CP202-2CI
CAN-Bus Device Server User Manual

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Shenzhen 3onedata Technology Co., Ltd

www.3onedata.com

Statement

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Revision History

Version No.	Date	Reason
V1.0.0	2016-02	Creating Documents

Notes

In reading this manual, please pay attention to the following symbols,

：Information necessary to explain.

：Special attention.

Content

Chapter 1 Summarize

1.1 Introduction

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.

1.2 Product Features

- 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 9V ~ 24VDC, connection reverse protection function
- Industrial grade design, -40-75℃ work temperature
- IP30 protection grade, wall mounting

1.3 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

Memory: 16K

Interface protection: 2KV surge protection, 0.5KV isolation protection

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

Interface protection: 2KV surge protection, 2KV isolation protection

Connector: 10 bits terminal block

Power supply

Input voltage: 9~24VDC

Type of input: 4 bits terminal block

No-load consumption: .1.5W@12VDC

Interface protection: 1KV surge protection, 0.5KV isolation protection

Power support reverse connection

Working environment

Working temperature: -40～75℃

Storage temperature: -40～85℃

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

Mechanical Structure

Shell: IP30 protect grade, metal shell

Installation: Wall mounting

Weight: 253g

Size (W×H×D): 70.6mm×26mm×94mm

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 2

Shock: IEC 60068-2-27

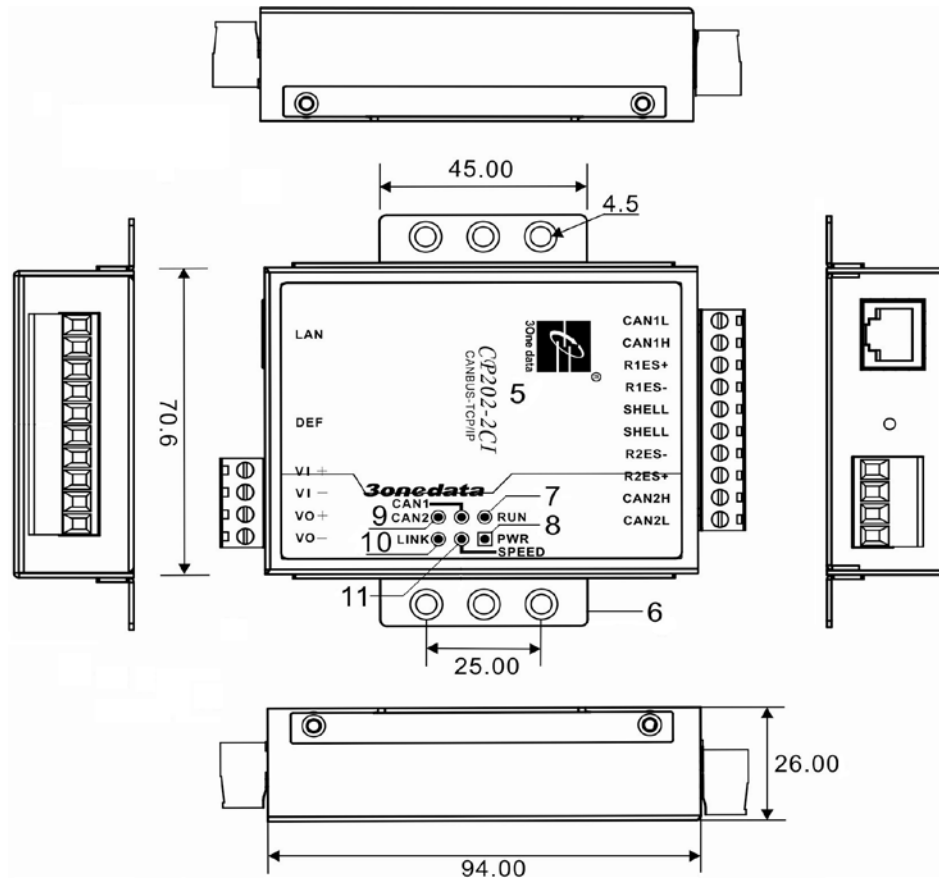Free fall: IEC 60068-2-32

Vibration: IEC 60068-2-6

## Certification

CE, FCC, RoHS, UL508 (Pending)

Warranty: 3 years

Chapter 2 Hardware Description
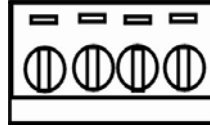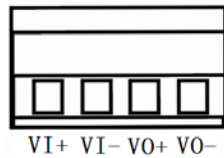
2.1 Interface Description

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

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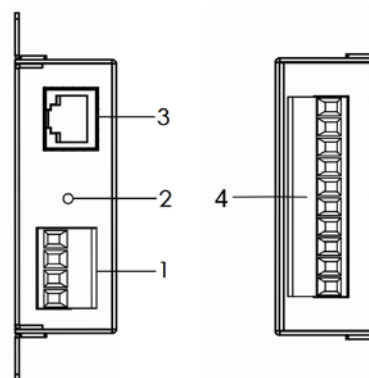
2.2 Interface Description

2.2.1 Power 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一), 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.

2.2.2 Communication Interface

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.
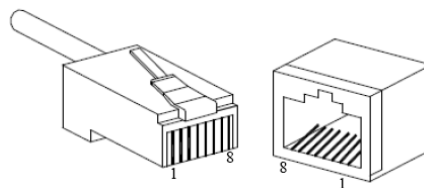

RJ 45 port support automatic MDI/MDI-X operation. Can connect the PC, Server, Converter and HUB .Pin 1,2,3,6 Corresponding connections in MDI. 1→3, 2→6, 3→1, 6→2 are used as cross wiring in the MDI-X port of Converter and HUB. 10Base-T/100Base-TX are used in MDI/MDI-X, the define of Pin in the table as below.
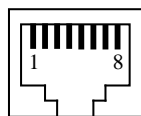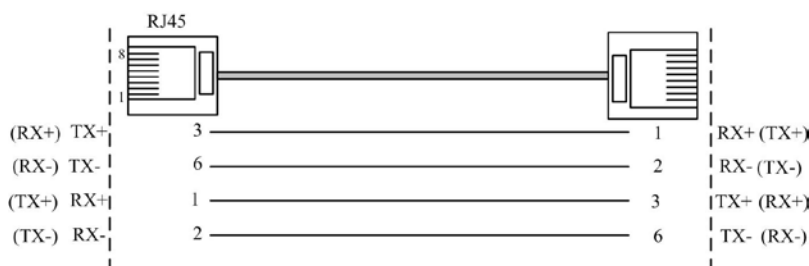
NO.	MDI signal	MDI-X signal
1	TX+	RX+
2	TX-	RX-
3	RX+	TX+
6	RX-	TX-
4, 5, 7, 8	—	—

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

MDI (straight-through cable)
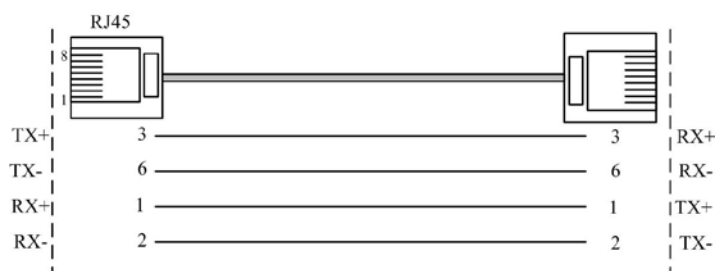
MDI-X (Cross over cable)

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.
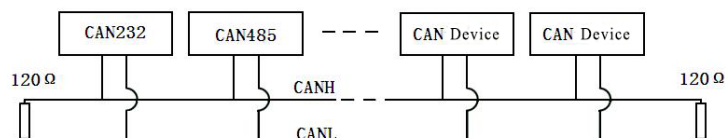

When the CP202-2CI converter is used as the CAN-bus network terminal, the two pin is connected to a resistance of 120Ω, otherwise no need to install a 120Ω resistor.

2.3 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
CAN2	ON	CAN2 port normal working condition
	Flashing	CAN2 port work appeared fault
	OFF	CAN2 port working state is abnormal

2.4 Factory Default

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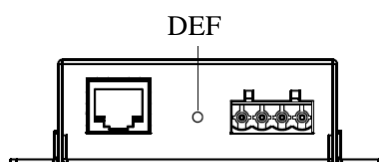
Reset: restore the factory settings button, press and hold the DEF button, disconnect the power supply and then give the device to power up, continue for about 5 seconds to restore the factory settings.

2.5 Device 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
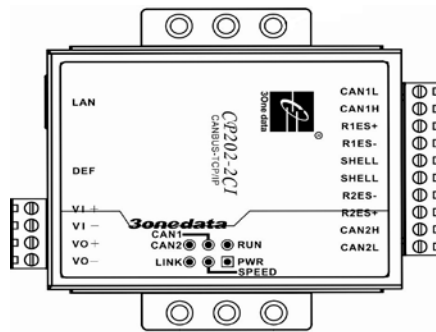
Wiring Requirements

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 lying.

2. It is needed to check the cable is damaged or not, factory records and quality assurance booklet before cable lying.

3. The required cable specification, quantity, direction and laying position need to match construction requirements, and cable length depends on actual position.

4. All the cable cannot have break-down and terminal in the middle.

5. Cables should be straight in the hallways and turning.

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.
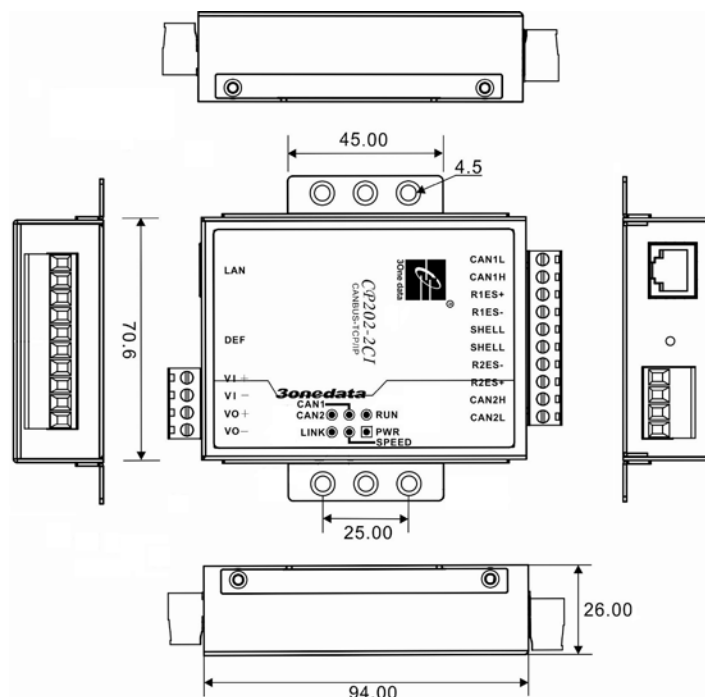
Chapter 3 Appearance and Dimension

Appearance:

CP202-2CI

Dimension （**Unit: mm**）

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Chapter 4 Packing List

The first time use this product, please check the packaging is intact or not and the attachment is complete or not at first.

Item	Quality
Industrial CAN-Bus Device Server (plus terminal block)	1pcs
Documentation and software CD	1pcs
User manual	1pcs
Warranty card	1pcs
Wall mounting ears	2pcs
Terminal resistance 120Ω	2pcs

Chapter 5 Web Management function

CP202-2CI have WEB server inside, you can manage and maintenance CP202-2CI directly perceived through the senses.

5.1 Preparing configuration

1. Requirements of PC
    1). Install operate system (Like as Windows XP/2000/Win7)
    2). Install network card
    3). Install Web browser (Microsoft IE6.0 or higher version)
    4). Install and start TCP/IP protocol
2. Establish correct network configuration

CP202-2CI default IP address: 192.168.1.254, subnet mask: 255.255.255.0, if configure in local area, please make sure IP's address configuration in a same subnet network before access the configuration view. If configure remote, PC and CP202-CI must reach by cross-router.

How to modify the PC's IP address

When access CP202-2CI through WEB, If PC and CP202-2CI in the same local area network, the IP address must in a same network segment, otherwise, PC and CP202-2CI must cross-router. When modify PC's address, please make sure PC and CP202-2CI in a same local area network,   please reference the operation step as follows:

    Control panel->Network connection->Local area connection->Properties->Internet protocol（TCP/IP）

CP202-2CI default IP address is: 192.168.1.254, configure PC's IP address to:192.168.1.X (X is a number except 254), after modify the PC's IP address, then we can use the default IP address: 192.168.1.254, then we can access and configure CP202-2CI through WEB.

Specify Windows system operates as follows:

⚠️
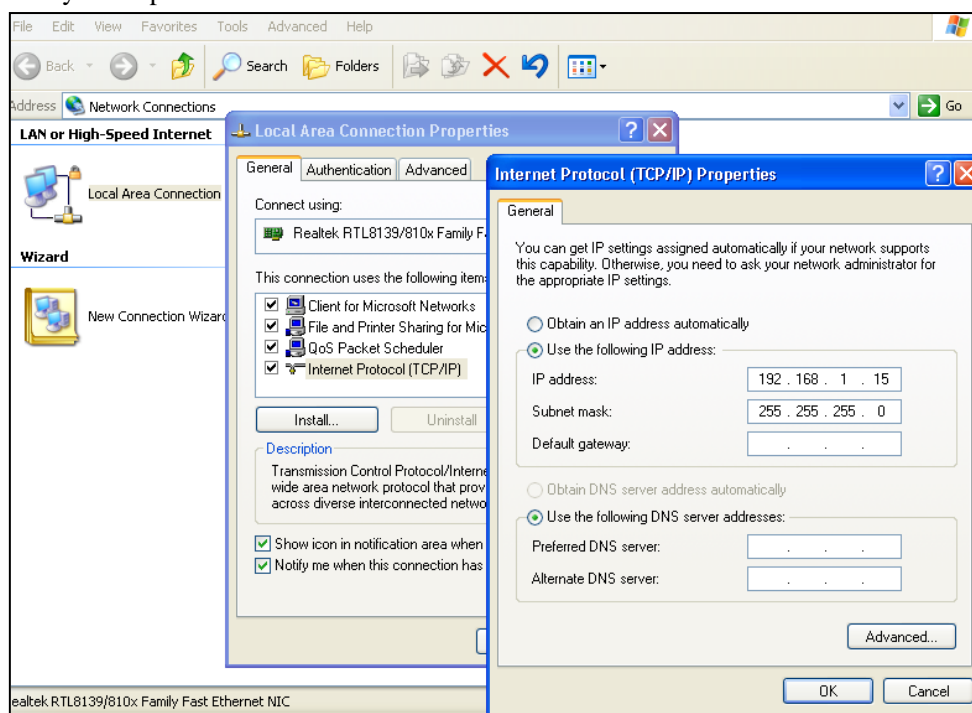
This configuration example did not use "Advanced" button. If use this advanced configuration function, can let a same network card have some false IP address, then we can access CP202-2CI and did not modify the original IP address, but windows cannot deal with correctly in IGMP and IEEE 802.1X. Unix system did not have this problem, please note it when you use advanced function.

How to access Web Server

Open the Browser, input CP202-2CI's default IP address in URL, after hit "Enter", you will see the figure 5.1.1 as follows, point put user input user name and password, default user name and password are "admin", if input incorrect, Web server has 3 time to input, if all incorrect, Browser will show "Access denied". User must refresh the page and input correct user name and password. Please change the user name and password when you log in at first time. Please contact our service center if you have any other problems.
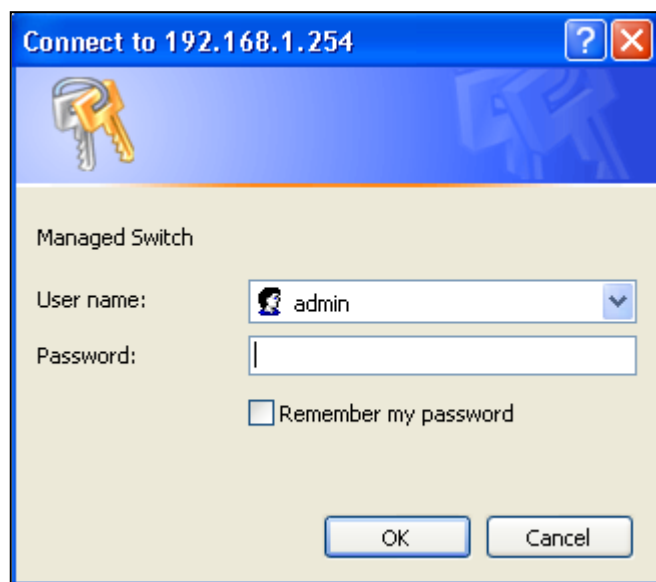
(Figure 5.1.1)

The default user name and password is [admin], it is case sensitive. The default password has administrator permission.

Web overtime handle

If user did not operate WEB management for a long time, systems will logout (But all the configuration will be saved)

Function menu:

Item	Tabs	Function description	
System statues	Device information	Display device name, description, MAC address, contact information, Hardware and Firmware Ver etc	
CAN Server	CAN setting	CAN NO. setting	CAN1 and CAN2 optional that CAN-Bus port 1 and CAN-Bus port 2.
		CAN parameter configuration	Choice sessions, work mode, local port, baud rate, CAN mode, Packs Frames, Pack time space, AT, time out, target port and target address .
	CAN information	Display statistics and connection information that send by CAN-Bus port.	
Basic information	Network & Reboot	Configure device's IP address, network mask, gateway, DNS server address. Restart device remotely.	
	Login setting	Modify user name and password	
	System identification	Display and configure device model name, serial number, description and contact information	
	System files update	Upload and download configuration files, system upgrade and factory default	
	Logout	Log out and come back log in statue	

If user did not operate WEB management for a long time, system wills logout (But all the configuration will be saved). After overtime, if users want to do any configuration, system will note and come back login dialog box, if users want to operate, need to re-login. The overtime time is 300 seconds.

5.2 System statues

Device information

Current Location>>Main Menu>>System Status>>Overview

Device Information

Module :	2CAN	Hardware Ver :	1.0.0
Name :	CanServer	Firmware Ver :	1.0.0B build2015052910R
Description :	1LAN	MAC Address :	00-22-6F-EE-00-01
Serial No. :	201505290001	Contact Information :	

(Figure 5.2.1)

Item	Meaning
Module	Network identification
Name	Device name
Description	The description of device's features, like as used key place.
Serial No.	Serial number
Contact information	The contact information of person when maintenance the device, it can be configured in system information.
MAC address	Hardware address, 48bits(6 bytes), 16 hexadecimal, it is unique
Hardware version	The current hardware version information, please note the limit of software version to hardware version
Firmware version	The current software's version information, upgrade software version will have more function

5.3 CAN Server

5.3.1 CAN Setting

CAN No. Setting

Current Location>>Main Menu>>CAN Server>>CAN Settings

CANNo Setting

CAN No :　　CAN1 ▼

(Figure 5.3.1.1)

Users can CAN1 port and CAN2 port, and then the selected port configuration parameters. As shown above.

CAN parameter configuration

CAN port configuration menu:

CAN port configuration menu	Optional data	Description
Sessions	0, 1, 2, 3	Support 3 session
Work mode	TCP Server, TCP Client, UDP	TCP work mode
Local port	1~65535	
Baud rate（bps）	2K-1000K（20pcs band rate optional）	Baud rate choice
CAN mode	Normal, Listen only, selftest	Supports 3 modes of operation
Packs Frames	1~50	Checkout choice
Packs Time space(ms)	1~254	
AT(10ms)	100~65525	
Connect Timeout(10ms)	100~65525	
Clear CANBuffer	Never, Clear when TCP connect	
TCP Trubo	Disable, enable	
Target Port (1, 2, 3)	1~65535	
Target Address (1, 2, 3)	IP, Domain	192.168.0.254

(Figure 5.3.1.2)

Sessions

Each CAN-Bus port of the CAN-Bus server can support 0~3 sessions. The session refers to the CAN-Bus server from the CAN-Bus port of the received data to the Ethernet through socket. The number of sessions more than one, said the CAN-Bus server from the CAN-Bus port data received by more than one socket to Ethernet. The user can accord the required connection session to select the number of sessions.

CAN Mode

CAN-Bus port support three work modes: Normal, Listen only, Selftest.

Normal mode: The CAN-Bus server Normal work.

Listen only mode: The CAN-Bus server CAN-Bus port can receive data sent by myself.

Selftest mode: The CAN-Bus server is in the listening state, unable to send data.

Packs Frames

CAN-Bus export data into the Ethernet data frame length in the set time range, if the CAN-Bus data is greater than or equal to the set value when the frame length CAN-Bus server for data conversion, can set the value of 1-50.

Packs Time space

When CAN-Bus sends a data frame less waiting time, waiting time exceeds the server will then CAN-Bus data conversion, can set the value of 1-254.

Clear CANBuffer

Never: Never clean up the CANBuffer data cache

Clear when TCP connect: Clean up the data in the CANBuffer when the TCP connection

TCP Trubo

After the opening of TCP Trubo is equivalent to the sub frame is set to 1,

Note: enabling TCP Trubo, packs frames and packs time space is set of parameters will fail, only after closing the TCP Trubo packs frames and packs time is set of parameters will be effective

Local port

The CAN-Bus server provides can be connected to other TCP/IP nodes TCP port, TCP port and the corresponding CAN-Bus server CAN-Bus port associated.

Note: the client port range 0~65535 ("0" system automatically assign the local port number is not 0 when using a fixed local port number)

Target Port

The port that device will be connected, default is 1~65535

Target Address

The IP address or domain name address that device will connect, both of them can correspond the host computer address on the Internet.

Note: The target address 3 can only use the IP address.

AT

CAN-Bus server send the AT package accord the setting time, if no response continue, will be cut off.

If set "0", meaning this function closed, the range is 100-65525, default is 0 second.

Connect Timeout

Setting the vacancy time for connection cut off automatic, if there do not have data transfer, the connection will cut off. If set "0", means do not care how much time vacancy, CAN-Bus server do not cut off voluntary.

The range is 100-65525. Default is 0 second.

Work Mode

1) **TCP Client**

As TCP Client side, CAN-Bus device server will connect forwardly to TCP/IP network equipment, such as PC. It need to setup to tell CAN-Bus device server to connect which network address and TCP port number when conditions is matched. After creating socket, CAN-Bus device server will sent the data received from each CAN-Bus port through socket On the contrary, the data received from socket will be sent to the corresponding CAN-Bus port.

The figure below is the configuration interface of TCP Client Mode. Session 1 is setting to local address available for router."192.168.0.254", the "Target Port" connected to CAN-Bus port is host computer 192.168.0.254" 33000 port, please pay attention to pure TCP Client, TCP Server, or UDP mode.

(Figure 5.3.1.3)

2） **TCP server**

TCP Server, Passive connect, one pivotal parameter is [Local port], have relationship with other setting, need combine setting.

The model is a kind of common usage patterns, use CAN-Bus server IP address and local port number 32000, you can used to establish a socket connection with other software programs or devices, the CAN-Bus server do for the TCP server only needs to wait for a TCP client to establish a connection can be communication.

(Figure 5.3.1.4)

3) UDP Mode

Under the UDP work mode. CAN-Bus device server is server and also client, the relevant setting is "Local port", "Target address" and "Target port". It can support point to point and multicast UDP, setting method is the same as TCP.

(Figure 5.3.1.5)

5.3.2 CAN Information

1. CANNO Setting

Including CAN1 and CAN2

Current Location>>Main Menu>>CAN Server>>CAN Information

(Figure 5.3.2.1)

2. Statistics information

Statistical CAN-Bus send error message, CAN bus error information, and channel to send error information.

(Figure 5.3.2.2)

3. Link information

Connection state information statistics CAN-Bus channel (including working mode, local port, target address and target port)

(Figure 5.3.2.3)

5.4 Basic Settings

5.4.1 Network & Reboot

Network setting

Configure IP address support 2 mode, DHCP and static IP address, When open DHCP function, can get the IP address from Hyper Terminal.

IP Address

IP address is an address of 32 bits length which is assigned to the device on the internet. The IP address consists of two fields: the network number field (net-id) and the Host ID field (host-id). For can conveniently manage IP address, IP addresses are divided into five categories. As blow：

Network type	Address range	Available IP network range
A	0.0.0.0～126.255.255.255	1.0.0.0～126.0.0.0
B	128.0.0.0～191.255.255.255	128.0.0.0～191.254.0.0
C	192.0.0.0～223.255.255.255	192.0.0.0～223.255.254.0
D	224.0.0.0～239.255.255.255	Non
E	240.0.0.0～246.255.255.255	Non
Others	255.255.255.255	255.255.255.255

A, B, C class address is unicast address; D class address is multicast address; E class address is reserved to prepare for the future for special purposes.

IP address using dotted decimal. Each IP address is represented as four decimal integers separated by decimal points; each integer corresponds to a byte, such as, 10.110.50.101.

Subnet Mask

Mask is corresponding 32 bits number of IP address. Some are 1, the others are 0. These 1 and 0 can be combined arbitrary in principle, but the first continuous bits are 1 when designing subnet mask. IP address can be divided into 2 parts by subnet mask: subnet address and host address. 1 in IP address and subnet corresponds to subnet address, other bits are host address. A type of address corresponding mask is 255.0.0.0; mask of B type address is 255.255.0.0; mask of C type address is 255.255.255.0.

Default Gateway

Default gateway in the host PC is generally called default route. Default route refer to a kind of router that destination address of IP data packet will choose when it don't find other existing route. All data packets of destination address which don't exist in the list of router will choose default route.

DNS Address

DNS (Domain Name Server) is for us to analyze domain to IP address of the Internet. If our equipment needs to access a host, you need to use this server to resolve an IP address.

Current Location>>Main Menu>>Basic Settings>>Network & Reboot

Network Settings

- ● Use the following IP address   ○ Automatically obtain IP address

  IP Address :   `192.168.1.254`

  Subnet Mask :   `255.255.255.0`

  Gateway :   `192.168.1.1`

- ● Use the following DNS server address   ○ Automatically obtain DNS server address

  DNS Server :   `202.96.134.133`

[Apply]   [Cancel]

(Figure 5.4.1.1)

Device Reboot

Click the "Reboot " button is confirmed, the device restarts, 20 seconds, and then click the menu bar returns to the Web network login interface, save the configuration before you restart, or reboot and configuration information not saved will be lost.

Device Reboot

[Reboot]

(Figure 5.4.1.2)

5.4.2 Login settings

Knock [Basic settings/Login settings] menu, the figure as follows are CAN-Bus server initial interface to modify user name and password. User can use this function to modify user name and password.

Old user name

Allow English character, digit and "-" "_" combine and no more than 16 bytes

Old password

Allow English character, digit combine and no more than 20 bytes

New user name

Allow English character, digit and "-" "_" combine and no more than 16 bytes

New password

Allow English character, digit combine and no more than 20 bytes

Confirm password

Input password once again.

(Figure 5.4.2)

5.4.3 System Identification

The figure as follows is the CAN-Bus device server information interface, we can see module, name, description, serial No. and contact information. You can modify these items through this function, it will available after reboot.

Module

No more than 18 bytes, allow Chinese character. English character, digit and "-" "_" but do not allow space

Name

No more than 18 bytes, allow Chinese character. English character, digit and "-" "_" but do not allow space

Description

No more than 18 bytes, allow Chinese character. English character, digit and "-" "_" but do not allow space

Serial No.

No more than 30 bytes, allow Chinese character. English character, digit and "-" "_" but do not allow space

Contact information

No more than 18 bytes, allow Chinese character. English character, digit and "-""_""@""!"",""." but do not allow space

(Figure 5.4.3)

5.4.4 System File Update

(Figure 5.4.4)

1. Default factory（Please be care of this operation）

Knock<OK> button, After default factory, IP address is 192.168.1.254 and all configurations are the same as default factory. Default configuration will be available after reboot automatic. After recover default configuration, user name and password will be: admin.

2. Download configuration files

Knock<Download>Button, after confirm, system will appear a dialog box and point out to save the configuration file in .cfg. It is convenience to recover the configuration in future.

3. Upload configuration files

Knock< Browse> button, choice the correct .cfg file and knock <upload>, after confirm, configuration information in .cfg file uploaded to device automatic and reboot automatic.

4. Upgrade firmware

Knock <Browse> button, choice the position of the upgrade file. Knock<Upgrade> button. Point out "Forbid power off when upgrade", confirm it and then write flash. Reboot automatic, after upgrade, will refresh page automatic.

⚠ :

1. After default factory, must change the device's IP address, otherwise, if other devices make factory default, will have IP address conflict.

2. Please do not upgrade random. If you want to upgrade, must check the file is correct or not, otherwise, it is easy to damage the software.

3. Upgrade file must be bin type, please do not do any operations when upgrade, it may take upgrade failure. In upgrading, please do not operate the device and forbid know device's WEB page. If upgrade interrupt, please reboot the device and try again.

5.4.5 System Logout

Knock<OK> button, Web will be back to login interface, do not change available configuration, and figure as 5.4.5.

Current Location>>Main Menu>>Basic Settings>>Logout

System Logout :   OK

(Figure 5.4.5)

Chapter 6 CAN-Bus Data Format Conversion

The default list already occupied port by TCP and UDP protocol.

Protocol	Port number
(Retain)	0
TCP	1
(Retain)	2
ECHO	7
(Retain)	9、11、13
Network status	15
FTP	20、21
FTP	21
TELNET	23
SMTP	25
Printer	35
time server	37
NS	42
(Retain)	43
Login Host Protocol	49
DNS	53
DHCP	67、68
TETP	69
Gopler	70
Finger	79
HTTP	80
TELNET	107
SUN	111
NNTP	119
NTP	123
SNMP	161、162
IPX	213
(Retain)	160-223

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CAN-Bus data format conversion

A TCP or UDP frame comprises a plurality of CAN-Bus frames

(Up to 50, at least 1 CAN-Bus frames)

CAN-Bus frame	CAN-Bus frame	CAN-Bus frame	CAN-Bus frame	……	CAN-Bus frame
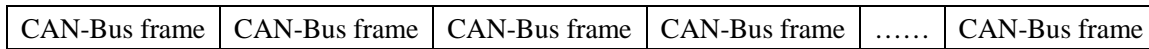
1 CAN-Bus frame contains 13 bytes

Frame information: length of 1 bytes, for some information that identifies the CAN-Bus frame, such as type, length etc.

Bit7   Bit0

FF	RTR	Retain	Retain	D3	D2	D1	D0

FF: standard frame and extended frame identification, 1 extended frame, 0 standard frame.
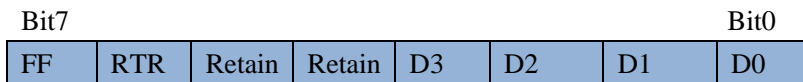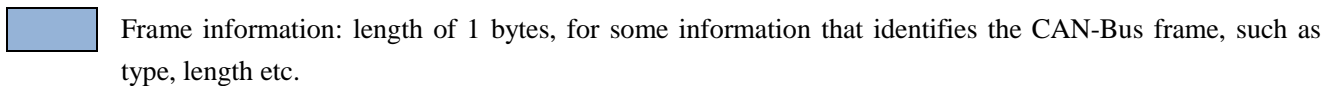
RTR: remote frame and data frame identification, 1 remote frames, 0 data frames.
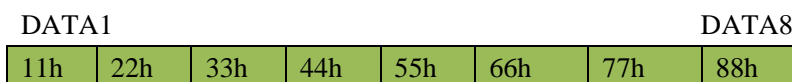
Retain: the retention value is 0, 1 is not writable.

D3~D0: identifies the CAN frame data length.

Frame ID: length of 4 bytes, a standard frame is 11 bits, 29 bits is effectively extended frame.

Low byte   High byte

12h	34h	56h	78h

Low byte   High byte

00h	00h	03h	FFh

As for the representation of
the extended frame   ID 0X12345678

As for the representation of
the standard frame   ID 0X000003ff

Frame data: 8 bytes, the effective length of frame information is determined by the value of D3~D0.

DATA1   DATA8

11h	22h	33h	44h	55h	66h	77h	88h

As for the expression of 8 valid data bytes

DATA1   DATA8

11h	22h	33h	44h	55h	66h	00h	00h
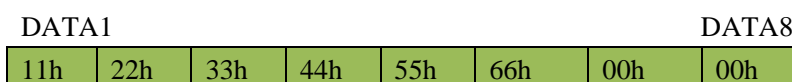
As for the expression of 6 valid data bytes

The following is an extended data frame, ID 0X12345678, contains 8 bytes of data (11h, 22h, 33H, 44h, 55h, 66h, 77h, 88H) expression of the frame

| 88h	12h	34h	56h	78h	11h	22h	33h	44h	55h	66h	77h	88h

The following example is a standard data frame, ID 0X3FF, contains 6 bytes of data (11h, 22h, 33H, 44h, 55h, 66h) expression of the frame

06h	00h	00h	03h	FFh	11h	22h	33h	44h	55h	66h	00h	00h

Users in the use of PC to send UDP frame, CAN-Bus frame number of each UDP frame contains less than 50!
UDP frame transmission speed is not recommended more than 400 frames per second. Convert the CAN-Bus frame of not more than 4000 frames per second.

Application examples
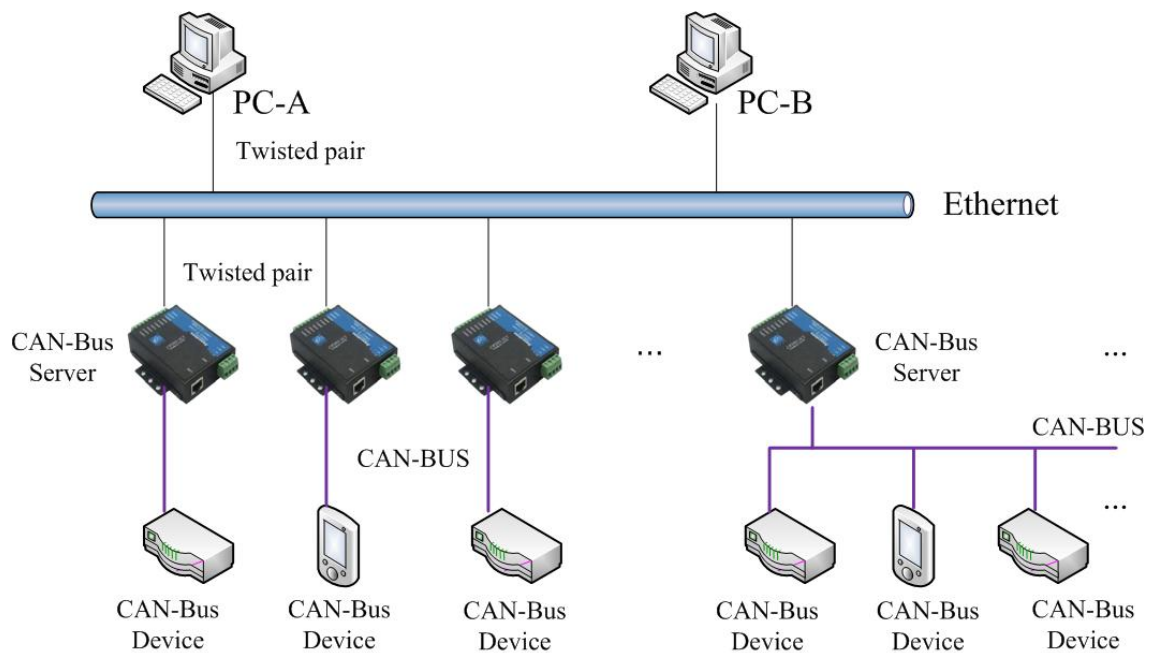
(Figure 6.1)

Chapter 7 Repair and Service

The company provides a three-year product warranty, from the date of shipment. According to the product specifications, during the warranty period, the company will be free to repair or replace the product if the product has any failure or operation fails. However, these commitments do not cover damage caused by improper use, accident, natural disaster, improper operation or incorrect installation.

To ensure that consumers benefit from our managed series switches, try to get help in the following ways:

Internet service.

Make a call to our technical office.

Return or replace product.

7.1 Internet Service

Please visit http://www.3onedata.com

7.2 Make a call to our technical office

You can call our technical support office, the company has professional technical engineers to answer your questions and help you resolve your problems at the first time. Free Service Hotline 400-600-4496

7.3 Repair or Replace

Please to confirm with our technical staff if your product need to repair, replace or return, and then contact our sales man to get a deal with the problem. The above should be in accordance with the company's handler to negotiate for treatment with our technical and salesman to complete the repair, replacement or return.