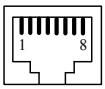
## 【Communication connector】

**10/100BaseT(X) Ethernet port**

The pinout of RJ45 port display as below, connect by UTP or STP. The connect distance is no more than 100m. 100Mbps is used 120Ω of UTP 5; 10Mbps is used 120Ω of UTP 3, 4, 5.



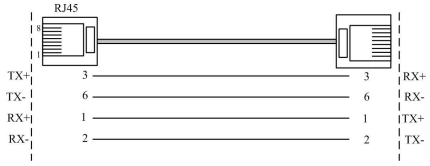
RJ 45 port support automatic MDI/MDI-X operation. can connect the PC, Server, Converter and HUB .Pin 1,2,3,6 Corresponding connections in MDI. 1→3, 2→6, 3→1, 6→2 are used as cross wiring in the MDI-X port of Converter and HUB. 10Base-T/100Base-TX are used in MDI/MDI-X, the define of Pin in the table as below.



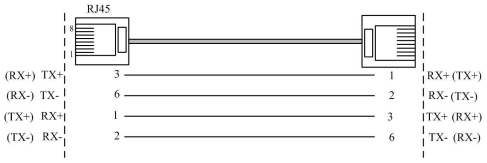

| NO. | MDI signal | MDI-X signal |
|---|---|---|
| 1 | TX+ | RX+ |
| 2 | TX- | RX- |
| 3 | RX+ | TX+ |
| 6 | RX- | TX- |
| 4, 5, 7, 8 | — | — |

Note：“TX±”Transmit Data±，“RX±”Receive Data±，“—”Not Use.

**MDI (straight-through cable)**

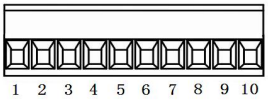



**MDI-X (Cross over cable)**



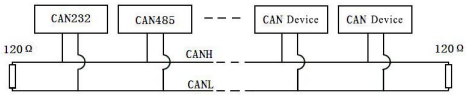

MDI/MDI-X auto connection makes switch easy to use for customers without considering the type of network cable.

**CAN-BUS interface**



| NO. | Name | Define |
|---|---|---|
| 1 | CAN2L | CAN2 port CANL Signal Line |
| 2 | CAN2H | CAN2 port CANH Signal Line |
| 3 | R2ES+ | CAN2 port External Terminal Resistor (+) |
| 4 | R2ES— | CAN2 port External Terminal Resistor (−) |
| 5 | SHELL | Shell Ground |
| 6 | SHELL | Shell Ground |
| 7 | R1ES— | CAN1 port External Terminal Resistor (−) |
| 8 | R1ES+ | CAN1 port External Terminal Resistor (+) |
| 9 | CAN1H | CAN1 port CANH Signal Line |
| 10 | CAN1L | CAN1 port CANL Signal Line |

While CP202-2CI device connects with the CAN-Bus network via twisted pair, CANL connects with CANL, CANH connects with CANH. According to the ISO11898 standard, to reduce signal reflections on the CAN-Bus and enhance the reliability of communication, terminal matching resistor is usually added to 2 endpoints of the bus. The size of terminal matching resistor is decided by the characteristic impedance of cable transmission, such as twisted pair's characteristic impedance is 120Ω, the 2 endpoints on the bus should be connected 120Ω terminating resistor. CP202-2CI can set external terminating resistor, when the device is connected with the CAN-BUS network via a twisted pair, only use resistor to short circuit between the twisted pair ports RES+ and RES- to achieve terminal resistor accession, as shown below.




When the CP202-2CI converter is used as the CAN-Bus network terminal, the two pin is connected to a resistance of 120Ω, otherwise no need to install a 120Ω resistor.

## 【LED Indicator】

LED indictor light on the top panel of product, the function of each LED is described in the table as below.

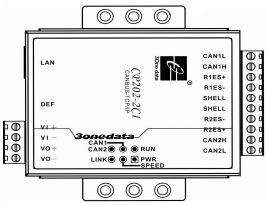
| System statue LED | | |
|---|---|---|
| LED | Indicate | Description |
| **PWR** (Red) | ON | Power is connected/Function natural |
| | OFF | Power is disconnected or function nu-natural |
| **LINK** | ON | Ethernet port connect successfully |
| | Flashing | Ethernet port has data transmission |
| | OFF | Ethernet port connect unsuccessfully |
| **RUN** | Flashing | System Running steadily |
| | OFF | System Running un-steadily |
| **SPEED** | ON | 100Mbps connection |
| | OFF | 10Mbps connection / the effective connection is not established |
| **CAN1** | ON | CAN1 port normal working condition |
| | Flashing | CAN1 port work appeared fault |
| | OFF | CAN1 port working state is abnormal or not connected |
| **CAN2** | ON | CAN2 port normal working condition |
| | Flashing | CAN2 port work appeared fault |
| | OFF | CAN2 port working state is abnormal or not connected |

## 【Installation】

Before installation, confirm that the work environment meet the installation require, including the power needs and abundant space. Whether it is close to the connection equipment and other equipments are prepared or not.

1. Avoid in the sunshine, keep away from the heat fountainhead or the area where in intense EMI.
2. Examine the cables and plugs that installation requirements.
3. Examine whether the cables be seemly or not (less than 100m) according to reasonable scheme.

4. Power: 9～24VDC
5. Environment: working temperature: -40～75℃
   Storage Temperature: -40～85℃
   Relative humidity 5%～95%
6. Support wall mounted




**Wiring Requirements**

Cable laying need to meet the following requirements,

1. It is needed to check whether the type, quantity and specification of cable match the requirement before cable laying;
2. It is needed to check the cable is damaged or not, factory records and quality assurance booklet before cable laying;
3. The required cable specification, quantity, direction and laying position need to match construction requirements, and cable length depends on actual position;
4. Cables should be straight in the hallways and turning;
5. All the cable cannot have break-down and terminal in the middle.
6. Cable should be straight in the groove, and cannot beyond the groove in case of holding back the inlet and outlet holes. Cables should be banded and fixed when they are out of the groove;
7. User cable should be separated from the power lines. Cables, power lines and grounding lines cannot be overlapped and mixed when they are in the same groove road. When cable is too long, it cannot hold down other cable, but structure in the middle of alignment rack;

8. Pigtail cannot be tied and swerved as less as possible. Swerving radius cannot be too small (small swerving causes terrible loss of link). Its banding should be moderate, not too tight, and should be separated from other cables;
9. It should have corresponding simple signal at both sides of the cable for maintaining.

## 【Specification】

**Ethernet Interface**

Standard: 10/100Base-T(x)

Speed: 10/100M auto-sensing

Signal: Rx+, Rx-, Tx+, Tx-

Protocol: ARP, ICMP, UDP, TCP, IP, HTTP, DHCP, DNS

Working: Full-duplex and half duplex

Working mode: TCP Server, TCP Client, UDP

Transmission: 100m

Connector: RJ45

**CAN-Bus Interface**

Standard: CAN2.0A, CAN2.0B

CAN-Bus port number: 2

CAN-Bus signal: CANL, CANH

Band rate: 5K～1Mbps

Working mode: 2 wires, half duplex

Transfer distance: 40m~10Km

Load capacity: support 110 concurrent

**LED indicator**

Run indicator: RUN

Interface indicator: LINK

Power supply indicator: PWR

100M Speed indicator: SPEED

CAN-Bus port indicator: CAN1, CAN2

**Power**

Power input: 9~24VDC

Type of input: 4 bits terminal block

Load consumption: 1.5W@12VDC

Support reverse connection protection

**Mechanical Structure**

Shell: IP40 protect grade, metal shell

Installation: Wall mounts

Weight: 253g

Size (W×H×D): 94mm×70.6mm×26mm

**Working environment**

Working temperature: -40～75℃

Storage temperature: -40～85℃

Relative Humidity: 5%~95 %( no condensation)

**Industry Standard**

EMI: FCC Part 15, CISPR (EN55022) class A

EMS: EN61000-4-2 (ESD), Level 3

EN61000-4-4 (EFT), Level 4

EN61000-4-5 (Surge), Level 3

Shock: IEC 60068-2-27

Free fall: IEC 60068-2-32

Vibration: IEC 60068-2-6

**Certification**

CE, FCC, RoHS, UL508 (Pending)

**Warranty:** 3 years