

ICP222-1T2F-2CI-TB-P(12-48VDC) CAN Server User Manual

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Industrial Ethernet communication solution expert

3onedata Co., Ltd.

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3onedata Co., Ltd.

3/B, Zone 1, Baiwangxin High Technology Industrial park, Nanshan District, Shenzhen, 518108 China
tech-support@3onedata.com
+86 -880-4496
sales@3onedata.com
+86 -0755-26703485
http://www.3onedata.com

Preface

The user manual has introduced the CAN server:

- Can Port Work Mode
- Network management relative principle overview

Audience

This manual applies to the following engineers:

- Network administrators
- Technical support engineers

Text Format Convention

Format	Description
" "	Words with "" represent the interface words. Such as: "Port
	No.".
>	Multi-level path is separated by ">". Such as opening the local
	connection path description: Open "Control Panel> Network
	Connection> Local Area Connection".
Light Blue Font	It represents the words clicked to achieve hyperlink. The font
	color is as follows: 'Light Blue'.
About this chapter	The section 'about this chapter' provide links to various
	sections of this chapter, as well as links to the Principles
	Operations Section of this chapter.

Symbols

Format	Description	
\land	Remind the announcements in the operation, improper	
Notice	operation may result in data loss or equipment damage.	
Pay attention to the notes on the mark, improper oper		
Warning	may cause personal injury.	

Format	Description
	Conduct a necessary supplements and explanations for the
Note	description of operation content.
Key	Configuration, operation, or tips for device usage.
	Pay attention to the operation or information to ensure
Tips	success device configuration or normal working.

Port Convention

The port number in this manual is only an example, and does not represent the actual port with this number on the device. In actual use, the port number existing on the device shall prevail.

Revision Record

Version No.	Date	Revision note
01	07/26/2022	Manual development

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Log in the Web Interface

About this chapter

Content	Link
This Chapter	1.1 WEB Browsing System Requirements
	1.2 Setting IP Address of PC
	1.3 Log in the Web Configuration Interface

1.1 WEB Browsing System Requirements

Using this equipment, the system should meet the following conditions.	Using this equipment,	the system should	I meet the following conditions.
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Hardware and Software	System requirements	
CPU	Above Pentium 586	
Memory	Above 128MB	
Resolution	Above 1024x768	
Color	256 color or above	
Browser	Internet Explorer 6.0 or above	
Operating system	Windows XP/7/8/10	

1.2 Setting IP Address of PC

The default management of device is as follows:

IP Settings	Default Values
IP address	192.168.1.254
Subnet mask	255.255.255.0

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When configuring a device through the Web:

- Before conducting remote configuration, please confirm the route between computer and device is reachable.
- Before making a local configuration, make sure that the IP address of the computer and the CAN server are on the same subnet.



While configuring the device for the first time, if it's the local configuration mode, first confirm the network segment of current PC is 1.

Eg: Assume that the IP address of the current PC is 192.168.5.60, change the network segment "5" of the IP address to "1".

Operation steps

Amendment steps as follow:

- **Step 1** Open "Control Panel> Network Connection> Local Area Connection> Properties> Internet Protocol Version 4 (TCP / IPv4)> Properties".
- Step 2 Change the selected "5" in red frame of the picture below to "1".

Internet Protocol Version 4 (TCP/IPv4) Properties			
General			
You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.			
Obtain an IP address automatical	ly		
Use the following IP address:			
IP address:	192 . 168 . 5 . 60		
S <u>u</u> bnet mask:	255 . 255 . 255 . 0		
Default gateway:	192.168.5.1		
Obtain DNS server address autor	natically		
Ose the following DNS server add	resses:		
Preferred DNS server:	202 . 96 . 122 . 168		
Alternate DNS server:	202 . 96 . 134 . 133		
Validate settings upon exit	Ad <u>v</u> anced		
	OK Cancel		

Step 3 Click "OK", IP address is modified successfully.Step 4 End.

1.3 Log in the Web Configuration Interface

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Operation steps

Login in the web configuration interface as follow:

- **Step 1** Run the computer browser.
- Step 2 Enter the address of the device "http://192.168.1.254" in the address bar of the browser.
- Step 3 Click the "Enter" key.
- Step 4 Pop-up dialog box as shown below, enter the user name and password in the login window.

Username	admin
Password	
_	
	Login
Sa	ave username Save password

Note:

- The default username and password are "admin"; please strictly distinguish capital and small letter while entering.
- Default user account has the administrator privileges.
- Step 5 Click "Login".
- Step 6 End.

After successful login, you can configure the relevant parameters and information of the WEB interface as needed.



About this chapter

Content	Link
This Chapter	2.1 Product Information
	2.2 Network information

2.1 Product Information

Function Description

In "Device information" interface, user can check Device name, Device model, CAN No, Firmware Ver, Device time, Description, Number of LAN, CPU Utilization, Memory Utilization and so on.

Operation Path

Open in order: "System Maintenance > Device information".

Interface Description

The product information interface is as follows:

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The main elements configuration description of device information interface:

Interface Element	Description		
Device name	Network identity or device type of the device. Note: Configure the device name on the "System Management > Device Information Configuration" page.		
Device model.	Equipment model or name of the device.		
Serial no.	Serial number of the device		
Device time	The time display of current device, which can synchronize the time of local PC or NTP server.		
Software version	Software version information of the device.		
Config version	Software version information of the device.		
Running time	Running time of the current device.		
Description	Description information of the device. Note: Configure the device information On the "System Management > Device Information Configuration" page.		
Hardware version	Current hardware version information, pay attention to the		
	hardware version limits in software version.		
Number of lans	The network port number of the device.		
CPU usage	CPU usage of the current device.		
Memory usage	Memory usage of the current device.		

2.2 Network information

Function Description

On the page of "Network information", user can check device network address information and DNS server information.

Operation Path

Open in order: "System Information" > Network Information".

Interface Description

Network information interface as follows:

Overview >	Device Information	Network Information	
Lan1			
IP configuration	Static	IPV6 configuration	Disable
IP address	192.168.1.254	IPV6 address	
Netmask	255.255.255.0	MAC address	00:22:6f:00:00:1d
Gateway		IPV6 Gateway	
DNO serves			
DNS server			
DNS1			
DNS2			
IPV6 Primary DN	IS server		
IPV6 Secondary	DNS server		

The main elements configuration description of network information interface.

Interface Element	Description
LAN1	LAN1 information bar
IP Configuration	Display how the LAN 1 of the device gets the IP address.
Netmask	Display device subnet mask.
MAC Address	Display the MAC address of device LAN1.
IP Address	Display LAN1 IP address.
Gateway	Display LAN1 gateway address.
IPv6Configuration	Display how the LAN 1 of the device gets the IPv6 address.
IPv6 Address	Display the IPv6 address of device LAN1.
IPv6 Gateway	Display LAN1 IPv6 gateway address.
DNS server	DNS server information bar
DNS1	Display device main DNS server address.
DNS2	Display device backup DNS server address.
IPv6 Primary DNS	Display the IPv6 primary DNS server of the device.

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Interface Element	Description
Server	
IPv6 Secondary	Display the IPv6 secondary DNS server of the device.
DNS Server	



Function Description

On the "Network Configuration" page, you can configure the IP address, DNS address and LLDP of the device. The IPv4 address of the device supports dynamic acquisition or manual static configuration through DHCP and BOOTP protocol, and the IPv6 address supports dynamic acquisition or manual static configuration through DHCPv6 protocol, and also supports dynamic acquisition of IPv6 address by SLAAC. The IPv4 and IPv6 addresses of the device support dynamic acquisition of DHCP protocol or manual static configuration, and IPv4 also supports automatic acquisition of BOOTP protocol.

The total length of IPv6 address is 128 bits, and it is usually divided into 8 groups, each of which is in the form of 4 hexadecimal numbers, and each group of hexadecimal numbers is separated by a colon. For the convenience of writing, IPv6 also provides a compression format. The specific compression rules are:

- The leading "0" in each group can be omitted.
- The address contains two or more consecutive groups of 0, which can be replaced by double colons "::".

An IPv6 address can be divided into the following two parts:

- Network prefix: n bits, equivalent to the network ID in IPv4 address;
- Interface: 128-n bits, equivalent to the host ID in IPv4 address.

Operation Path

Open: "Network Configuration".

Interface Description

Network configuration interface as follows:

Network Configuration		
LAN1		
LAN1 IP configuration	O DHCP Static BOOTP	
LAN1 IP address	192.168.1.254	10.0.0.2
LAN1 Subnet Mask	255.255.255.0	255.255.255.0
LAN1 Gateway		10.0.0.1
LAN1 IPV6 configuration	🔘 AUTO 🔘 Static 💿 Disable	
LAN1 IPV6 address		2002:db8:0:f100::1
LAN1 IPV6 PrefixLen		0-128
LAN1 IPV6 Gateway		2002:db8:0:f100::1
DNS settings		
Primary DNS server		
Secondary DNS server		202.96.133.5
IPV6 Primary DNS server		
IPV6 Secondary DNS server		2002:db8:0:f100::1
LLDP configuration		
LLDP	🔵 Enable 💿 Disable	
message transmission interv	al 30	5-32768
Submit Refresh		

The main element configuration description of network configuration interface:

Interface Element	Description		
Network Port 1	LAN1 Configuration Bar		
LAN1 IP Configuration	Configuration of network address of device LAN 1:		
	• DHCP: Obtain an IP address, subnet mask, and		
	gateway address automatically from DHCP server.		
	• Static: manually configure the IP address, subnet		
	mask, and gateway address.		
	BOOTP: Automatically obtain IP address, subnet		
	mask and default gateway address from		
	BOOTP(Bootstrap Protocol) server.		
LAN1 IP Address	Manually set the IP address of the device LAN1, which is		
	192.168.1.254 by default.		
LAN1 Subnet Mask.	Manually set the subnet mask of the device LAN1, which		
	is 255.255.255.0 by default.		
LAN1 Gateway	Manually set the gateway address of the device LAN 1.		
LAN1 IPv6	Configuration mode of LAN1 IPv6 network address:		

Interface Element	Description		
Configuration	 AUTO(DHCPv6): automatically acquire dynamic IP address, network address prefix and gateway address from DHCP server, or acquire network address prefix through SLAAC to finish IPv6 address setting. Static: manually configure IP address, address prefix length and gateway address. Disable: IPv6 network address is not enabled by default 		
LAN1 IPv6 Address	Under manual setting, the LAN1 IPv6 address of the device, such as 2002:db8:0:f100::1.		
LAN1 IPv6 PrefixLen	n Under the manual setting, the LAN1 IPv6 network prefix length of the device, which is in the range of 0-128.		
LAN1 IPv6 Gateway	Under manual setting, the LAN1 IPv6 gateway address of device.		
DNS Settings	DNS Settings Bar		
Primary DNS Server	DNS Sever IP address, for example: 202.96.133.4.		
Secondary DNS Server	DNS Sever backup IP address, for example: 202.96.133.5.		
IPv6 Primary DNS Server	IPv6 address of DNS server, such as: 2002:db8:0:f100::4.		
IPv6 Secondary DNS	Secondary IPv6 address of DNS server, such as:		
Server	2002:db8:0:f100::5.		
LLDP Configuration	LLDP Configuration Bar		
LLDP	LLDP function enables radio box, and the options are as		
	follows:		
	Enable: enable LLDP (link layer discovery protocol).Disable: Disable LLDP.		
Message Transmission	LLDP message transmission interval time, the value		
Interval	range is 5-32768, unit: second. When the LLDP function		
	is enabled, the device will periodically send LLDP		
	messages to neighboring devices.		



About This Chapter

Content	Link
This chapter	4.1 Ring Configuration
	4.2 Ring Status

4.1 Ring Configuration

Function Description

On the "Ring Configuration" page, you can configure the device ring network redundancy function of the fiber port.

SW-Ring is an Ethernet ring network algorithm independently developed by our company, which is specially developed and designed for high-reliability industrial control network applications that need link redundancy backup. It has Ethernet link redundancy and the ability of fast and automatic fault recovery. SW-Ring adopts nomaster station design. In a multi-ring network composed of 250 devices at most, the network disconnection self-recovery time is less than 20ms. The fiber port of the device can be used as a ring network port to connect with other switches. When the network connection is interrupted, the SW-Ring redundancy mechanism enables the backup link to quickly restore the network communication.

Operation Path

Open in order: "Fast Ring Network > Ring Configuration".

Interface Description

Ring configuration interface as follows:

Fast ring network > R	ing configuration Ring status					
Redundancy Protocol	SW-Ring •					
Ring network group	Ring ID	Ring type	HelloTime	Role	Ring address type	Enable
1	1	Single •	0 ×10	0ms slave ▼	SWRing address ▼	
Submit Refresh						

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	iguration description of mig configuration interace.
Interface Element	Description
Redundancy	Select the corresponding redundancy protocol. Options are:
Protocol	• None: indicates that the ring network function is disabled.
	• SW-Ring V3: support single ring and chain.
Ring Network	Support ring network group 1, it means that the device
Group	supports at most 1 ring network group.
Ring ID	The current ring network ID of ring network when multiple
	devices form a ring network. The network ID is different in
	different ring networks.
Ring Type	According to the requirements of the site environment,
	different ring network types can be selected.
	• Single: Single ring, using a continuous ring to connect
	each device together.
	• Chain: Chain, through an advanced software technology,
	enhances the flexibility of users to build any type of
	redundant network topology.
Hellotime	Hello_time is the interval of hello packet transmission, which
	is an inquiry packet sent by CPU to adjacent devices through
	the ring network port to confirm whether the connection is
	normal.
Role	The single ring type has the options of master and slave
	devices, and supports the structure of one-master-multiple -
	slave and no-master. One-master-multi-slave structure is,
	when the device is the master device, one end of the loop
	master device is the backup link, and when the loop network
	fails, the slave master station activates the backup link to
	ensure the normal operation of the network. When all the ring
	network devices are slave stations, it is a no-master structure.
Ring Address Type	The destination MAC address type of the ring network
	protocol, the same ring network address type is used in the
	same ring network, and the options are as follows:
	• SWRing Address : SWRing protocol address, this default
	configuration is recommended.
	• STP Address: when some device Chain or HelloTime in
	the ring network are incompatible, all devices in the ring

The main element configuration description of ring configuration interface:

Interface Element	Description			
	network can be switched to STP protocol addresses.			
Enable	Enable or disable the corresponding ring network group.			

4.2 Ring Status

Function Description

On the "Ring Status" page, you can view the ring network status of the fiber port of the device.

Operation Path

Open in order: "Fast Ring Network > Ring Status".

Interface Description

Ring status interface as follows:

Fast ring netwo	ork > Ring configuration	Ring status	
Auto refresh			
Ring network group	Ring port 1 status	Ring port 2 status	Ring network group enable
1	block	block	disable

The main element configuration description of ring status interface:

Interface Element	Description		
Auto Refresh	Auto refresh check box. After checking it, the page will be		
	automatically refreshed every 5 seconds.		
Ring Network	Display the ring network group ID.		
Group			
Ring Port 1 Status	Communication status of ring network port 1 can be shown as		
	follows:		
	• Block		
	• Forward		
Ring Port 2 Status	Communication status of ring network port 2 can be shown as		
	follows:		
	• Block		
	Forward		
Ring Network	The enabled status of the ring group can be displayed as		

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Interface Element	Description
Group Enable	follows:
	Enable
	• Disable



Function Description

Users can check and configure baud rate, woke mode, subcontract frame number, CAN frame limit and other parameters of each CAN port of the device on "CAN Settings" page.

Operation Path

Open: "CAN Settings".

Interface Description

CAN settings interface as follows:

Can Settings												
Re	resh											
Port	Can name	Baud rate	Can workmode Frame_num	vtime	sample_point	sjw	CAN_AF	filter_stdhight	filter_stdlow	filter_exthight	filter_extlow	Operate
1	can1	1000k	normal									Edit
2	can2	1000k	normal									Edit

The main element configuration description of CAN settings interface:

Interface Element	Description			
Port	Display the CAN port number of the device.			
CAN name	Displays the name of the device's CAN port.			
Baud Rate	Display the baud rate of the device's CAN port.			
Can workMode	Display the work mode of the device's CAN port.			
	• Normal: the device is in normal operating status.			
	• Listening: the device is in interception status and can't			
	send data.			
	• Self Test: the device is in the self-transmitting and			
	receiving operation status.			
Frame_Num	Display the number of CAN frames received when the			
	device CAN port encapsulates Ethernet packets.			
vTime	Display the time interval of CAN frames received when the			
	device CAN port encapsulates Ethernet packets.			

Interface Element	Description
Sampling_point	Display the value of sampling point of the device's CAN
	port, unit is "‰".
Sjw	Display the resynchronized jump width of the device's CAN
	port.
CAN_AF	Display acceptance and filtering status of the device's CAN
	port.
	Enable
	Disable
filter_stdhight	Display the upper limit of standard frame received by the
	device's CAN port.
filter_stdlow	Display the lower limit of standard frame received by the
	device's CAN port.
filter_exthight	Display the upper limit of extended frame received by the
	device's CAN port.
filter_extlow	Display the lower limit of extended frame received by the
	device's CAN port.
Operate	Click "Edit" to modify the parameters of corresponding CAN
	port.

Click Edit in the CAN port entry to modify the current CAN port parameters.

Interface Description: Edit

Edit interface is as follows:

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		Х
Port numbers	1 *	
Can name	can1	
Baud Rate	1000k 🔻	
Can working mode	Normal v	
Advanced settings		
Frame_num	50	(0-50)
Vtime	1	(1~254 ms)
Sample_point	0	(0~999‰)
Sjw	0	(0~4)
CAN_AF		
Filter_stdhight		(HEX)
Filter_stdlow		(HEX)
Filter_exthight		(HEX)
Filter_extlow		(HEX)
Apply to port number	Can1 Can2 Select all	

Configuration description of main elements of the Edit interface:

Interface Element	Description				
Port numbers	The port number of the device's CAN port edited currently.				
CAN name	Set the name of the device's CAN port which supports up to				
	1-32 letters or numbers.				
Baud Rate	CAN baud rate drop-down list, options as follows:				
	5K/10K/20K/50K/100K/125K/250K/500K/800K/1000K				
Can Working Mode	The drop-down list of CAN work mode, the options are as				
	follows:				
	• Normal: the device is in normal operating status.				
	Just Listen: CAN server is in interception status and				
	can't send data.				
	• Self Test: the device is in the self-transmitting and				
	receiving operation status.				
Advanced Settings	Advanced Settings Check box, click to configure more				
	function parameters.				
Frame—num	When the CAN port continuously receives data and the				
	received CAN frame number reaches "Frame Number", the				
	received data is packaged as an Ethernet packet and sent				
	out, settable value is 0-50.				

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Interface Element	Description
VTime	When the CAN port doesn't receive the new data frame within
	defined time of "Frame Wait Time", the received data that
	hasn't been sent out is packaged to an Ethernet packet sent
	to the Ethernet port, settable value is 1-254ms.
Sampling point	Sampling point is the sample of bus state at the end of
	phase buffer section 1 when the bus level is read and
	converted into the corresponding bit value. The desired
	value is the percentage of the time from the beginning of a
	bit to the sampling point to the total time of a complete bit,
	which ranges from "0-999‰".
	Note: When there is a phase difference on the bus, you can adjust the
0:	sampling point for resynchronization.
Sjw	SJW (reSynchronization Jump Width) specifies the upper
	limit of the extension or shortening of the phase buffer
	section. The value ranges from 1 to 4.
CAN_AF	CAN_AF check box, click to enable CAN port acceptance
	and filtering function. After enabled, the data will be
	eliminated if the standard frame and the extended frame ID
	received by CAN port are not in the restricted range.
filter_stdhight	The upper limit of standard frame received by the device's
	CAN port, which is hexadecimal and the valid value range is
	000-7FF.
filter_stdlow	The lower limit of standard frame received by the device's
	CAN port, which is hexadecimal and the valid value range is
	000-7FF.
filter_exthight	The upper limit of extended frame received by the device's
	CAN port, which is hexadecimal and the valid value range is
	0000000-1FFFFFF.
filter_extlow	The lower limit of extended frame received by the device's
	CAN port, which is hexadecimal and the valid value range is
	0000000-1FFFFFF.
Apply to the port	Check the CAN port check box to apply the current settings
number	to the specified CAN port.



About this chapter

Content	Link
This Chapter	6.1 TCP Server Mode
	6.2 TCP Client Mode
	6.3 TCP Server Mode Configuration Bar
	6.4 UDP Client Mode
	6.5 UDP Rang Mode
	6.6 UDP Multicast Mode

Function Description

Configure the work mode of corresponding device CAN port on "CAN Mode Settings" page.

The working modes supported by the device are:

- CAN TCP Server Mode
- CAN TCP Client Mode
- CAN UDP Server Mode
- CAN UDP Client Mode
- CAN UDP Rang Client Mode
- CAN UDP Muliticast Mode

Operation Path

Open in order "CAN Mode > CAN1". Under the menu of "CAN Mode", the corresponding CAN port information can be configured by entering different CAN ports. The configuration operation mode of all CAN ports' WEB interfaces is the same.

6.1 TCP Server Mode



In CAN TCP server mode, the device is assigned an IP port number and passively waits for the host to connect. After the host initiates connection request and establish connection to the device, the host can realize the data transmission via network connection and CAN port. CAN TCP Server Mode supports multiple session connection at the same time, so that multiple hosts can read or send Ethernet data to a CAN port device at the same time.

Interface Description

TCP server mode interface is as follows:

Can1 > Can Modes						
Operation mode						
Can num	Can1					
Operation mode	TCP Server Mode 🔹					
TCP Server Mode						
Max connection	1	E.g(1-255)				
Local port	40001	E.g(1-65535)				
Can buffering(128K)	🔵 Enable 💿 Disable					
Tcp alive check time	60	E.g(0-65535 s)				
Inactivity time	0	E.g(0-65535 s)				
Send buffer size	1024	(1-8192 KB)				
Send buffer processing method	Discard new data					
Apply to all ports						
Submit Refresh						

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Interface Element	Description		
Operation mode	Operation Mode Configuration Bar		
CAN num	Displays the CAN number of the device currently configured.		
Operation mode	The operation modes of CAN port of the device are as follows:		
	TCP Server Mode		
	TCP Client Mode		
	UDP Server Mode		
	UDP Client Mode		
	UDP Rang Mode		
	UDP Multicast Mode		
TCP Server Mode	TCP Server Mode Configuration bar		
Max connection	The maximum session number supported by the device's		
	CAN port.		
	Note: Session refers to the process the device transmits data received		
	from CAN port to Ethernet via socket connection. More than one		
	session number represents the device transmits the data received		
Local port	Local port of the device, effective range is 1-65535		
	Note:		
	TCP port provided by the device that can be connected by other		
	TCP/IP nodes, which is associated with the corresponding CAN port of the device.		
CAN	Port data cache, which can cache CAN port data up to 128K		
buffering(128k)	after the network is abnormal. When the network returns to		
	normal, the cached data is forwarded. Options are as follows:		
	• Enable;		
	• Disable.		
TCP alive check	If no TCP activity occurs within the allotted time, the system		
time	would send contact-probing message to check the validity of		
	TCP connection. If the reply packet of opposite side hasn't		
	been received after sending probe packet for 3 times, system		
	will regard the opposite side as down and forwardly close the		
	communication connection. If set TCP Alive Time to "0", the		
	function will be disabled. Effective time range 0~65535s.		
Inactivity time	The idle time of device's communication link, valid time range		
	0~65535s.		
	• TCP Timeout > 0: If there is no data communication		
	between the server and client, the server and client will		
	break connection.		

TCP server mode interface main element configuration instructions:

Interface Element	Description		
	• TCP Timeout = 0: When there is no data communication		
	between the server and client, the server and client will		
	keep in connection status.		
Send buffer size	The size of CAN port's cache for sending, range 1-8192KB. If		
	the Ethernet receives too much data, CAN needs to cache the		
	data. If the cache is too large, the real-time data will be		
	affected.		
Send buffer	When sending cache data overflows, the data can be		
processing method	processed as follows:		
	Discard new data;		
	Discard old data.		
Apply to all ports	Apply current setting to all CAN ports.		

6.2 TCP Client Mode



In CAN TCP client mode, the device can actively establish a network connection with the host specified by the user when the CAN port data arrives. After the data transmission is completed, the device will automatically close the network connection according to TCP keep-alive time/idle timeout and other parameters. CAN TCP Client Mode supports multiple session connection at the same time, so that multiple hosts can read or send Ethernet data to a CAN port device at the same time.

Interface Description

TCP Client mode interface is as follows:

Can1 > Can Modes			
Operation mode			
Can num Operation mode	Can1 TCP Client Mode	T	
TCP Client Mode			
Max connection	1	T	
Sessionid Destination address	Destination port	Local port	Port bind
1 192.168.1.94	33000	40001	Disable •
Can buffering(128K)	🔵 Enable 💿 Disa	ble	
Tcp alive check time	60	E.g(0-	65535 s)
Send buffer size	1024	(1-819	2 KB)
Send buffer processing method	Discard new data		
Apply to all ports			
Submit Refresh			

TCP client mode interface main element configuration instructions:

Interface Element	Description		
Operation mode	Operation Mode Configuration Bar		
CAN num	Displays the CAN number of the device currently configured.		
Operation mode	The operation modes of CAN port of the device are as		
	follows:		
	TCP Server Mode		
	TCP Client Mode		
	UDP Server Mode		
	UDP Client Mode		
	UDP Rang Mode		
	UDP Multicast Mode		
TCP Client Mode	TCP Client Mode Configuration Bar		
Max connection	The session number of the device's CAN port.		
	Note:		
	Session refers to the process the device transmits data received from CAN port to Ethernet via socket connection. More than one session number represents the device transmits the data received from CAN port to Ethernet via more than one socket.		
Destination	The IP address of the server to which the device needs to		
address	connect.		
Destination port	Enter the TCP port number of the server to which the device		
	needs to connect.		

Interface Element	Description		
Local port	A local port number assigned by the device for TCP		
	connection, which can provide service or connection to the		
	outside world, is used to connect and communicate with the		
	server.		
Port bind	Local port fixed, options are as follows:		
	Disable: the system automatically selects the idle local		
	port to establish a connection with the server;		
	Enable: connect to the server using a manually		
	configured local port.		
Can buffering	Port data cache, which can cache CAN port data up to 128K		
(128k)	after the network is abnormal. When the network returns to		
	normal, the cached data is forwarded. Options are as follows:		
	Enable;		
	• Disable.		
TCP alive check	If no TCP activity occurs within the allotted time, the system		
time	would send contact-probing message to check the validity of		
	TCP connection. If not receiving any reply packet from the		
	other after sending probing packet three times in succession,		
	it would consider the opposite side as offline and take the		
	initiative to close communication connection. If set TCP Alive		
	Time to "0", the function will be disabled. Effective time range		
	0~65535s.		
Send buffer size	The size of CAN port's cache for sending, value range is 1-		
	8192KB. If the Ethernet receives too much data, CAN needs		
	to cache the data. If the cache is too large, the real-time data		
	will be affected.		
Send buffer	When sending cache data overflows, the data can be		
processing method	processed as follows:		
	Discard new data;		
	Discard old data.		
Apply to all ports	Apply current setting to all CAN ports.		

6.3 TCP Server Mode Configuration Bar



Under CAN UDP Server Mode, the device can be a server, and it can transmit data with the host user appointed under the UDP protocol. Under CAN UDP Server Mode, the device can transmit the data from CAN device to one or multiple hosts, and CAN device can also receive the data from one or multiple hosts.

Interface Description

TCP Server Mode interface is as follows:

Can1 > Can Modes			
Operation mode			
Can num Operation mode	Can1 UDP Server Mode		
UDP Server Mode			
Max connection	1	E.g(1-255)	
Local listen port	40001	E.g(1-65535)	
Send buffer size	1024	(1-8192 KB)	
Send buffer processing method	Discard new data		
Apply to all ports			
Submit Refresh			

UDP Server Mode interface main element configuration instructions

Interface Element	Description
Operation mode	Operation Mode Configuration Bar
CAN num	Displays the CAN number of the device currently configured.

Interface Element	Description
Operation mode	The operation modes of CAN port of the device are as
	follows:
	TCP Server Mode
	TCP Client Mode
	UDP Server Mode
	UDP Client Mode
	UDP Rang Mode
	UDP Multicast Mode
UDP Server Mode	TCP Server Mode Configuration Bar
Max connection	The maximum session number supported by the device's
	CAN port.
Local listen port	The device is used as the listening port of UDP server for
	receiving UDP data.
	Note:
	User must allot the only listening port to each CAN port, then the system can normally receive UDP data.
Send buffer size	The size of CAN port's cache for sending, value range is 1-
	8192KB. If the Ethernet receives too much data, CAN needs
	to cache the data. If the cache is too large, the real-time data
	will be affected.
Send buffer	When sending cache data overflows, the data can be
processing method	processed as follows:
	Discard new data;
	Discard old data.
Apply to All Ports	Apply current setting to all CAN ports.

6.4 UDP Client Mode



Under CAN UDP Client Mode, the device can be a client, and it can transmit data with the host user appointed under the UDP protocol. Under CAN UDP Client Mode, the device can transmit the data from CAN device to one or multiple hosts, and CAN device can also receive the data from one or multiple hosts.

Interface Description

UDP Client Mode interface is as follows:

Can1 > Can Modes				
Operation mode				
Can num Operation mode	Can1 UDP Client Mode	¥		
UDP Client Mode				
Max connection 1 Sessionid Format Destination address Destination port		•		
Sessionid Format Destination a	address	Destination port		
Sessionid Format Destination a 1 IP 192.168.1.9	address 4	Destination port		
SessionidFormatDestination a1IP192.168.1.94Send buffer sizeSend buffer processing methodApply to all ports	address 4 1024 Discard new data	Destination port 33000 (1-8192 KB)		

UDP Client Mode interface main element configuration instructions:

Interface Element	Description
Operation mode	Working Mode Configuration Bar

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Interface Element	Description	
CAN num	Displays the CAN number of the device currently configured.	
Operation mode	The working modes of CAN port of the device are as follows:	
	TCP Server Mode	
	TCP Client Mode	
	UDP Server Mode	
	UDP Client Mode	
	UDP Rang Mode	
	UDP Multicast Mode	
UDP Client Mode	UDP Client Mode Configuration Bar	
Max connection	The maximum session number of the device's CAN port.	
Format	The Server address format that CAN as the UDP client needs	
	to connect:	
	IP: IP address format, eg. 192.168.1.254; also support IPv6	
	address format, such as 2001:db8:0:f100::1.	
Destination IP	Enter the IP address of the server to which the device needs	
address	to connect.	
Destination port	The listening port number of the server which the device need	
	for session.	
Send buffer size	The size of CAN port's cache for sending, value range is 1-	
	8192KB. If the Ethernet receives too much data, CAN needs	
	to cache the data. If the cache is too large, the real-time data	
	will be affected.	
Send buffer	When sending cache data overflows, the data can be	
processing method	processed as follows:	
	• Discard new data;	
	Discard old data.	
Apply to All Ports	Apply current setting to all CAN ports.	

6.5 UDP Rang Mode



When the router, switch and other devices do not support multicast function, the device can realize the multicast function under the CAN UDP Rang Mode. In this mode, the device transmits data with multiple hosts in the same network segment designated by the user through UDP protocol, to achieve point to multipoint data communication. Under CAN UDP Rang Mode, CAN device can receive the data from one or multiple hosts.

Interface Description

UDP Rang Mode interface as follows:

Can1 > Can Modes				
Operation mode				
Can num Operation mode	Can1 UDP Rang Mode	Ŧ		
UDP Rang Mode				
Max connection	1	•		
Sessionid Format Start addr	ess End address	Destination port		
1 IP 192.168.2	.1 192.168.2.1	33000		
Local listen port	40001	E.g(1-65535)		
Send buffer size	1024	(1-8192 KB)		
Send buffer processing metho	Discard new data	¥		
Apply to all ports				
Submit Refresh				

UDP Rang Mode interface main element configuration instructions:
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Interface Element	Description
Operation mode	Operation Mode Configuration Bar
CAN num	Displays the CAN number of the device currently configured.
Operation mode	The operation modes of CAN port of the device are as follows:
	TCP Server Mode
	TCP Client Mode
	UDP Server Mode
	UDP Client Mode
	UDP Rang Mode
	UDP Multicast Mode
UDP Rang Mode	UDP Rang Mode Configuration Bar
Max connection	The maximum session number supported by the device's
	CAN port, options include:
	1/2/3/4
Format	The format of UDP Rang address.
Start Address	Start IP address of UDP Rang destination address.
End address	End IP address of UDP Rang destination address.
Destination port	The listening port number of the server that the device need
	for session.
Local listen port	The listening port of the device to receive UDP data
	Note:
	system can normally receive UDP data.
Send buffer size	The size of CAN port's cache for sending, value range is 1-
	8192KB. If the Ethernet receives too much data, CAN needs
	to cache the data. If the cache is too large, the real-time data
	will be affected.
Send buffer	When sending cache data overflows, the data can be
processing method	processed as follows:
	Discard new data;
	Discard old data.
Apply to All Ports	Apply current setting to all CAN ports.

- Rang address only supports IP addresses of Class B and Class C. The start address value and end address value of the Rang address need to be the same network segment. IPv6 segment address requires that the first 112-bit address prefix of the start address and the end address be same.
- The start value of Rang address must be less than or equal to the end address value.

• In order to ensure the normal operation of communication, the rang address range needs to be small as much as possible because each IP will cost 20ms.

6.6 UDP Multicast Mode



Under CAN UDP multicast mode, devices can unicast or multicast the data of CAN device to one or more hosts designated by users through UDP protocol, and can also receive unicast and multicast data from one or more devices, thus realizing many-tomany communication.

Interface Description

UDP Multicast Mode interface as follows:

Can1 >	Can Modes				
Operation m	ode				
Can num		Can1			
Operation m	node	UDP Multicast Mode		۲	
LIDP Multice	act Mode				
	ist would	4		_	
Max connec	tion	1		•	
Group num	ber	4		•	
Local listen	port	40001			E.g(1-65535)
	Destination address	Destination port			
	192.168.1.94	33000	3000		
Sessionid 1	Multicast addr				
	Group 1	Group 2	Group 3		Group 4
	224.0.1.1	224.0.1.2	224.0.1.3		224.0.1.4
Send buffer	size	1024			(1-8192 KB)
Send buffer	processing method	Discard n	ew data	۲	
Apply to all	ports				
Submit	Refresh				

Interface Element	Description
Operation mode	Operation Mode Configuration Bar
CAN num	Displays the CAN number of the device currently
	configured.
Operation mode	The operation modes of CAN port of the device are as
	follows:
	TCP Server Mode
	TCP Client Mode
	UDP Server Mode
	UDP Client Mode
	UDP Multicast Mode
UDP Multicast Mode	UDP Multicast Mode Configuration Bar
Max connection	The maximum session number of the device's CAN port
Group Number	The multicast number supported by one session, it supports
	maximum 4 multicasts
l ocal listen port	The listening port of the device to receive Multicast
Lood noton port	Note:
	User must allot the only listen port to each CAN port, and then
Destination address	The IP address of the opposite host that the device needs
	to connect.
Destination port	Enter the port number of the opposite host that the device
	needs to connect.
Multicast addr	Group address is used for identifying an IP multicast group,
	multicast address range is: 224.0.0.0 ~ 239.255.255.255.
	The address prefix of IPv6 multicast address is: FF02::/16
	(Notice: avoid public multicast addresses when using IPv6
	multicast address, such as FF02::1, FF02::2, FF02::5,
	FF02::9, etc.). The device can send or receive multicast
	data to multiple hosts.
Send buffer size	The size of CAN port's cache for sending, value range is
	1-8192KB. If the Ethernet receives too much data, CAN
	needs to cache the data. If the cache is too large, the real-
	time data will be affected.
Send buffer	When sending cache data overflows, the data can be
processing method	processed as follows:
	Discard new data;

UDP Multicast Mode interface main element configuration instructions:

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Interface Element	Description
	Discard old data.
Apply to All Ports	Apply current setting to all CAN ports.



About this chapter

Content	Link
This Chapter	7.1 CAN Port Count
	7.2 Network Connection state

7.1 CAN Port Count

Function Description

On the "CAN Port Count" page, you can view the statistics of the number of bytes received and sent during the conversion between each CAN port and the network.

Operation Path

Open in order: "CAN Status> CAN Port Count" .

Interface Description

The interface of CAN Port Count is as follows:

Can Port Cou	unt						
Refresh							
Can num	Net receive(Byte)	Net send(Byte)	Can receive(Frame)	Can send(Frame)	Can filter(Frame)	Can remotely(Frame)	Can errors(Frame)
1	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0

The main element configuration description of CAN Port Count interface:

Interface Element	Description	
Can num	Display the corresponding CAN port number of the	
Carrinum	device.	
Notwork receive (Putee)	Number of bytes received by the device network	
Network receive (Bytes)	interface.	
Network transmit (Bytes)	Number of bytes sent by the device network interface.	
	The number of data frames received by the device CAN	
Can receive (Frame)	port.	

Interface Element	Description
Con cond (Frama)	The number of data frames transmitted by the device
Call Sellu (Flaille)	CAN port.
	The number of data frames filtered by the device's CAN
	port.
Con romotoly (Fromo)	The number of remotely frames transmitted by the
Carrienoleiy (Frame)	device's CAN port.
	The number of error frames transmitted by the device's
Call enois (Flame)	CAN port.

7.2 Network Connection state

Function Description

On the "Network Connection Status" page, you can view the working mode and network session connection status of each CAN port of the device.

Operation Path

Open in order: "CAN Status > Network Connection Status".

Interface Description

The network connection status interface is as follows:

Network Connection Status				
Refresh				
Can port	1	2		
Operation mode	TCP Server Mode	TCP Server Mode		
Session1	Listening	Listening		

The main elements configuration descriptions of the network connection status interface:

Interface Element	Description	
CAN num	Display CAN port number corresponding to device.	
Operation mode	The operation mode of current CAN port are as follows:	
	TCP Server Mode	
	TCP Client Mode	
	UDP Server Mode	
	UDP Client Mode	

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Interface Element	Description	
	UDP Rang Mode	
	UDP Multicast Mode	
Session (1-3)	The current connection state of network connection of the CAN	
	port can be displayed as follows:	
	Connected	
	Connecting	
	Listening	
	(None): the session is not enabled or UDP is not	
	connected	



About this chapter

Content	Link
This Chapter	8.1 Routing Table
	8.2 System Network Status
	8.3 System Log

8.1 Routing Table

Function Description

In "Routing" page, you can see the current route information.

Operation Path

Open in order: "System Status > Routing".

Interface Description

Route Table Interface Screenshot:

Routing									
Current Routing									
Auto refresh	efresh 🗹								
Iface	Destination	Gateway/HA	Netmask(PrefixLen)	Metric	Flag	Use			
eth0	192.168.1.0	0.0.0.0	255.255.255.0	0	U	0			

The main elements configuration description of routing interface:

Interface Element	Description
Iface	Display the interface name of physical network.
Destination	Display the IP address of destination host or the network
	address of destination routing.

Interface Element	Description
Gateway/HA	Display gateway IP address or next hop router IP address of.
Netmask	Display destination network subnet mask.
Metric	Display the router hops from source terminal to destination
	terminal.
Flag	Display routing status, valid status is:
	• U: UP
	• D: DOWN
	G: Route to gateway
	H: Route to host computer
	T: Routing settings
	R: RIP is dynamic
Use	The quantity of data packet which is sent correctly via the
	router.

8.2 System Network Status

Function Description

On the page of "System Network Status", user can check TCP connection information of the device.

Operation Path

Open in order: "System Status > System Network Status".

Interface Description

The system network status interface is as follows:

Network Connections								
Auto refresh								
Protocol	Recv-Q	Send-Q	Local Address	Foreign Address	State			
TCP	0	0	0.0.0.0:443	0.0.0.0:*	LISTEN			
TCP	0	0	0.0.0.0:40001	0.0.0.0:*	LISTEN			
TCP	0	0	0.0.0.0:40002	0.0.0.0:*	LISTEN			
TCP	0	0	0.0.0.0:80	0.0.0.0:*	LISTEN			
TCP	0	0	0.0.0.0:22	0.0.0.0:*	LISTEN			
TCP	0	0	192.168.1.254:80	192.168.1.2:18926	ESTABLISHED			
TCP	0	0	192.168.1.254:80	192.168.1.2:18928	ESTABLISHED			
TCP	0	0	192.168.1.254:80	192.168.1.2:18930	ESTABLISHED			
TCP	0	0	192.168.1.254:80	192.168.1.2:18929	ESTABLISHED			
TCP	0	0	:::443	···*	LISTEN			
TCP	0	0	:::2601	···*	LISTEN			
TCP	0	0	:::80	···*	LISTEN			
TCP	0	0	:::6001	···*	LISTEN			
TCP	0	0	:::6002	···*	LISTEN			
TCP	0	0	:::22	···*	LISTEN			
TCP	0	0	:::23	···*	LISTEN			

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Interface Element	Description
Protocol	Network protocol type.
Recv-Q	Number of network receiving queues.
Send-Q	Number of network sending queues.
Local Address	Device IP address and network port number.
Foreign Address	IP address and network port number of remote host.
State	The status of the network socket is as follows:
	LISTEN: listening state.
	SYN_SENT: sending connection request.
	• SYN_RECV: the server should send an ACK to
	acknowledge the client's SYN and send a SYN of its
	own to the client.
	• ESTABLISHEN: represents an open connection, in
	which two parties can or have data interaction.
	• FIN_WAIT1: sending FIN actively to request to close
	connection state.
	CLOSE_WAIT: when the passive close terminal
	receives FIN, it will send ACK to answer FIN request
	and enter CLOSE_WAIT state.
	• FIN_WAIT2: when the active close terminal receives
	ACK, it will enter FIN_WAIT2status.
	LAST_ACK: After some time the passive close
	terminal receives end-of-file character, it will call
	CLOSE to close connection. Thus it's TCP also sends
	a FIN and waits the opposite ACK. It enters LAST-
	ACK status.
	• TIME_WAIT: when the active close terminal receives
	FIN, it will send ACK and enter CLOSE_WAIT state.
	CLOSING: wait the remote terminal to confirm the
	connection interruption.
	CLOSED: when the passive close terminal receives
	ACK package, it will enter CLOSED status.
	UNKNOWN: unknown Socket status.

The main element configuration description of system network status interface:

8.3 System Log

Function Description

On the "System log" page, you can view the log information of the device and upload the log information to the syslog server. During the operation of the device, the system will record all kinds of situations in operation, thus forming log information. The log information is mainly used to check the running status of device, analyze the status of network and locate the causes of problems, and provide basis for system diagnosis and maintenance. The generated log information can be saved on the device, and the log information can be output to the log server by using syslog protocol.

Operation Path

Open in order: "System Management > System Log".

Interface Description

System log interface as follows:

System Log	
Model	Enable Disable
Message type	• UDP O TCP
lp	192.168.1.2
Port	514
Syslog severity	LOG_DEBUG V
Submit	Refresh Download log
Log information	
Dec 31 16:00:03 c	can_server kernel: Booting Linux on physical CPU 0x0
Dec 31 16:00:03 c	can_server kernel: Linux version 4.4.179 (dnsoft1@dnsoft1) (gcc version 4.8.5 (Buildroot 2016.11.1-svn29)) #1 PREEMPT Mon Oct 11 10:00:19 UTC 2021
Dec 31 16:00:03 c	can_server kernel: CPU: ARM926EJ-S [41069265] revision 5 (ARMv5TEJ), cr=0005317f
Dec 31 16:00:03 c	can_server kernel: CPU: VIVT data cache, VIVT instruction cache
Dec 31 16:00:03 c	can_server kernel: Machine: NUC980
Dec 31 16:00:03 c	can_server kernel: Memory policy: Data cache writeback
Dec 31 16:00:03 c	can_server kernel: Built 1 zonelists in Zone order, mobility grouping on. Total pages: 32512
Dec 31 16:00:03 c	can_server kernel: Kernel command line: console=ttyS0,115200n8
Dec 31 16:00:03 c	can_server kernel: PID hash table entries: 512 (order: -1, 2048 bytes)
Dec 31 16:00:03 c	can_server kernel: Dentry cache nash table entries: 15,384 (order: 4, 655,36 bytes)
Dec 31 16:00:03 c	can_server kernel; inode-cache hash table entries: 8/192 (order: 3, 32/168 bytes)
Dec 31 16:00:03 0	can_server kernel: Memory: 115652K/131072K available (3822K kernel code, 272K rwdata, 1192K rodata, 8488K init, 225K bss, 15220K reserved, uK cma-reserved
Dec 31 16:00:03 c	can_server kernel: virtual kernel memory layout:
Dec 31 16:00:03 c	can_server kernel: vector: 0xim10000 - 0xim1000 (4 kB)
Dec 31 16:00:03 0	can_server kernel: nxmap: 0xttrc000000 - 0xttr00000 (3072 kB)
Dec 31 16:00:03 0	can_server kernel: vmalloc: uxc88000000 - uxt8000000 (880 MB)
Dec 31 16:00:03 0	can_server kernel, iownem, oxcouououo - oxcouououo (128 MB)
Dec 31 16:00:03 c	Lan_server kernel: http://www.com/commonly.com/com/com/commonly.com/com/commonly.com/commonly.com/commonly.com/commonly.com/commonly.com/commonly.com/commonly.com/commonly.com/com/com/commonly.com/commonly.com/commonly.com/commonly.com/commonly.com/commonly.com/commonly.com/commonly.com/commonly.com/commonly.com/commonly.com/commonly.com/commonly.com/commonly.com/commonly.com/commonly.com/com/com/com/com/com/com/com/com/com/
Dec 31 16:00:03 c	
Dec 31 16:00:03 c	
Dec 31 16:00:03 c	
Dec 31 16:00:03 c	tan server kernel: SUIIB: HValinn=32. Order=0-3 MinObjects=0. CPUIs=1. Nodes=1
Dec 31 16:00:03 c	tan server kernel: Dreemtille hierarchical RCII implementation
Dec 31 16:00:03 c	can server kernel: Build-time adjustment of leaf fanout to 32
Dec 31 16:00:03 c	can server kernel: NR IROS:545
Dec 31 16:00:03 c	can server kernel: clocksource: nuc980-timer5; mask; 0xffffff max cycles: 0xffffff. max idle ns; 62215505635 ns
Dec 31 16:00:03 c	can server kernel: sched clock: 24 bits at 120kHz, resolution 8333ns, wraps every 69905062489ns
Dec 31 16:00:03 c	can server kernel: Console: colour dummy device 80x30
Dec 31 16:00:03 c	can_server kernel: console [ttyS0] enabled
Dec 31 16:00:03 c	can_server kernel: Calibrating delay loop 148.88 BogoMIPS (lpj=744448)
Dec 31 16:00:03 c	can_server kernel: pid_max: default: 32768 minimum: 301

The main elements configuration description of system log interface:

Interface Element	Description
Mode	System log server configuration type, which can be checked
	as follows:
	• Enable: when enabled, the system log will be saved to
	the remote system log server.
	Disable: Disable the syslog server function.

Interface Element	Description
Message Type	System log information transmission protocol, which can be
	selected as follows:
	• TCP: system log information is sent to the log server by
	TCP protocol. TCP (transmission control protocol),
	connection-oriented and reliable transmission-layer
	communication protocol;
	• UDP: the system log information is sent to the log
	server by UDP protocol. UDP (user datagram protocol),
	connectionless-oriented transmission-layer
	communication protocol.
IP	IP address of the syslog server.
Port	The port number of syslog server, and the default port of
	syslog protocol is 514.
Syslog severity	The level of system log can be selected as follows:
	LOG_EMERG: extremely urgent error;
	LOG_ALERT: an error that needs to be corrected
	immediately;
	 LOG_CRIT: a more serious error;
	LOG_ERR: An error occurred;
	 LOG_WARNING: warning, there may be some error;
	 LOG_NOTICE: information to be noticed;
	 LOG_INFO: general prompt information;
	LOG_DEBUG: debug information.
Download log	Click the "Download Log" button to export the current log file
	"messages" locally.

Configuration Instance

"Visual Sys log Server" is a free open source software for receiving and viewing syslog messages. At present, the host with "Visual Sys log Server" installed is used as the system log server, and the IP address of the host is 192.168.1.101. The device transmits log information to the host server through TCP protocol. The configuration steps are as follows:

- **Step 1** Log in to the device WEB interface.
- **Step 2** On the "System log" page, configure relevant parameters, as shown in the following figure:

System Log	
Model	Enable Obisable
Message type	UDP 💽 TCP
lp	192.168.1.101
Port	514
Syslog severity	LOG_DEBUG •
Submit	Refresh Download log

- 1 Check "Enable" in the "Model" checkbox;
- 2 Check "TCP" protocol in "Message Type" checkbox;
- 3 In the IP text box, enter the IP address "192.168.1.101" of the server.
- 4 In the "Port" text box, enter the port number of the server, and the default port of syslog protocol is 514;
- 5 In the "Syslog severity" drop-down list, select "LOG_INFO";
- 6 Click "Submit" button.
- **Step 3** Run "Visual Sys log Server" on the host to complete the configuration of relevant parameters, as shown below.

📰 Visual Sysl	og Server 1	.6.3								-	
Setup	Font P	rocessing Hig	hlighting -	Goto nev	More	View prev	View next	View file	d Clear	2 About	Terminate
View	v file syslog	,			~						
Message filte	ering 🗮	All messa	ges match								
Displaying 0 mes	ssages										
Time	IP	Host	Facility	Priority	Tag	Message					
IDD 102 160 1	101-514	TCD	102 160 1 1	01-514 (1)							
JUP 192.108.1.	101:514	TCP	192.108.1.1	01:514[1]							

1 Click the "Setup" button, as shown in the above figure;

Cotup						
Setup						~
Main	Files	E-mail				
UDP	syslog s	server				
	Enable	UDP listener				
UC	OP listen	er interface and port	0.0.0.0	~	514	
TCD	avelag a	071/07				
	are u					1
] Enable	e ICP listener	102.102.1.101		514	
	LP listen	er interface and port	192.168.1.101	~	514	
	ch					
Laun	ich					
	Autom	atic start with windows				
Highl	lighting					
	3D fill					
Work	ina					
WORK	ang -					
	Write a	all received messages to a	a file "raw" for diagnosti	c purposes		
	Receiv	ve messages encoded in U	/TF8			
				••		
			ж	💢 Can	icel	

- 2 On the "Setup" page, in the Main configuration area, check "Enable TCP Listener", as shown in the above figure;
- Select the IP address "192.168.1.101" and port number "514" of the server from the
 "TCP listener interface and port" drop-down list;
- 4 Click "OK" button.
- **Step 4** Check the log information in the "Visual Sys log Server" configuration interface, as shown in the following figure.

🔳 Visual Syslog S	erver 1.6.3												-	×
Setup Font	Processing	Highlighting	Goto new	More	View prev Vie	w ne	xt View file	olear 🎸		? About	Terminate			
Display	avata a													
View file		messages match		~										
Diselection 4 means of	-	messages mater												
Time	5	Heat	Encline	Driesity	Taa	1	Magazan							
lan 104:52:47	192 168 1 253	SC10E320	daemon	warning	fcoi[977]	_	17567 333414][FI	INC:cdi petw	ork a	at Line:8:	19]: read : /etc/config/ne	etwork conf		 -
lan 1.04:53:10	192, 168, 1, 253	SC10E320	daemon	warning	fcni[977]		[17590_163551][FI	INC:cgi_netw	ork_g	et. Line:8	19]: read : /etc/config/ne	etwork conf		- 1
Jan 104:58:57	192, 168, 1, 253	SC10E320	daemon	warning	fcai[977]		[17937, 130793][Ft	JNC:cai netw	ork a	et, Line:8:	191: read : /etc/config/ne	etwork.conf		
Jan 105:01:01	192.168.1.253	SC10E320	daemon	warning	fcgi[977]		[18061.666033][Fl	JNC:cgi_netw	/ork_g	et, Line:8:	19]: read : /etc/config/ne	etwork.conf		
				-										
UDP: server disable	d	TCP 192,168,1	.101:514 [1]											

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Step 5 End.



About this chapter

Content	Link
This Chapter	9.1 Device Information Configuration
	9.2 Time Settings
	9.3 Remote Management
	9.4 User Configuration
	9.5 IP Address Filtering
	9.6 Mac Address Filtering
	9.7 Static Routing Configuration
	9.8 Free ARP
	9.9 Diagnostic Test
	9.10 System Maintenance

9.1 Device Information Configuration

Function Description

In the "Device Information Configuration" page, you can configure the device name, device description, and maintenance contact information.

Operation Path

Open in order: "System Management > Device Information Settings".

Interface Description

The screenshot of device information configuration interface:

Device Information		
Device model	can server	
Device name	can server	
Description	can server device	
Serial no.	123456	
Contact		
Submit	Refresh	

The main elements configuration description of device information interface:

Interface Element	Description	
Device model	Device model information, the input box is grayed and cannot	
	be entered by default.	
Device name	Enter the device name in the "Name" text box. To identify each	
	device in the network, give the device a different name.	
Description	Enter the device description in the "Description" text box.	
Serial no.	Device CAN port information, the input box is grayed and	
	cannot be entered by default.	
Contact	Enter the contact information of the equipment maintenance	
	personnel in the "Contact information" text box.	

9.2 Time Settings

The full name of NTP protocol is Network Time Protocol. Its destination is to transmit uniform and standard time in international Internet. Specific implementation scheme is appointing several clock source websites in the network to provide user with timing service, and these websites should be able to mutually compare to improve the accuracy. It can provide millisecond time correction, and is confirmed by the encrypted way to prevent malicious protocol attacks.

Function Description

On the "Time Settings" page, user can configure the device time and NTP server information.

Operation Path

Open in order: "System manage > Time setting".

Interface Description

Time setting interface as follows:

Time Setting		
Time zone	(GMT+08:00)Beijing, Chongqing, Hong Kong, Urumqi	
Local time	2005 / 01 / 01 00 : 13 : 56 Changed	
Time server	ntp.aliyun.com	
Submit	Refresh	

The main elements configuration description of time settings interface:

Interface Element	Description	
Time Zone	Time standard of different global regions.	
	The device's own time. Click the "Change" button to manually	
local Time	modify the device time or synchronize it to the current	
	computer time.	
Time Server	IP address or domain name of NTP server. The device will	
	automatically synchronize NTP server time.	

9.3 Remote Management

HTTPS (full name: Hypertext Transfer Protocol over Secure Socket Layer) is an HTTP channel targeted for security, which in short is a Secure version of HTTP. HTTPS provides data encryption services to prevent the attacker to intercept the transmitted message between the Web browser and web server, obtain some sensitive information, such as credit card numbers, passwords, etc.

The full English name of SSH is Secure Shell. SSH is the security protocol based on the application layer and transport layer. Telnet is transmitted in plaintext, while SSH is transmitted in ciphertext, which is more secure. SSH is a currently reliable protocol that provides security protocol for remote login sessions and other web services. Using SSH protocol can effectively prevent information leakage in the process of remote management, and can also prevent DNS and IP spoofing. In addition, the transmitted data is compressed so that the transmission speed can be increased.

Function Description

On the "Remote Administration" page, access methods such as TELNET, HTTP, HTTPS and SSHD can be restricted.

Operation Path

Open in order: "System Management > Remote Management".

Interface Description

The Remote management interface is as follows:

Remote Administr	ation
Telnet service	Enable Disable
HTTP	Enable Disable
HTTPS	Enable Disable
SSHD service	Enable Disable
Submit	Refresh

The main elements configuration description of Remote management interface:

Interface Element	Description
Telnet Service	Telnet service function status, the options are as follows:
	Enable;
	Disable.
	Note: When enabled, the TELNET client can access the CLI interface of the device.
HTTP	Device HTTP protocol function status, options are as follows:
	Enable;
	Disable.
	Note: When enabled, when using HTTP to access the WEB interface, the format is HTTP://192.168.1.254, and the address is the IP address of the corresponding device.
HTTPS	Device HTTPS protocol function status, options are as
	follows:
	Enable;
	Disable.
	Note: When enabled, when using HTTPS to access the WEB interface, the format is HTTPS://192.168.1.254, and the address is the IP address of the corresponding device.
SSHD service	SSH service function status, the options are as follows:
	Enable;
	Disable.
	Note: When enabled, the SSH client can access the CLI interface of the device.

9.4 User Configuration

Function Description

In the "user configuration" page, users can add and delete users freely. Users need to access the device by login with user name and password. The initial user name and password are both: admin.

Operation Path

Open in order: "System Management > User Configuration".

Interface Description

The User Configuration interface is as follows:

User Management			
Add Delete Refr	esh		
Name	User rights	Operate	
admin	Administrator	Edit	

The main elements configuration description of user configuration interface:

Interface Element	Description		
Name	Identification of the visitor.		
	Note:		
	User names and passwords can support up to 32 characters.		
User rights	The user's access rights are shown as follows:		
	Administrator: has administrator authority and can		
	configure parameters of device;		
	General user: has viewing authority, and can view		
	device configuration parameters and network diagnosis		
	operations.		
Operate	Click Edit to modify the password and user rights of the		
	current user.		

9.5 IP Address Filtering

Function Description

Users can limit the ongoing access or connected host IP address and subnet mask via setting access rules on the "IP Filter" page.

Operation Path

Open in order: "System Management> IP Address Filtering".

Interface Description

IP Filter interface as follows:

IP Address Filtering				
IP Addres	ss Filtering 1 mode	O Er White	nable) Disable elist	T
Number	Status		IP address	Subnet mask
1	Disable	Ŧ		
2	Disable	•		
3	Disable	Ŧ		
4	Disable	Ŧ		
5	Disable	Ŧ		
6	Disable	Ψ.		
7	Disable	Ŧ		
8	Disable	٣		
9	Disable	Ψ.		
10	Disable	Ψ.		
11	Disable	•		
12	Disable	•		
13	Disable	*		
14	Disable	*		
15	Disable	*		
16	Disable	Ŧ		
Submit	Re	efresh]	

Main elements configuration instructions in IP Address Filtering interface:

Interface Element	Description	
IP Address Filtering	Enable or disable IP filtering rules.	
	Enable	
	Disable	
Operation mode	Set filtering rules for IP addresses.	
	• White list: the IP address set in the filtering rule is	
	allowed to access the device.	
	Blacklist: IP addresses set in filtering rules are	
	prohibited from accessing devices.	

Interface Element	Description		
	Notice:		
	• When the white list is enabled, IP addresses outside the		
	white list will not be able to access the device.		
	• If the IP address in the white list cannot access the device,		
	please clean the browser cache and access it again.		
	• When the blacklist is enabled, the IP addresses covered by		
	the blacklist will not be able to access the device.		
Number	Displays the IP address filtering rule number.		
Status	Enable or disable Filtering rules.		
	Enable		
	Disable		
IP Address	Set the IP address in dotted decimal format in the filter rule,		
	such as "192.168.1.61"; IPv6 is supported at the same time		
Subnet mask	Set the subnet mask in dotted decimal format in the filter		
	rule, such as "255.255.255.0". For IPv6, the address prefix		
	length of IPv6 can be set.		

9.6 Mac Address Filtering

Function Description

On the "MAC Filter" page, user can restrict the host MAC address to access or connect by setting access rules.

Operation Path

Open in order: "System Management > MAC Address Filtering".

Interface Description

MAC filter interface shown as follows:

MAC Address Filtering				
MAC Add	ress Filtering		Enable 🖲 Disable	
Operation	mode	W	hitelist 🔻	
Number	Status		MAC address	
1	Disable	•		
2	Disable	•		
3	Disable	•		
4	Disable	Ŧ		
5	Disable	Ŧ		
6	Disable	Ŧ		
7	Disable	Ŧ		
8	Disable	Ŧ		
9	Disable	•		
10	Disable	•		
11	Disable	•		
12	Disable	•		
13	Disable	•		
14	Disable	•		
15	Disable	•		
16	Disable	Ŧ		
Submit	Ref	resh]	

The main elements configuration description of MAC Filter interface:

Interface Element	Description		
Mac Address Filtering	Enables or disables MAC address filtering rules.		
	Enable		
	Disable		
Operation Mode	Set filtering rules for MAC addresses.		
	• White list: the MAC address set in the filtering rule is		
	allowed to access the device.		
	Blacklist: MAC addresses set in filtering rules are		
	prohibited from accessing devices.		
	Notice:		
	• When the white list is enabled, MAC addresses outside the		
	white list will not be able to access the device.		
	• When the blacklist is enabled, the MAC addresses covered		
	by the blacklist will not be able to access the device.		

Interface Element	Description	
Number	Display the MAC address filtering rule number.	
Status	Enable or disable Filtering rules.	
	Enable	
	Disable	
MAC address	Set the six-byte hexadecimal format MAC address in the	
	filter rule, such as "00-22-6F-03-BD-52".	

9.7 Static Routing Configuration

Function Description

In "Static Routing Configuration" page, you can configure how to connect device with external network. In the dual IP mode, the data egress interface can be specified via static routing configuration when device is communicating across network segment. Device supports up to 32 routing entries, every entry must provide gateway, destination address, subnet mask, egress interface and other information.

Operation Path

Open in order: "System Management > Static Routing Configuration".

Interface Description

The static routing configuration interface as follows:

Vo	Gateway	Destination	Netmask(PrefixLen)	Metric	Iface
				1	lan1 ▼
				1	lan1 ▼
;				1	lan1 ▼
				1	lan1 ▼
				1	lan1 ▼
				1	lan1 ▼
				1	lan1 ▼
				1	lan1 ▼
				1	lan1 ▼
0				1	lan1 🔻
1				1	lan1 ▼
2				1	lan1 ▼
3				1	lan1 ▼
4				1	lan1 ▼
5				1	lan1 ▼
6				1	lan1 ▼
7				1	lan1 ▼
8				1	lan1 🔻
9				1	lan1 🔻
0				1	lan1 🔻
1				1	lan1 ▼
2				1	lan1 🔻
3				1	lan1 🔻
4				1	lan1 ▼
5				1	lan1 v
6				1	lan1 ▼
7				1	lan1 v
8				1	lan1 v
9				1	lan1 v
0				1	lan1 •
1				1	
-				1	

The main elements configuration description of static routing configuration interface:

Interface Element	Description
No	The entry number of static routing table.
Gateway	Gateway IP address or IP address of next hop router.
Destination	The IP address of destination host or the network address
	of destination routing.
Netmask(PrefixLen)	The prefix length of IPv4 subnet mask or IPv6 network of
	the destination network.
Metric	The number of routers from source terminal to destination
	terminal is hop. Device will prioritize the routing of data
	packets if more than one router is available to reach a
	given destination.
lface	Network data egress, options are as follows:

 Interface Element
 Description

 • lan1

9.8 Free ARP

Function Description

In "Free ARP" page, you can enable free ARP function and set parameter of sending period. Free ARP function can avoid the failure of communication due to device MAC address being aged by switch or router.

Operation Path

Open in order: "System Management > Free ARP".

Interface Description

Free ARP interface is as below:

ARP Setting	
Gratuitous ARP Send period	 Enable Disable 30 e.g.(10-1000)s
Submit	Refresh

Main elements configuration descriptions of free ARP interface:

Interface Element	Description
Gratuitous ARP	Free ARP function status, options as follows:
	Enable
	• Disable
Send period	The interval time of sending Gratuitous ARP network
	packet, 10 in default, for example:10-1000s.

9.9 Diagnostic Test

9.9.1 Ping

Function Description

On the "Ping" page, users can use the Ping command to check the network connection or the network connection speed. Ping utilizes the uniqueness of network machine IP address to send a data packet to the target IP address, and then ask the other side to return a similarly sized packet to determine whether two network machines are connected and communicated, and confirm the time delay.

Operation Path

Open in order: "System Management > Diagnosis > Ping".

Interface Description

The interface of Ping is as follows:

Diagnosis	>	Ping	Traceroute	Capture
IP address				
Start				

The main elements configuration description of Ping configuration interface:

Interface Element	Description
IP Address	The IP address of the detected device, that is, the destination
	address. The device can check the network intercommunity
	to other devices via the ping command.

Ping Configuration:

- Step 1 Fill in the IP address that needs ping in the IP address text box;
- Step 2 Click the "Start" button to check the ping results;

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Diagnosis	>	Ping	Traceroute	Capture	
IP address	19	2.168.1	.101		
Start PING 192.1 64 bytes fro 64 bytes fro 64 bytes fro 64 bytes fro	68.1.10 m 192. m 192. m 192. m 192. m 192.	01 (192. .168.1.1 .168.1.1 .168.1.1 .168.1.1	168.1.101): 56 01: seq=0 ttl=6 01: seq=1 ttl=6 01: seq=2 ttl=6 01: seq=3 ttl=6	data bytes 4 time=0.708 4 time=0.884 4 time=0.884 4 time=0.666	3 ms 7 ms 4 ms 6 ms
192.168. 4 packets tra round-trip m	1.101 (ansmit iin/avg/	ping stat ted, 4 pa /max = (tistics ackets received 0.666/0.793/0.9	, 0% packet 17 ms	loss

Step 3 End.

9.9.2 Traceroute

Function Description

On the "Traceroute" page, users can test the network conditions between the device and the target host. Traceroute measures how long it takes by sending small packets to the destination device until they return. Each device on a path Traceroute returns three test results. Output result includes each test time (ms), device name (if exists) and the IP address.

Operation Path

Open in order: "System Management > Diagnose Test > Traceroute".

Interface Description

TRACEROUTE interface as follows:

Diagnosis	>	Ping	Traceroute	Capture	
IP address					
Start					

The main element configuration description of Traceroute interfaces:

Interface Element	Description
IP Address	IP address of the destination device, fill in the IP address of
	the opposite device that needs to be detected.

TRACEROUTE Configuration:

- Step 1 Fill in the destination IP address in the "IP address" text box;
- **Step 2** Click the "Start" to see the results, as the picture below.

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Diagnosis >	Ping	Traceroute	Capture		
IP address 19	2.168.1	.101			
Start					
traceroute to 192.168.1.101 (192.168.1.101), 30 hops max, 38 byte packets 1 192.168.1.101 (192.168.1.101) 0.475 ms					

Note:

The above figure shows the time from the device to IP address 192.168.1.101, which takes 0.475ms after one hop.

Step 3 End.

9.9.3 Packet Capture Diagnosis

Function Description

On the "Packet Capture Diagnosis" page, the user can obtain the data packets sent and received by the Ethernet port of the device for network debugging and data analysis.

Operation Path

Open in order: "System Management > Diagnose Test > Packet Capture Diagnosis".

Interface Description

The Packet Capture Diagnosis interface screenshot is as follows:

Diagnosis	>	Ping	Traceroute	Capture	
Start		Stop			

Main elements configuration description of Packet Capture Diagnosis interface:

Description		
Click the "Start" button, and the device will start capturing		
network packets.		
Click the "End" button, the device stops capturing network		
packets, and saves the network packets captured during this		
period to the local client in ".pcap" format.		
Note:		
Users can use Wireshark or other third-party software to open the captured packets.		

9.10 System Maintenance

9.10.1 Configuration File

Function Description

On the "Management File" page, user can download and upload configuration file.

Operation Path

Open in order: "System Management > System Maintenance > Configuration File".

Interface Description

Configuration file interface is as follows:

System Management >	Configuration File	Restore	Software Upgrade	Loader Upgrade	
Save IP configuration					
Select profile Select file					
Import Export					

The main elements configuration description of configure file interface:

Interface Element	Description
Save IP configuration	When checked, the device can keep the current IP
	address after importing the configuration file.
Select profile	Select the path to uploadconfiguration file locally, click
	"Select File" to select required configuration file.
	Note: Uploaded configuration files need to be exported by devices of the same model.
Export	Download the configuration file of the current device in
	the format of .tar.
	Note: The downloaded configuration file will be saved in the format of ".tar", which is encrypted, so please do not decompress or modify it.
Import	Upload configuration file.



- After finishing update, the device will automatically open a new page to "System Information", and the uploaded configuration file will be valid after the device is reset.
- After uploading the configuration file, if the static IP in the configuration file and the computer IP are not in the same network segment, the webpage cannot open.

- While uploading configuration file, if dynamic IP is used in the configuration file and there is no DHCP server in the network segment, relative IP portion won't be updated.
- Do not click on or configure other WEB pages of the device or restart the device when uploading configuration files or upgrading software. Otherwise, the configuration file upload or software update will fail, or the device system will crash.

9.10.2 Restore Factory Settings

Function Description

On the "Restore Factory Settings" page, user can restore the device to default setting.

Operation Path

Open in order: "System management > System Maintenance > Restore".

Interface Description

Restore Factory Settings interface is as follows:

System Management >	Configuration File	Restore	Software Upgrade	Loader Upgrade	
Save IP configuration					
Restore					

The main element configuration description of restore factory settings interface:

Interface Element	Description		
Save IP configuration	When checked, the device can keep the current \ensuremath{IP}		
	address after restoring the factory settings.		
Restore	Click this button, the device will lose all existing		
	configurations and reverts to factory settings.		

No[•]

Restoring factory value settings will cause all configurations to be in the factory state, where the IP address of the device is the static IP address "192.168.1.253", and the user name and password default to "admin".

9.10.3 Upgrade

Function Description

On the Software Upgrade page, you can update and upgrade the device program.

Operation Path

Open in order: "System management > System Maintenance > Software Upgrade".

Interface Description

The software update interface as follows:

System Management	> Configuration File	Restore Software Upgrade	Loader Upgrade
Restore			
Save IP configuration			
Select file		Select file	
Upgrade			

The main elements configuration description of software update interface:

Interface Element	Description			
Restore	When checked, the device will be restored to the factory			
	settings after upgrading. After unchecking, the			
	configuration parameters will be kept after the device			
	software is upgraded.			
Save IP configuration	After the software upgrade is checked to restore the			
	factory configuration, the IP configuration can be			
	checked to keep the current IP address and other			
	parameters will be restored to the factory configuration.			
Select file	Select the path of the local upgrade file, and click "Select			
	file" to select the required configuration file.			
Upgrade	Click "upgrade" button to start the program upgrade.			

Note

- Do not click on or configure other WEB pages of the device or restart the device or power off the device when upgrading software. Otherwise, the software update will fail, or the device system will crash.
- Maintain a reliable wired connection when upgrading.
- When the online upgrade is complete, the device will restart automatically.

9.10.4 Loader Upgrade

Function Description

On the Loader Upgrade page, you can update Boot Loader.

Operation Path

Open in order: "System management > System Maintenance > Loader Upgrade". Interface Description

The Loader update interface as follows:

System Management >	Configuration File	Restore	Software Upgrade	Loader Upgrade	
Dangerous operation! F Select file	Power failure during	the upgra	de process will caus	e the device to fa	il to start, please be cautious!
Upgrade					

The main elements configuration description of Loader update interface:

Interface Element	Description
Select file	Select the path of the local upgrade file, and click "Select file"
	to select the required configuration file.
Upgrade	Click "upgrade" button to start the program upgrade.

10 CAN Mode Setting Example

About this chapter

Content	Link
This Chapter	10.1 TCP Server Mode
	10.2 TCP Client Mode
	10.3 TCP Server Mode Configuration Bar
	10.4 UDP Client Mode
	10.5 UDP Rang Mode
	10.6 UDP Multicast Mode

Not

Interface elements, operation paths and some functions involved in the CAN server and test software in the configuration example shall be subject to the actually acquired device and software. Because the software version is not updated or upgraded regularly, the configuration examples are for reference only.

10.1 TCP Server Mode

Background introduction

Under "TCP Server Mode", it's assumed that CAN server port "CAN1" passively waits for the connection of one host PC, meanwhile the host can read or send the Ethernet data to a CAN port device.

CAN server (TCP server mode) parameter information as follow:

- IP address: 192.168.1.254
- Work port: 32000
- Baud rate: 1000K

The parameters of the host PC (TCP client) are as follows:

• IP address: 192.168.1.2

Configuration steps

Step 1 Configure CAN server IP address.

- 1 Login in the Web configuration interface, choose "Network Configuration".
- 2 In the "LAN1" area, select "LAN1 Configuration" as "Static", and enter the corresponding network address information such as " LAN1 IP Address", "LAN1 Subnet Mask" and "LAN1 Gateway".
- 3 Other parameters remain the default, click "Submit".

Network Configuration		
LAN1		
LAN1 IP configuration	🔘 DHCP 🖲 Static 🔘 BOOTP	
LAN1 IP address	192.168.1.254	10.0.0.2
LAN1 Subnet Mask	255.255.255.0	255.255.255.0
LAN1 Gateway		10.0.0.1
LAN1 IPV6 configuration	🔘 AUTO 🔵 Static 💿 Disable	
LAN1 IPV6 address		2002:db8:0:f100::1
LAN1 IPV6 PrefixLen		0-128
LAN1 IPV6 Gateway		2002:db8:0:f100::1
DNS settings		
Primary DNS server		
Secondary DNS server		202.96.133.5
IPV6 Primary DNS server		
IPV6 Secondary DNS server		2002:db8:0:f100::1
LLDP configuration		
LLDP	🔵 Enable 💿 Disable	
message transmission interv	al 30	5-32768
Submit Refresh		

- **Step 2** Configure the CAN port parameter information.
 - 1 Log in to the Web configuration interface and select "CAN Settings".
 - 2 In the CAN1 entry, click the "Edit" button under the operation, as shown in the following figure.

Can Settings															
R	Refresh														
Por	Can	Baud	Can	Frame	num	vtime	sample	point	siw	CAN AF	filter stdhiaht	filter stdlow	filter exthight	filter extlow	Operate
	name	rate	workmode	-	-				· ·			_	_	_	
1	can1	1000k	normal												Edit
2	can2	1000k	normal												Edit

3 In the "Edit" window, set "Baud Rate" and "CAN working mode" respectively, as shown

in the following figure.

				Х
	Port numbers	1 can1	Ŧ	
	Baud Rate Can working	1000k Normal	T	
1	Advanced settings			•
	Apply to port number	Can1 Can2 Select all Submit		

4 Other parameters remain the default, click "Submit".

Step 3 Configure the work mode of CAN server.

1 Log in to the WEB configuration interface and select "CAN mode > CAN1".

Can1 > Can Modes							
Operation mode							
Can num	Can1						
Operation mode	TCP Server Mode 🔻						
TCP Server Mode							
Max connection	1	E.g(1-255)					
Local port	32000	E.g(1-65535)					
Can buffering(128K)	🔵 Enable 💿 Disable						
Tcp alive check time	10	E.g(0-65535 s)					
Inactivity time	0	E.g(0-65535 s)					
Send buffer size	1024	(1-8192 KB)					
Send buffer processing method	Discard new data 🔹						
Apply to all ports							
Submit Refresh							

- 2 Click the "Operation mode" drop-down list box and select "TCP Server Mode".
- 3 Enter 1 in "Max connection" text box.
- 4 Enter "32000" on "Local port" text box.
- 5 Other parameters remain the default, click "Submit".
- **Step 4** Run the debug assistant software to create a TCP client for the host.
 - 1 Install and run "Debugging Assistant" software.
 - 2 Click "Create Connection" drop-down list box, choose "Create Can Debugging >
CanTcpClient".

Operation	atch operati	on <u>H</u> elp							
Creat connec	tion	O Start		🛞 Stop	Clear displying	Rean-time saving	Stop showing	🎲 Show event report	
C <u>C</u> reat	network debu	ugging	•						
C <u>r</u> eat	Can Debuggi	ing	١	<u>C</u> anTcpClie	ent		_		
Cr <u>e</u> at	nodbus debi	ugging	•	C <u>a</u> nTcpSer Ca <u>n</u> UdpCli	ver ent				
- 🧊 Udp	Server			Can <u>U</u> dpSe	rver				-
— 🧃 Udp	àroup			CanU <u>d</u> pGr	oup				-

- 3 On the pop-up "Local IP" drop-down list box, choose the IP address of host PC (TCP client) "192.168.1.2".
- 4 On the "Device IP" text box, enter the IP address of CAN server (TCP server) "192.168.1.254".
- 5 On the "Device Working Port" text box, enter the work port of CAN server "32000", click "Yes".

Operation Batch operat	tion <u>H</u> elp						
Creat connection	() Start	Stop	Clear displying	F Save in real time	Stop showing	Show event report	
Connection Management	7 8	Serial number Tran	nsmission dir Ti	ime identification Fra	me ID(HEX) Fram	e format Frame	type Frame Length
👘 TopClient					. ,		
🗌 👔 TcpServer		🔜 Client paramete	er		X		
- 👔 UdpClient					-		
🚽 🧃 UdpServer		Loca	al IP: 192.168	.1.2 👻			
🗌 🧃 UdpGroup							
🗐 сом		Devi	ice IP: 192.168.	.1.254			
		Device work	king port: 32000				
		Yes		NO			

6 Choose the created UdpClient connection, click "Start".



- **Step 5** Synchronously run "Debugging Assistant" and "CANTest" software, test the intercommunication between CAN server (TCP server) and host PC (TCP client).
 - 1 Install and run "CANTest" software, click "Show Sent Frame" option box.
 - 2 Frame data maintains default "00 01 02 03 04 05 06 07", click "Send".

CANTest	t - [USBCAN	I-E-U Device:0 C	hannel:0]							
Selec	t Device -	Frame ID: HEX	✓ Format:	Real ID(Align Rig	ht) 👻	Continue	🔢 💩 Scroll 💟	Frame Buffer	💋 Language 🕶	🛃 Update 🏾 🛜
USBCAN-	E-U Device:() Chan ×						_		_
🕴 🍋 Filter	🔏 Start 🕈	Stop 🐹 Close	🔈 Goto 🎈 Clea	r 😼 Save 🛛 💼 D	evice Operation •	🙆 Receive	TimeStamp 🔻 😋 Hide	e Sent Frame 🍕	🖇 Show Sent Frame	e 💖 DBC 📙 Save
Index	Direction	Time Sta	Frame ID	Format	Туре	Data Leng	Data(HEX)			
00000000 00000001	Receive Send	10:37:22.0 10:37:44.0	0x00000001 0x00000344	Data Data	Standard Extend	0x08 0x08	00 01 02 03 04 05 06 00 01 02 03 04 05 06			
Base										
Send T	ype: Normal	• • •	iend One Frame C	Send 10	Frames 🔲 Increa	ase Frame ID				
Frame T	ype: Extend	▼ Fra	me ID(HEX): 00000344	Data(HEX):	0 01 02 03 04 05 06 0	7 Se	end			
Frame For	mat: Data	• 9	iend Times: 1	Send Inte	erval(ms): 0	St	op			

3 Run "Debugging Assistant" software, check the CAN port information received by host PC on TcpClient option box. In a similar way, host PC can send information to CAN port device.

Operation Batch operation Help								
Creat connection	Stop	Clear displying	Save in real tim	e Stop sho	wing Show	cont report		
Connection Management	192.168.1.254_32	000_4 ×	- W.					
E TcpClient	Serial number	Transmission dir	Time identification	Frame ID(HEX)	Frame format	Frame type	Frame Length	Data(HEX)
192.168.1.254_32000_4	0 1	Send Receive	10:40:36 262 10:40:55 568	00000001 00000001	Data frame Data frame	Standard frame Standard frame	8 8	0001020304050607 0001020304050607
UdpServer								
- 🚺 UdpGroup								
— 🍿 сом								
10.00								
	•							
	Frame type:	Frame	ND(HEX): 00000001		🥅 Frame ID a	dd one when 🧕 🍥	Send single frame at a	a tim Send data
	Frame format:	Da	ata(HEX): 00 01 02 0	3 04 05 06 07 S	ending interval(MS	i) 10 C	Everytime sending	10 Frame Auto send



10.2 TCP Client Mode

Background introduction

Under "TCP Client Mode", it's assumed that CAN server port "CAN1" forwardly creates connection with one host PC, meanwhile the host can read or send the Ethernet data to a CAN port device.

CAN server (TCP client mode) parameter information as follow:

- IP address: 192.168.1.254
- Work port: 32000
- Baud rate: 1000K

The parameters of the host PC (TCP server) are as follows:

- IP address: 192.168.1.2
- Local Port:33000

Configuration steps

Step 1 Configure CAN server IP address.

- 1 Login in the Web configuration interface, choose "Network Configuration".
- 2 In the "LAN1" area, select "LAN1 IP configuration" as "Static", and enter the corresponding network address information such as "LAN1 IP Address", "LAN1 Subnet Mask" and "LAN1 Gateway".
- 3 Other parameters remain the default, click "Submit".

Network Configuration		
LAN1		
LAN1 IP configuration	🔘 DHCP 💿 Static 🔘 BOOTP	
LAN1 IP address	192.168.1.254	10.0.0.2
LAN1 Subnet Mask	255.255.255.0	255.255.255.0
LAN1 Gateway		10.0.0.1
LAN1 IPV6 configuration	🔘 AUTO 🔵 Static 💿 Disable	
LAN1 IPV6 address		2002:db8:0:f100::1
LAN1 IPV6 PrefixLen		0-128
LAN1 IPV6 Gateway		2002:db8:0:f100::1
DNS settings		
Primary DNS server		
Secondary DNS server		202.96.133.5
IPV6 Primary DNS server		
IPV6 Secondary DNS server		2002:db8:0:f100::1
LLDP configuration		
LLDP	Enable I Disable	
message transmission interv	al 30	5-32768
Submit Refresh		

- **Step 2** Configure the CAN port parameter information.
 - 1 Log in to the Web configuration interface and select "CAN Settings".
 - 2 In the CAN port1 entry, click the "Edit" button under the operation, as shown in the following figure.

Ca	n Setting	IS														
F	lefresh															
Po	t Can	Baud	Can	Frame	num	vtime	sample	point	siw	CAN AF	filter std	hiaht	filter stdlow	filter exthight	filter extlow	Operate
	name	rate	workmode	-	-			-	1	-	-	-	-		-	1
1	can1	1000k	normal												(Edit
2	can2	1000k	normal													Edit

3 In the "Edit" window, set "Baud Rate" and "CAN working mode" respectively, as shown in the following figure.

		Х
Port numbers	1 •	
Can name	can1	
Baud Rate	1000k 🔻	
Can working mode	Normal	
Advanced settings		
Apply to port number	Can1 Can2 Select all Submit	

- 4 Other parameters remain the default, click "Submit".
- Step 3 Configure the work mode of CAN server.
 - 1 Log in to the WEB configuration interface and select "CAN mode > CAN1".

Can1 > Can Modes			
Operation mode			
Can num	Can1		
Operation mode	TCP Client Mode	•	
TCP Client Mode			
Max connection	1	¥	
Sessionid Destination address	Destination port	Local port	Port bind
1 192.168.1.2	33000	32000	Enable 🔻
Can buffering(128K)	🔵 Enable 💿 Disable		
Tcp alive check time	10	E.g(0-68	5535 s)
Send buffer size	1024	(1-8192	KB)
Send buffer processing method	Discard new data	•	
Apply to all ports			
Submit Refresh			

- 2 Click the "Operation Mode" drop-down list box and select "TCP Client Mode".
- 3 Click "Max connection" drop-down list box, select "1".
- 4 Enter the host PC's IP address "192.168.1.2" in the destination address text box.
- 5 Enter the host PC's local port number, 33000, in the destination port text box.
- 6 In the "Port bind" drop-down list, select "Enable".
- 7 Enter the local port number "32000" of the CAN server in the "Local port" text box.
- 8 Other parameters remain the default, click "Submit".
- **Step 4** Run the debug assistant software to create a TCP client for the host.

- 1 Install and run "Debugging Assistant" software.
- 2 Click "Create Connection" drop-down list box, choose "Create Can Debugging > CanTcpServer".

Operation Batch operation Help						
Creat connection	Stop	Clear displying	Save in real time	Stop showing	🎲 Show event report	
Creat network debugging Creat Can Debugging Creat modbus debugging UdpServer UdpGroup CDM	 ial number CanTcpClin CanTcpSet CanUdpCl CanUdpCl CanUdpSet CanUdpGr 	Transmission dir T ent ient erver roup	ime identification Fran	ne ID(HEX) Fram	a format Frame t	ype Frame Length

- 3 On the pop-up "Monitoring IP" drop-down list box, choose the IP address of host PC (TCP server) "192.168.1.2".
- 4 Enter the host PC (TCP server) local port "33000" on the "Local Port" text box, click "Yes".

Operation Batch operation Help	-	-				
Creat connection	Stop	Clear displying	Save in real time	Stop showing	🎲 Show event report	
Connection Management	Serial number	Transmission dir T	ime identification Fr	rame ID(HEX) Frame	ofrmat Frame	type Frame Length
UdpClient UdpServer UdpGroup	Server pa	Arameter Monitoring IP: <u>[192.16</u> Local port 33000 Yes	68.1.2 ▼ No			

5 Choose the created UdpServer connection, click "Start".

Operation Batch opera	tion <u>H</u> elp						
Creat connection	() Start	Stop	Clear displying	Save in real time	Show Data	🎲 Show event report	
Connection Management	P 83	192.168.1.2_33000 ×					
TcpClient TcpServer UlpClient UdpClient UdpServer UdpGroup CDM	3000						

Step 5 Synchronously run "Debugging Assistant" and "CANTest" software, test the intercommunication between CAN server (TCP client) and host PC (TCP server).

- 1 Install and run "CANTest" software, click "Show Sent Frame" option box.
- 2 Frame data maintains default "00 01 02 03 04 05 06 07", click "Send".

CANTest	- JUSBCAN	-E-U Device:0 Cł	annel:0]							
Selec	t Device + F	rame ID: HEX	✓ Format:	Real ID(Align Righ	t) 🔻	Continue	e 🚺 🚲 Scrol	🛛 🚺 Frame Buffe	er 💋 Language 🗸	🛃 Update 🍃
USBCAN-	E-U Device:0	Chan ×								
🗄 🔌 Filter	🔏 Start 送	Stop 👗 Close	🔈 Goto 🌻 Clea	r 😼 Save 🛛 📷 De	vice Operation •	🙆 Receive	TimeStamp 🕶 😋	Hide Sent Frame	🐳 Show Sent Fram	e 🥸 DBC 🔚 Save in realti
Index	Direction	Time Sta	Frame ID	Format	Туре	Data Leng	Data(HEX)			
00000000 00000001	Receive Send	11:47:50.7 11:48:05.4	0x00000001 0x00000344	Data Data	Standard Extend	0x08 0x08	00 01 02 03 04 00 01 02 03 04	05 06 07 05 06 07		
Base										
Send T	ype: Normal	• • s	end One Frame C	Send 10 F	Frames 🗖 Increa	ase Frame ID				
Frame T	ype: Extend	▼ Fran	ne ID(HEX): 00000344	Data(HEX): 00	01 02 03 04 05 06 0	7 S	end			
Frame For	mat: Data	▼ S	end Times: 1	Send Inter	val(ms): 0	S	top			

3 Run "Debugging Assistant" software, check the CAN port information received by host PC on UDPServer option box. In a similar way, host PC can send information to CAN port device.

Operation Batch operation Help				1964.0				
Creat connection	Stop	Clear displying	Save in real tim	ie Stop show	ving Show e	orvent report		
Connection Management 👎 🔯	192.168.1.2_33000	× 192.168.1.254_320	000 X					
TcpClient	Serial number	Transmission dir 1	Time identification	Frame ID(HEX)	Frame format	Frame type	Frame Length	Data(HEX)
Im TcpServer Im 192.168.1.2_33000 TopServer International Sector 192.168.1.254_32000 UdpClient	0 1 2 3 4 5	Send 1 Send 1 Send 1 Send 1 Receive 1 Send 1	11:49:37 988 11:49:38 484 11:49:38 884 11:49:39 332 11:49:51 333 11:49:51 333	00000001 00000001 00000001 00000001 000000	Data frame Data frame Data frame Data frame Data frame Data frame	Standard frame Standard frame Standard frame Standard frame Standard frame Standard frame	8 8 8 8 8	0001020304050607 0001020304050607 0001020304050607 0001020304050607 0001020304050607 0001020304050607
UdpGroup COM								
	Frame type:	Framel	D(HEX): 00000001		E Frame ID ad	d one when 💿	Send single frame at	a tim Send data
	Frame format:	Dat	ta(HEX): 00 01 02 0	3 04 05 06 07 Se	nding interval(MS)	10 0	Everytime sending	10 Frame Auto send

Step 6 End.

10.3 TCP Server Mode Configuration Bar

Background introduction

Under "UDP Server Mode", it's assumed that CAN server port "CAN1" passively waits for the connection of one host PC, meanwhile the host can read or send the Ethernet data to a CAN device.

CAN server (UDP server) parameter information as follow:

- IP address: 192.168.1.254
- Listen Port: 32000
- Baud rate: 1000K

Host PC (UDP client mode) parameter information as follow:

- IP address: 192.168.1.2
- Local Port:60000

Operating Steps

Step 1 Configure CAN server IP address.

- 1 Login in the Web configuration interface, choose "Network Setting".
- 2 In the "LAN1" area, select " LAN1 IP Configuration" as "Static", and enter the corresponding network address information such as " LAN1 IP Address", " LAN1 Subnet Mask" and " LAN1 Gateway".
- 3 Other parameters remain the default, click "Submit".

Network Configuration		
LAN1		
LAN1 IP configuration	🔘 DHCP 💿 Static 🔘 BOOTP	
LAN1 IP address	192.168.1.254	10.0.0.2
LAN1 Subnet Mask	255.255.255.0	255.255.255.0
LAN1 Gateway		10.0.0.1
LAN1 IPV6 configuration	🔘 AUTO 🔵 Static 💿 Disable	
LAN1 IPV6 address		2002:db8:0:f100::1
LAN1 IPV6 PrefixLen		0-128
LAN1 IPV6 Gateway		2002:db8:0:f100::1
DNS settings		
Primary DNS server		
Secondary DNS server		202.96.133.5
IPV6 Primary DNS server		
IPV6 Secondary DNS server		2002:db8:0:f100::1
LLDP configuration		
LLDP	🔘 Enable 💿 Disable	
message transmission interv	al 30	5-32768
Submit Refresh		

- **Step 2** Configure the CAN port parameter information.
 - 1 Log in to the Web configuration interface and select "CAN Settings".
 - 2 In the CAN1 entry, click the "Edit" button under the operation, as shown in the following figure.

Can	Setting	IS											
R	Refresh												
Port	Can name	Baud rate	Can workmode	Frame_num	vtime	sample_point	sjw	CAN_AF	filter_stdhight	filter_stdlow	filter_exthight	filter_extlow	Operate
1 2	can1 can2	1000k 1000k	normal normal									(Edit Edit

3 In the "Edit" window, set "Baud Rate" and "CAN working mode" respectively, as shown in the following figure.

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		Х
Port numbers	1 •	
Can name	can1	
Baud Rate	1000k 🔻	
Can working mode	Normal 🔹	
Advanced settings		
Apply to port number	Can1 Can2 Select all Submit	

- 4 Other parameters remain the default, click "Submit".
- Step 3 Configure the work mode of CAN server.
 - 1 Log in to the WEB configuration interface and select "CAN mode > CAN1".

Can1 > Can Modes		
Operation mode		
Can num	Can1	
Operation mode	UDP Server Mode 🔹	
UDP Server Mode		
Max connection	1	E.g(1-255)
Local listen port	32000	E.g(1-65535)
Send buffer size	1024	(1-8192 KB)
Send buffer processing method	Discard new data 🔻	
Apply to all ports		
Submit Refresh		

- 2 Click the "Operation Mode" drop-down list box and select "UDP Server Mode".
- 3 Enter 1 in "Max connection" text box.
- 4 Enter "32000" on "Local listen port" text box.
- 5 Other parameters remain the default, click "Submit".
- Step 4 Run the "DebugTool" software, create UDP client for the host.
 - Install and run "Debugging Assistant" software, Click "Create Connection" drop-down list box, choose "Create Can Debugging > CanUdpClient".

	Ор	eration <u>B</u> at	ch operatio	n <u>H</u> elp							
		Creat connectio	n	() Start		Stop	Clear displying	Save in real time	Show Data	🎲 Show event report	
	c	<u>C</u> reat net	twork debug	gging	•						
		C <u>r</u> eat Ca	n Debugging	g	•	<u>C</u> anTcpCli	ent				
		Cr <u>e</u> at mo	dbus debug	gging	•	C <u>a</u> nTcpSe	rver				
l	-	di cobore	n 15			Ca <u>n</u> UdpCl	ient				
		🧊 UdpSen	ver			Can <u>U</u> dpSe	erver				
		🧃 UdpGro	ир			CanU <u>d</u> pGi	roup				
		🇊 сом			_						

- 2 On the pop-up "Local IP" drop-down list box, choose the IP address of host PC (Udp client) "192.168.1.2".
- 3 Enter the host PC (Udp client) port "60000" on the "Local Port" text box.



- 4 On the "Remote IP" text box, enter the IP address of CAN server (Udp server) "192.168.1.254".
- 5 On the "Remote Port" text box, enter the port of CAN server (Udp server) "32000", click "Yes".
- 6 Choose the created Udpclient connection, click "Start".

<u>Operation</u> <u>Batch operation</u> <u>H</u> elp						
Creat connection	Stop	Clear displying	Save in real time	e Stop showing	🎲	
Connection Management	192.168.1.2_60000 ×					
TcpClient	Serial number	Transmission dir	ime identification	Frame ID(HEX) Frame	format Frame	type Frame Length
- 👔 TcpServer						
🕂 🧊 UdpClient						
- 📲 192.168.1.2_60000						
UdpServer						
🖳 🧃 UdpGroup						
🛄 сом						

Step 5 Synchronously run "Debugging Assistant" and "CANTest" software, test the

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intercommunication between CAN server (UDP server) and host PC (UDP client).

- 1 Install and run "CANTest" software, click "Show Sent Frame" option box.
- 2 Frame data maintains default "00 01 02 03 04 05 06 07", click "Send".

	+ - IUSBCAN	-E-U Device:0 C	hannel:01							
Selec	t Device • F	rame ID: HEX	▼ Format:	Real ID(Align Rig	ht) 🗸	Continue	scroll	C Frame Buffer	🗭 Language - 👔	Update 🎅
	5 U Deview	Chara and				-			<i>Ca</i>	- ···· ···
USBCAIN	-E-U Device:	Chan X				1	-			All
🗄 🍋 Filter	😹 Start 者	Stop 👗 Close	🀚 Goto 🍯 Clea	ir 🛃 Save 🛛 📷 D	evice Operation •	: 🕼 Receive	TimeStamp 🕶 😂 I	Hide Sent Frame	Show Sent Frame	🤝 DBC 🔚 Save
Index	Direction	Time Sta	Frame ID	Format	Туре	Data Leng	Data(HEX)			
000000000000000000000000000000000000000	Receive Send	11:51:46.7 11:51:56.6	0x00000001 0x00000344	Data Data	Standard Extend	0x08 0x08	00 01 02 03 04 05 00 01 02 03 04 05	5 06 07 5 06 07		
Base										
Send T	ype: Normal	• • •	iend One Frame C	Send 10	Frames 🔲 Increa	ase Frame ID				
Frame 1	ype: Extend	▼ Fra	me ID(HEX): 00000344	Data(HEX): 0	0 01 02 03 04 05 06 0	7 S	end			
Frame Fo	rmat: Data	• 9	Send Times: 1	Send Inte	erval(ms): 0	S	top			

3 Run "Debugging Assistant" software, check the CAN port information received by host PC on UDPClient option box. In a similar way, host PC can send information to CAN port device.

Creat connection	() Start	Stop	Clear displying	Save in real ti	me Stop sho	wing Showe	🜮 vent report		
Inection Management		192.168.1.2_6000 Serial number 0 1	0 X Transmission dir Send Receive	Time identification 14:53:13 371 14:53:18 114	Frame ID(HEX) 00000001 00000001	Frame format Data frame Data frame	Frame type Standard frame Standard frame	Frame Length 8 8	Data(HEX) 0001020304050607 0001020304050607
		< Frame type:	Fram	elD(HEX): 0000000	11	III	Jone when 💿 :	Send single frame at a	tim Send o

Step 6 End.

10.4 UDP Client Mode

Background introduction

Under "UDP Client Mode", it's assumed that CAN server port "CAN1" forwardly waits for the connection of one host PC, meanwhile the host can read or send the Ethernet data to a CAN device.

CAN server (UDP client mode) parameter information as follow:

- IP address: 192.168.1.254
- Listening Port: 60001
- Baud rate: 1000K

The parameters of the host PC (UDP server) are as follows:

- IP address: 192.168.1.2
- Local Port:33000

Operating Steps

Step 1 Configure CAN server IP address.

- 1 Login in the Web configuration interface, choose "Network Configuration".
- 2 In the "LAN1" area, select "LAN1 IP Configuration" as "Static", and enter the corresponding network address information such as " LAN1 IP Address", " LAN1 Subnet Mask" and "LAN1 Gateway".
- 3 Other parameters remain the default, click "Submit".

Network Configuration		
LAN1		
LAN1 IP configuration	🔘 DHCP 💿 Static 🔘 BOOTP	
LAN1 IP address	192.168.1.254	10.0.0.2
LAN1 Subnet Mask	255.255.255.0	255.255.255.0
LAN1 Gateway		10.0.0.1
LAN1 IPV6 configuration	🔵 AUTO 🔵 Static 💿 Disable	
LAN1 IPV6 address		2002:db8:0:f100::1
LAN1 IPV6 PrefixLen		0-128
LAN1 IPV6 Gateway		2002:db8:0:f100::1
DNS settings		
Primary DNS server		
Secondary DNS server		202.96.133.5
IPV6 Primary DNS server		
IPV6 Secondary DNS server		2002:db8:0:f100::1
LLDP configuration		
LLDP	🔘 Enable 💿 Disable	
message transmission interv	al 30	5-32768
Submit Refresh		

- **Step 2** Configure the CAN port parameter information.
 - 1 Log in to the Web configuration interface and select "CAN Settings".
 - 2 In the CAN1 entry, click the "Edit" button under the operation, as shown in the following figure.

Can	Setting	IS											
R	Refresh												
Port	Can name	Baud rate	Can workmode	Frame_num	vtime	sample_point	sjw	CAN_AF	filter_stdhight	filter_stdlow	filter_exthight	filter_extlow	Operate
1 2	can1 can2	1000k 1000k	normal normal									(Edit Edit

3 In the "Edit" window, set "Baud Rate" and "CAN working mode" respectively, as shown in the following figure.

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		Х
Port numbers	1 *	
Can name	can1	
Baud Rate	1000k 🔻	
Can working mode	Normal T	
Advanced settings		
Apply to port number	Can1 Can2 Select all	

- 4 Other parameters remain the default, click "Submit".
- Step 3 Configure the work mode of CAN server.
 - 1 Log in to the WEB configuration interface and select "CAN mode > CAN1".

Can1 > Can Modes										
Operation mode										
Can num	Can1									
Operation mode	UDP Client Mode	v								
UDP Client Mode										
Max connection	1	•								
Sessionid Format Destination a	ddress	Destination port								
1 IP 192.168.1.2	2	33000								
Send buffer size	1024	(1-8192 KB)								
Send buffer processing method	Discard new data	¥								
Apply to all ports										
Submit Refresh										

- 2 Click the "Operation Mode" drop-down list box and select "UDP Client Mode".
- 3 Click "Max connection" drop-down list box, select "1".
- 4 Enter the host PC's IP address "192.168.1.2" in the destination address text box.
- 5 Enter the host PC's local port number, 33000, in the destination port text box.
- 6 Other parameters remain the default, click "Submit".
- Step 4 Run the "Debug Assistant" software to create a UDP server for the host.
 - Install and run "Debugging Assistant" software, Click "Create Connection" drop-down list box, choose "Create Can Debugging > CanUDPServer".

Operation Batch operation Help						
Creat connection	(Stop	Clear displying	Save in real time	Stop showing	🎲 Show event report	
C Creat network debugging	rial number	Transmission dir T	ime identification Fran	me ID(HEX) Frame	e format Frame	type Frame Length
Creat Can Debugging Creat modbus debugging UdpServer UdpGroup CDM	<u>C</u> anTcpCli C <u>a</u> nTcpSe CanUdpCl CanUdpCl CanUdpSe CanUdpSe	ient rver lient erver roup				

- 2 On the "Monitoring IP" drop-down list box, choose the IP address of host PC (UDP server) "192.168.1.2".
- 3 Enter the host PC (UDP server) local port "33000" on the "Local Port" text box, click "Yes".

Operatio	on <u>B</u> atch opera	tion <u>H</u> elp							
Creat o	connection	() Start	Stop	Clear displying	Save in real time	Stop showing	Show event report		
Connectio	n Management	# 83	Serial number	Transmission dir	Time identification Er	me ID(HEX) Fram	e format Erame	type Frame Length	Data(HEX)
- Q	TcpClient		o on all name of			inere (rizir)		gpo Trano Longar	b ata(rini i)
- 1	TcpServer								
- 1	UdpClient		🔜 Server pa	rameter		×			
- 1	UdpServer		E. C.			1			
- 🇊	UdpGroup			Monitoring IP: 192	.168.1.2 🔻				
- ŋ	СОМ			Local port: 330	00				
				Yes	No				

4 Choose the created UdpServer connection, click "Start".

Operation Batch operation Help						
Creat connection	Stop	Clear displying	Save in real time	Stop showing	🎲 Show event repo	ıt
Connection Management	192.168.1.2_33000 X					
TcpClient	Serial number 1	Fransmission dir Ti	me identification Fra	me ID(HEX) Fran	ne format Fran	ie type
TcpServer						
- 🕅 UdpClient						
🖻 🍿 UdpServer						
[™] \$\$\$\$\$ 192.168.1.2_33000						
UdpGroup						
🛄 СОМ						



UDP (User Datagram Protocol), it's a connectionless protocol. Therefore, after successfully creating UdpClient connection, user doesn't need to click "Start".

- **Step 5** Synchronously run "Debugging Assistant" and "CANTest" software, test the intercommunication between CAN server (UDP client) and host PC (UDP server).
 - 1 Install and run "CANTest" software, click "Show Sent Frame" option box.
 - 2 Frame data maintains default "00 01 02 03 04 05 06 07", click "Send".

CANTest	t - [USBCAN	-E-U Device:0 (Channel:0]							
Selec	t Device - F	rame ID: HEX	✓ Format:	Real ID(Align Rig	ght) 👻	📄 Continue	🔢 💩 Scroll 🚺	Frame Buffer	💋 Language -	🦉 Update 🍃
USBCAN-	E-U Device:0	Chan ×								
🔆 🔌 Filter	🐰 Start 送	Stop 👗 Close	e 🛯 🔈 Goto 🌻 Clea	r 😼 Save 🛛 💼 D	Device Operation •	🧭 Receive	TimeStamp 🕶 😋 Hide	Sent Frame	🕉 Show Sent Frame	e 🧇 DBC 🔚 Sav
Index	Direction	Time Sta	Frame ID	Format	Туре	Data Leng	Data(HEX)			
00000000 00000001	Receive Send	13:55:25.7 13:55:38.5	0x00000001 0x00000344	Data Data	Standard Extend	0x08 0x08	00 01 02 03 04 05 06 00 01 02 03 04 05 06	07 07		
Base										
Send T	ype: Normal	•	Send One Frame C	Send 10	Frames 🗖 Increa	ase Frame ID				
Frame T	ype: Extend	▼ Fr	ame ID(HEX): 00000344	Data(HEX):	0 01 02 03 04 05 06 0	7 Se	nd			
Frame For	rmat: Data	•	Send Times: 1	Send Int	erval(ms): 0	St	op			

3 Run "Debugging Assistant" software, check the CAN port information received by host PC on UDPServer option box. In a similar way, host PC can send information to CAN port device.

Creat connection	Stop	Clear displying) Save in real t	ime Stop sho	wing Showe	ゔ vent report		
nection Management	192.168.1.2_3300	0 X						
TcpClient	Serial number	Transmission dir	Time identification	Frame ID(HEX)	Frame format	Frame type	Frame Length	Data(HEX)
TcpServer	0	Receive	13:57:42 529	00000344	Data frame	Extended frame	8	0001020304050607
M Hardbart	1	Receive	13:57:42 906	00000344	Data frame	Extended frame	8	0001020304050607
	2	Receive	13:57:43 187	00000344	Data frame	Extended frame	8	0001020304050607
UdpServer	3	Receive	13:57:43 394	00000344	Data frame	Extended frame	8	0001020304050607
192 168 1 2 33000	4	Receive	13:57:43 624	00000344	Data frame	Extended frame	8	0001020304050607
	5	Receive	13:57:43 890	00000344	Data frame	Extended frame	8	0001020304050607
UdpGroup	6	Receive	13:57:44 441	00000344	Data frame	Extended frame	8	0001020304050603
🕅 сом	7	Receive	13:57:44 637	00000344	Data frame	Extended frame	8	000102030405060
- pr	8	Send	13:57:51 473	00000001	Data frame	Standard frame	8	0001020304050607
	9	Send	13:57:51 777	00000001	Data frame	Standard frame	8	000102030405060
	10	Send	13:57:51 993	00000001	Data frame	Standard frame	8	0001020304050607
	11	Send	13:57:52 193	00000001	Data frame	Standard frame	8	0001020304050607
	12	Send	13:57:52 489	00000001	Data frame	Standard frame	8	0001020304050607
	13	Send	13:57:52 785	00000001	Data frame	Standard frame	8	0001020304050607
	14	Send	13:57:53 161	0000001	Data frame	Standard frame	8	0001020304050603
	•				III			
	Frame type:	Fran	nelD(HEX): 0000000	1	Frame ID add	d one when 🛛 🍥 S	iend single frame at	a tim Send



10.5 UDP Rang Mode

Background introduction

When the router, switch and other devices do not support multicast function, CAN server can realize the multicast function under the CAN UDP Rang Mode. It's assumed

that the CAN port of CAN server corresponding to the computer is "CAN1", CAN server can transmit data with two hosts in the same network segment "192.168.1.2" \sim "192.168.1.3" via UDP protocol.

CAN server (UDP server) parameter information as follow:

- IP address: 192.168.1.254
- Listen Port: 32000
- Baud rate: 1000K

The parameters of the host PC A (UDP client A) are as follows:

- IP address: 192.168.1.2
- Local Port:33000

Host B (UDP client B) parameter information as follow:

- IP address: 192.168.1.3
- Local Port:33000

Operating Steps

Step 1 Configure CAN server IP address.

- 1 Login in the Web configuration interface, choose "Network Setting".
- 2 In the "LAN1" area, select "LAN1 IP Configuration" as "Static", and enter the corresponding network address information such as " LAN1 IP Address", " LAN1 Subnet Mask" and " LAN1 Gateway".
- 3 Other parameters remain the default, click "Submit".

Network Configuration		
LAN1		
LAN1 IP configuration	🔘 DHCP 💿 Static 🔘 BOOTP	
LAN1 IP address	192.168.1.254	10.0.0.2
LAN1 Subnet Mask	255.255.255.0	255.255.255.0
LAN1 Gateway		10.0.0.1
LAN1 IPV6 configuration	🔵 AUTO 🔵 Static 💿 Disable	
LAN1 IPV6 address		2002:db8:0:f100::1
LAN1 IPV6 PrefixLen		0-128
LAN1 IPV6 Gateway		2002:db8:0:f100::1
DNS settings		
Primary DNS server		
Secondary DNS server		202.96.133.5
IPV6 Primary DNS server		
IPV6 Secondary DNS server		2002:db8:0:f100::1
LLDP configuration		
LLDP	Enable I Disable	
message transmission interv	al 30	5-32768
Submit Refresh		

Step 2 Configure the CAN port parameter information.

- 1 Log in to the Web configuration interface and select "CAN Settings".
- 2 In the CAN1 entry, click the "Edit" button under the operation, as shown in the following figure.

Can Settings													
R	Refresh												
Port	Can	Baud	Can	Frame num	vtime	sample point	siw	CAN AF	filter stdhight	filter stdlow	filter exthight	filter extlow	Operate
	name	rate	workmode		turno cumpic		- J.I.	0/11/_/1			intor_oxtrigit		
1	can1	1000k	normal										Edit
2	can2	1000k	normal										Edit

3 In the "Edit" window, set "Baud Rate" and "CAN working mode" respectively, as shown in the following figure.

		Х
Port numbers	1 *	
Can name	can1	
Baud Rate	1000k 🔻	
Can working mode	Normal T	
Advanced settings		
Apply to port number	Can1 Can2 Select all	

- 4 Other parameters remain the default, click "Submit".
- Step 3 Configure the work mode of CAN server.
 - 1 Log in to the WEB configuration interface and select "CAN mode > CAN1".

Can1 > Can Modes									
Operation mode									
Can1									
Operation mode	UDP R	ang Mode	•						
UDP Rang Mode									
Max connection	1		۲						
Sessionid Format Start address		End address	Des	tination port					
1 IP 192.168.1.2		192.168.1.3	330	00					
Local listen port	32000			E.g(1-65535)					
Send buffer size	1024			(1-8192 KB)					
Send buffer processing method	Discare	d new data	۲						
Apply to all ports									
Submit Refresh									

- 2 Click the "Operation mode" drop-down list box and select "UDP Rang Mode".
- 3 Click "Max connection" drop-down list box, select "1".
- 4 Enter "192.168.1.2" on the "Start Address" text box.
- 5 Enter "192.168.1.3" on the "End Address" text box.
- 6 Enter "33000" on the "Destination Port" text box.
- 7 Enter "32000" on "Local listen Port" text box.

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- 8 Other parameters maintain the default, click "Submit".
- **Step 4** Run the debug assistant software on host A to create Udp client A.
 - 1 Install and run "Debugging Assistant" software, Click "Create Connection" drop-down list box, choose "Create Can Debugging > CanUDPClient".

Operation <u>B</u> atch operation <u>H</u> elp						
Creat connection Start	Stop	Clear displying	Save in real time	Stop showing	Show event report	
C <u>C</u> reat network debugging	▶ rial number	Transmission dir	Time identification Fi	rame ID(HEX) Fran	ne format Frame	e type
Creat Can Debugging	▶ <u>C</u> anTo	pClient				
Cr <u>e</u> at modbus debugging	C <u>a</u> nTe CanU	pServer dpClient				
UdpServer	Can <u>U</u>	dpServer				
🗌 UdpGroup	CanU	<u>d</u> pGroup				
🍈 СОМ						

- 2 On the "Local IP" drop-down list box, choose the IP address of host A (Udp client A) "192.168.1.2".
- 3 Enter the host A (Udp client A) port "60000" on the "Local Port" text box.
- 4 On the "Remote IP" text box, enter the IP address of CAN server (Udp server) "192.168.1.254".
- 5 On the "Remote Port" text box, enter the port of CAN server (Udp server) "33000", click "Yes".

<u>O</u> perati	on <u>B</u> atch op	eration <u>H</u> elp				
Creat o	connection	() Start	(3) Stop	Clear displying	Fean-time savin	g Sti
Connectio	n Management TcpClient UdpClient UdpServer UdpGroup COM	Image: state	Client Para	mete Local IP: 192.16 Local Port: 33000 Remote IP: 192.16 Remote port: 32000	8.1.2 • 8.1.254	
					A I	

6 Choose the created UdpClient connection, click "Start".

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Operation Batch operation Help												
Creat connection	Stop	Clear displying	Save in real time	Stop showing	ng Show	🎲						
Connection Management	192.168.1.2_33000 X											
🖳 👔 TopClient	Serial number	Transmission dir T	ime identification Fra	ame ID(HEX)	Frame format	Frame	type					
🚽 🧃 TopServer												
🖃 👔 UdpClient												
\$\$ 192.168.1.2_33000												
🖳 👔 UdpServer												
- 👔 UdpGroup												
🛄 сом												

Step 5 Run the debug "Debugging Assistant" on host B to create UDP client B.

 Install and run "Debugging Assistant" software, Click "Create Connection" drop-down list box, choose "Create CAN Debugging > CANUDPClient".

Operation Batch operation Help						
Creat connection	Stop	Clear displying	Save in real time	Stop showing	🎲 Show event report	
C <u>C</u> reat network debugging	rial number	Transmission dir Ti	me identification Fra	me ID(HEX) Fram	e format Frame	type
C <u>r</u> eat Can Debugging	<u>C</u> anTcpCli	ent				
Cr <u>e</u> at modbus debugging	C <u>a</u> nTcpSer CanUdpCl	ient				
UdpServer	Can <u>U</u> dpSe	erver				
🧃 UdpGroup	CanU <u>d</u> pGr	roup				
🔤 🧊 СОМ						

- 2 In the "Monitoring IP" drop-down list box, select the IP address "192.168.1.3" of the host B (that is, the UDP client B).
- 3 Enter the host B (UDP client B) port "60000" on the "Local Port" text box.
- 4 On the "Remote IP" text box, enter the IP address of CAN server (Udp server) "192.168.1.254".
- 5 On the "Remote Port" text box, enter the port of CAN server (Udp server) "33000", click "Yes".

Creat connection Start Stop Clear displying Save in real time Stop showing Show event report Connection Management 192.168.1.2_33000 × Image: Stop showing Show event report Show event report Connection Management Image: Stop showing Stop showing Stop showing Show event report Image: Stop Show event report Image: Stop showing Stop showing Stop showing Show event report Image: Stop Show event report Image: Stop Show event report Image: Stop showing Stop showing Show event report Image: Stop Show event report Image: Stop Show event report Image: Stop Show event report Image: Stop Show event report Image: Stop Show event report Image: Stop Show event report Image: Stop Show event report Image: Stop Show event report Image: Stop Show event report Image: Stop Show event report Image: Stop Show event report Image: Stop Show event report Image: Stop Show event report Image: Stop Show event report Image: Stop Show event report Image: Stop Show event report Image: Stop Show event report Image: Stop Show event report Image: Stop Show event report Image: Stop Show event report Image: Stop Show event report	<u>Operation</u> <u>Batch</u> operation <u>H</u> elp		
Connection Management Image: Serial number Transmission dir Time identification Frame ID(HEX) Frame type Image: Serial number Transmission dir Time identification Frame ID(HEX) Frame type Image: Serial number Transmission dir Time identification Frame ID(HEX) Frame type Image: Serial number Transmission dir Time identification Frame ID(HEX) Frame type Image: Serial number Transmission dir Time identification Frame ID(HEX) Frame type Image: Serial number Transmission dir Time identification Frame ID(HEX) Frame type Image: Serial number Transmission dir Time identification Frame ID(HEX) Frame type Image: Serial number Serial number Transmission dir Time identification Frame ID(HEX) Image: Serial number Serial number Transmission dir Time identification Frame ID(HEX) Image: Serial number Serial number Transmission dir Time identification Frame ID(HEX) Image: Serial number Serial number Transmission dir Time identification Frame ID(HEX) <	Creat connection	Stop Clear displying Save in real time Stor	p showing Show event report
Image: TopClient Serial number Transmission dir Time identification Frame ID(HEX) Frame format Frame type Image: TopServer Image: TopServer	Connection Management	192.168.1.2_33000 X	
Local Port: 33000 COM Remote IP: 192.168.1.254 Remote port: 32000 Yes No	TopClient TopServer TopServer UdpClient VdpClient VdpServer UdpServer UdpGroup OM	Serial number Transmission di Time identification Frame ID(HE) Client Paramete Local IP: 192.168.1.3 Local Port: 33000 Remote IP: 192.168.1.254 Remote port: 32000 Yes No	X) Frame format Frame type

6 Choose the created UdpClient connection, click "Start".

Operation <u>B</u> atch operation <u>H</u> elp						
Creat connection	Stop	Clear displying	F Save in real time	Stop showing	🖘 Show event report	
Connection Management 📮 😂	192.168.1.3_33000 ×					
👘 TcpClient	Serial number	Transmission dir Ti	me identification Fra	me ID(HEX) Frame	e format Frame	type
🚽 🧃 TcpServer						
🖶 👔 UdpClient						
- 🖓 192.168.1.3_33000						
UdpServer						
🧊 UdpGroup						
🛄 сом						

- **Step 6** Synchronously run "Debugging Assistant" and "CANTest" software, test the intercommunication between CAN server (UDP server) and host PC (UDP client).
 - 1 Install and run "CANTest" software, click "Show Sent Frame" option box.
 - 2 Frame data maintains default "00 01 02 03 04 05 06 07", click "Send".

CANTes	t - [USBCAN	I-E-U Device:0 C	hannel:0]					
Select	t Device - F	rame ID: HEX	➡ Format:	Real ID(Align Rig	ht) 🔫	📄 Continue	e 🔢 💩 Scroll 🚺 Fran	ne Buffer 🛛 💋 Language 🛛 🟹 Update 🍃
USBCAN-	E-U Device:0	Chan ×						
🗟 🍋 Filter	😹 Start 🔏	Stop Ӂ Close	🔈 Goto 🌻 Cle	ar 😼 Save 🛛 🗃 🛙	evice Operation	- 🙆 Receive	TimeStamp 🕶 😋 Hide Sent	: Frame 😽 Show Sent Frame 🧇 DBC 🔒 Save
Index	Direction	Time Sta	Frame ID	Format	Туре	Data Leng	Data(HEX)	
00000000	Receive	14:31:44.7	0x00000001	Data	Standard	0x08	00 01 02 03 04 05 06 07	
0000001	Selid	14.32.01.2	0x00000344	Data	Exterio	0,00	00 01 02 03 04 03 00 07	
Base								
Send T	pe: Normal	• • s	end One Frame	Send 10	Frames 🔲 Incre	ase Frame ID		
Frame T	ype: Extend	▼ Fram	e ID(HEX): 00000344	Data(HEX): 0	0 01 02 03 04 05 06	07 S	end	
Frame For	mat: Data	▼ S	end Times: 1	Send Int	erval(ms): 0	s	itop	

3 Run "Debugging Assistant" software, check the CAN port information received by host A and B on UDPClient option box. In a similar way, host A and B can send information to CAN port device.

Operation Batch operation Help								
Creat connection	Stop	Clear displying	Save in real ti	me Stop show	ving Showe	🌮 vent report		
Connection Management	192.168.1.3_33000	X						
TcpClient	Serial number	Transmission dir	Time identification	Frame ID(HEX)	Frame format	Frame type	Frame Length	Data(HEX)
TcpServer	0	Send Receive	14:31:44 730	00000001	Data frame	Standard frame	8	0001020304050607
🖻 🚺 UdpClient	-	neceive	14.32.01.302	00000344	Data iraille	Extended traine	0	0001020304030807
192.168.1.3_33000								
UdpServer								
Udpläroup								
U COM								
					, III			
	Frame type:	Fram	eID(HEX): 00000001	[]	E Frame ID add	d one when 🛛 💿 9	Send single frame at a	a tim Send data
	Energy (second	5		02.04.05.00.07		10	unuting conduct	10 Frame Automat
	Frame format:	L	vata(HEX): UU U1 U2	03 04 05 06 07 Se	inding interval(MS)		, veryame senaing	Auto send

10.6 UDP Multicast Mode

Background introduction

It's assumed that CAN server IP address is "192.168.1.254", user needs to add the CAN server to the multicast address "239.0.0.0". Therefore CAN server can send the unicast or multicast data to one or more appointed hosts via UDP protocol, meanwhile it can receive the unicast or multicast data from one or more devices and achieve many-to-many communication.

CAN server parameter information as follow:

- IP address: 192.168.1.254
- Group Address: 239.0.0.0
- Listen Port: 32000
- Baud rate: 1000K

The parameters of the host PC B are as follows:

- IP address: 192.168.1.2
- Local Port:33000
- Group Address: 239.0.0.1

Operation steps

Step 1 Configure CAN server IP address.

- 1 Login in the Web configuration interface, choose "Network Setting".
- 2 In the "LAN1" area, select "LAN1 IP Configuration" as "Static", and enter the corresponding network address information such as "LAN1 IPAddress", "LAN1 Subnet Mask" and "LAN1 Gateway".
- 3 Other parameters remain the default, click "Submit".

Network Configuration									
LAN1									
LAN1 IP configuration	🔘 DHCP 💿 Static 🔘 BOOTP								
LAN1 IP address	192.168.1.254	10.0.0.2							
LAN1 Subnet Mask	255.255.255.0	255.255.255.0							
LAN1 Gateway		10.0.0.1							
LAN1 IPV6 configuration	🔘 AUTO 🔵 Static 💿 Disable								
LAN1 IPV6 address		2002:db8:0:f100::1							
LAN1 IPV6 PrefixLen		0-128							
LAN1 IPV6 Gateway		2002:db8:0:f100::1							
DNS settings									
Primary DNS server									
Secondary DNS server		202.96.133.5							
IPV6 Primary DNS server									
IPV6 Secondary DNS server	r	2002:db8:0:f100::1							
LLDP configuration									
LLDP	Enable I Disable								
message transmission interv	al 30	5-32768							
Submit Refresh									

Configure the CAN port parameter information.

- 1 Log in to the Web configuration interface and select "CAN Settings".
- 2 In the CAN1 entry, click the "Edit" button under the operation, as shown in the following figure.

Can	Setting	IS											
Re	efresh												
Port	Can name	Baud rate	Can workmode	Frame_num	vtime	sample_point	sjw	CAN_AF	filter_stdhight	filter_stdlow	filter_exthight	filter_extlow	Operate
1 2	can1 can2	1000k 1000k	normal normal									(Edit Edit

3 In the "Edit" window, set "Baud Rate" and "CAN working mode" respectively, as shown in the following figure.

		Х
Port numbers	1 •	
Can name	can1	
Baud Rate	1000k 🔻	
Can working mode	Normal 🔹	
Advanced settings		
Apply to port number	Can1 Can2 Select all	

- 4 Other parameters remain the default, click "Submit".
- Step 2 Configure the work mode of CAN server.
 - 1 Log in to the WEB configuration interface and select "CAN mode > CAN1".

Can1 >	Can Modes		
Operation mo	de		
Can num		Can1	
Operation m	ode	UDP Multicast Mode 🔹	
UDP Multica	st Mode		
Max connect	tion	1 🔹	
Group numb	er	1 •	
Local listen port		32000	E.g(1-65535)
	Destination address	Destination port	
	239.0.0.1	33000	
Sessionid 1	Multicast addr		
	239.0.0.0		
Send buffer	size	1024	(1-8192 KB)
Send buffer	processing method	Discard new data 🔻	
Apply to all ports			
Submit	Refresh		

- 2 Click the "Operation Mode" drop-down list box and select "UDP Multicast Mode".
- 3 Click "Max connection" drop-down list box, select "1".
- 4 Enter "32000" on "Local listen Port" text box.
- 5 Enter "239.0.0.1" on the "Destination address" text box of "Sessionid 1".

- 6 Enter "33000" on the "Destination Port" text box of "Sessionid 1".
- 7 Enter "239.0.0.0" on the "Multicast addr Group 1" text box of "Sessionid 1".
- 8 Other parameters remain the default, click "Submit".
- **Step 3** Run the "Debug Assistant" software to create a UDP multicast server for the host.
 - 1 Install and run "Debugging Assistant" software, click "Create Connection" drop-down list box, choose "Create CAN Debugging > CANUDPGroup".



- 2 On the "Local IP" drop-down list box, choose the IP address of host PC "192.168.1.2".
- 3 Enter the host PC local port "33000" on the "Local Port" text box.
- 4 On the "Remote IP" text box, enter the IP address of CAN server "239.0.0.0".
- 5 On the "Remote Port" text box, enter the CAN server local port "32000".
- 6 Enter multicast group address "239.0.0.1" on the "Multicast Group" text box.

Operation Batch ope	eration <u>H</u> elp						
Creat connection	() Start	Stop	Clear displying	Save in real time	e Stop showing	or the second se	
Connection Management TcpClient UdpClient UdpServer UdpGroup CDM	<u>+</u> <u></u>	Serial number	Transmission dir T arameter Local IP: 132.166 Local Port: 33000 Remote IP: 233.0.0 Remote port: 32000 utticast Group: 233.0.0 Yes	ime identification F 3.1.2 • .0 .1	Frame ID(HEX) Frame	format Frame I	type Frame Length

7 Choose the created UdpGroup connection, click "Start".

Operation <u>B</u> atch operation <u>H</u> elp							
Creat connection	Stop	Clear displying	Save in real time	Stop show	ing	🎲 Show event	report
Connection Management	239.0.0.0_32000 X						
👘 TcpClient	Serial number	Transmission dir T	ime identification Fi	rame ID(HEX)	Frame	format	Frame type
🗌 🧃 TcpServer							
- 🏢 UdpClient							
🗌 🧃 UdpServer							
UdoGravn 239.0.0.0_32000 () COM							

- **Step 4** Synchronously run "Debugging Assistant" and "CANTest" software, test the intercommunication between CAN server multicast address and host PC multicast address.
 - 1 Install and run "CANTest" software, click "Show Sent Frame" option box.
 - 2 Frame data maintains default "00 01 02 03 04 05 06 07", click "Send".

CANTest	t - [USBCAN-	E-U Device:0 Cl	hannel:0]								
Selec	t Device + Fr	rame ID: HEX	▼ Format:	Real ID(Align Ri	ight) 👻	E Continue	🔢 🗞 Scro	🛛 🚺 Frame	e Buffer	💋 Language 🕶	🖉 Update 🍃
USBCAN-	E-U Device:0	Chan ×									
: 🔌 Filter	🎉 Start 送	Stop Ӂ Close	🔈 Goto 🎈 Clea	r 🛃 Save 🛛 💼	Device Operation	🔞 Receive	TimeStamp 🕶 🤇	Hide Sent I	Frame	🖇 Show Sent Fram	e 💖 DBC 🔚 Sav
Index	Direction	Time Sta	Frame ID	Format	Туре	Data Leng	Data(HEX)				
00000000 00000001	Receive Send	14:38:38.2 14:38:51.7	0x00000001 0x00000344	Data Data	Standard Extend	0x08 0x08	00 01 02 03 04 00 01 02 03 04	05 06 07 05 06 07			
·											
Para											
base					_						
Send T	ype: Normal	• • •	iend One Frame C	Send 10	Frames 🗌 Incre	ase Frame ID					
Frame T	ype: Extend	▼ Fran	ne ID(HEX): 00000344	Data(HEX):	00 01 02 03 04 05 06 1)7 Se	end				
Frame For	mat: Data	• 9	iend Times: 1	Send Ir	nterval(ms): 0	S	op				

3 Run "Debugging Assistant" software, check the CAN port information received by host PC on UDPGroup option box. In a similar way, host PC can send information to CAN port device.

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Operation Batch operation Help								
Creat connection	(3) Stop	Clear displying	Save in real ti	me Stop sho) wing Show	event report		
Connection Management	239.0.0.0_32000 ×							
— 👔 TopClient	Serial number	Transmission dir	Time identification	Frame ID(HEX)	Frame format	Frame type	Frame Length	Data(HEX)
— 👔 TopServer	0	Send	14:38:38 275	00000001	Data frame	Standard frame	8	0001020304050607
- 🏢 UdpClient	1	Heceive	14:38:51 754	00000344	Data frame	Extended frame	8	0001020304050607
🦳 🧊 UdpServer								
😑 🔰 UdpGroup								
239.0.0.0_32000								
COM								
	•							
	Frame tupe:	F	-ID41650-0000000		Frame ID a	idd one when	Cand single frame at	
	i i danie dybe.	Fram	eiD(HEA): 0000000				o senu single frame at .	Send data
	Frame format:	D	ata(HEX): 00 01 02	03 04 05 06 07 S	ending interval(M	5) 10 @) Everytime sending	10 Frame Auto send

Step 5 End.

11 Maintenance and Service

Since the date of product delivery, our company will provide three years warranty. According to our company's product specification, during the warranty period, if the product exists any failure or functional operation fails, our company will repair or replace the product for users free of charge. However, the commitments above do not cover damage caused by improper usage, accident, natural disaster, incorrect operation or improper installation.

In order to ensure that consumers benefit from our company's product, consumers can get help and solutions in the following ways:

- Internet Service;
- Call technical support office;
- Product repair or replacement;

11.1 Internet Service

More useful information and tips are available via our company website. Website: http://www.3onedata.com

11.2 Service Hotline

Users of our company's products could call technical support office for help. Our company has professional technical engineers to answer your questions and help you to solve the product or usage problems ASAP. Free service hotline: +86-400-880-4496

11.3 Product Repair or Replacement

As for the product repair, replacement or return, customers should firstly confirm with the company's technical staff, and then contact the salesmen to solve the problem. According to the company's handling procedure, customers should negotiate with our company's technical staff and salesmen to complete the product maintenance, replacement or return.

12 Appendix 1: CAN Data Transformation Format

CAN Data Transformation Format

One TCP or UDP frame contains several CAN frames, maximum 50 frames, minimum 1 CAN frame.

Frame	CAN Frame	CAN Frame	CAN Frame	 CAN Frame

One CAN frame contains 13 bytes, as the picture bellow:



Frame Structure of the Frame Information

In the CAN frame structure picture, "1" represents the frame information: The length is 1 byte, and it's used for identifying some information of the CAN frame, such as type, length and so on.

Frame structure of the frame information as follow:



- FF: Identification of standard frames and extend frame, 1 is extend frame, and 0 is standard frame.
- RTR: Identification of remote frame and data frame, 1 is remote frame, 0 is data frame.
- Reserved value is 0, don't enter 1.
- D3~D0: Identify the data length of CAN frame.

Frame structure description of the frame ID

In the CAN frame structure picture, "1" represents the frame ID: the length is 4 bytes, the valid bit of standard frame is 11 bits, and the valid bit of extend frame is 29 bits.

Frame structure of the frame ID as follow:



Frame structure description of the frame data

In the CAN frame structure picture, "3" represents frame data: the length is 8bytes, and the valid length depends on the D3~D0 value of the frame information.



The expression of 6 bytes valid data 🤟

Following example is an extended data frame, ID is 0X12345678, and it includes the frame expression of 8 bytes data (11h, 22h, 33h, 44h, 55h, 66h, 77h, 88h):

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

Following example is a standard data frame, ID is 0X3FF, and it includes the frame expression of 6 bytes data (11h, 22h, 33h, 44h, 55h, 66h):

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

When the user adopts PC host to send UDP frame, the frame number that each UDP frame includes can't surpass 50 frames. And the UDP frame sending speed is supposed not to surpass 400 frames per second. In addition, it's assumed that user sends 400 UDP frames per second, and each UDP frame contains 50 CAN frames, the frame sending speed is 20000 CAN frames per second, CAN server can't send data in such a speed even in 1000Kbps baud rate. so the sending UDP frame number per second is advised not to surpass 400 frames, and the speed of UDP frame transferred to CAN frame not to surpass 4000 frames per second.



Sonedata Co., Ltd.Headquarter Address:3/B, Zone 1, Baiwangxin High Technology Industrial Park, Song Bai
Road, Nanshan District, Shenzhen, 518108, ChinaTechnology Support:tech-support@3onedata.comService Hotline:4008804496Official Website:http://www.3onedata.com