TRP-C24H

16 channels isolated digital output (Open Collector) Modbus TCP module.



User's Manual

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Firmware Version: 610 UNION Market Enterprise Company LTD. 1F., No.2, Alley 6, Lane 423, Zhuangjing Rd., Xinyi District, Taipei City 110, Taiwan Tel : 02-2722-1198 Fax: 02-2722-1120 Web: www.umarket.com.tw / www.smartmeter.com.tw

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1. Introduction

The TRP-C24H is an Isolated open collector digital outputs Modbus TCP Module, It provides 16 channels output open collector signal (100mA) to driven your devices on network, It supports 3 communication Protocols, TRP-ASCII, Modbus RTU / ASCII, It can be easy and convenient to use application supports Modbus.

Software engineers can use the TRP-ASCII or Modbus RTU/ASCII command set quickly and easily integrated into the self-development program, such as Microsoft VB, VC...

The TRP-C24H built-in independent IP, WEB-browsing more convenient to rewrite the configuration and collect information through computers, tablet computers, smart phones, will be available!

The TRP-C24H built-in watchdog Hardware ensure the normal operation of the module, and a built-in voltage monitoring to ensure that the boot, excellent and advanced hardware for harsh environment.

The TRP-C24H can connect TRP-C26H, 16 remote control directly; it do not need to run the software and equipment.

When TRP-C24H and TRP-C26H are paired, they can support 16 channels remote control does not require any drivers and software support.

The TRP-C24H is also offers the maximum connection 16 host client to link the network server that is easy to operate in Modscan32 ,Modbus Poll,CAS Modbus Scanner and SCADA ...application uses TCP mode and Virtual-COM mode.

The TRP-C24H which can supports the mono stable circuit at each channel under modbus protocol. User can easy to write the Function 0X06 save the timer period to EEPROM of TRP-C24H then use the Function 0x05 turn on single channel that meaning you can trigger that then keep on then auto off it depend on your setting timer period of Function0x06.

1-1Features

- Wide input range DC power supply.
- Automatically determine 3 TRP-ASCII and Modbus RTU/ASCII communication protocol.
- 16 TCP Port can be open at the same time.
- Heart Beat function ensures a reliable communicating connection.
- Maximum 8 sets host IP that limits network access.
- Each channel supports the mono stable circuit and auto save the time period to EEPROM.
- Support Virtual-COM mode.
- IO status can be set in the boot.
- WEB PAGE can be directly output and read IO status.
- Easily update the firmware using the Internet.
- Back to factory configuration by external touch Button.
- Auto reconnection when power or Ethernet fail.
- Digital output signal with 3750Vrms isolation protection.
- Built-In watchdog function prevents system boot fail.
- LED for each I/O channels working status.
- Support Auto-MDIX twisted pair crossover detection and Auto-Correction.
- Power/Link/16 CH DO LED indicator.
- DIN-Rail and panel mount support.
- Dual power input select from screw terminal or DC-Jack.

1-2Specification.

- Power Input Voltage DC +10V to +30V.
- Protocol: TRP-ASCII and Modbus RTU/ASCII.
- Digital output maximum voltage:+30V.
- Digital output maximum current: 100mA.
- Digital output isolation: 3750Vrms.
- Mono stable timer period unit:1~65535 (100MS/Unit).
- Communication interface: Ethernet RJ45.
- Configuration mode: Trycom Device Manager, WEB settings.
- Matching remote control: with TRP-C26H.
- Heart Beat: TCP Port sent string every 5 seconds.
- TCP Maximum Connection:1~16.
- Module ID :1~255.
- Connection type: Screw terminal for maximum AWG 12 wire.
- Power supply: Screw terminal, or external DC adapter.
- Power consumption 240mA/12V.
- Operating environment: 0 to 50°C.
- Storage temperature:. -10 to 70°C.
- Humidity: 10~90% Non-condensing.
- Dimension: 151mm X 75mm X 26mm .
- Weight: 395g .

2. Hardware Description

2-1. Panel layout



Notice: The Module provides two type power inputs, optional DC-JACK or Screw Terminal input, not to two used together!

2-2. Block Diagram

PWR LED: Blinking is ready.

LINK LED: RJ-45 cable connection and data active.

D0~DF LED: Each digital status indication.

DC Jack: Power Input DC +10V to +30V, Please use the 5.5*2.1mm DC JACK.

2-3. Factory Button

Hold down the button, and then power on, until the power light flashes, Release the button.

2-4. Factory parameter values

Device Name	TRP-C24H	Module Name	TRP-C24H
MAC Address	00-0E-C6-00-0	01-38 Netmask	255.255.255.0
DHCP	Enable	Gateway	192.168.1.3
 Server/Master Listening IF 	r 192.168.0.125	DNS	168.95.1.1
Data listenir	ig port 502	Transmit Time/Plus	0
C Client/Slave UID Rang	e Client/Slave IP A	Heart Beat Idress Port	Disable 💌
0 To [0.0.0.0	502 Maximun Connection	1 8 💌
To To	0.0.0.0	0 TCP Keep Alive	7 💌
0 To [0.0.0.0	0 New Password	*****
To To	0.0.0.0	Firmware Version	610
To To	0.0.0.0	Data Packet Type –	I ————————————————————————————————————
0 To [0.0.0.0		
0 To [0.0.0.0	after reboot	Multicast
0 To [0.0.0.0		

Serial Port Setting		Digital Output Status	ff
Baud rate	9600 💌	Digital Input Status	0
D 1 1 1		Digital Input CH1	0
Data dits	8	Digital Input CH2	0
Parity	None	Digital Input CH3	0
94 1-it-		Digital Input CH4	0
2100 0112	1	Digital Input CH5	0
Flow Control	None	Digital Input CH6	0
Mod hus Setting		Digital Input CH7	0
Slave ID	1	Digital Input CH8	0
LED Display Panel Setting		Digital Input CH9	0
Polling Setting		Digital Input CH10	0
Nuntur Mada		Digital Input CH11	0
system Mode	Power On Mode	Digital Input CH12	0
Irycom Checksum Setting	Disable	Digital Input CH13	0
Power On Mode Output	0	Digital Input CH14	0
Safe On Mode Output	lo	Digital Input CH15	0
		Digital Input CH16	0

2-5. Screw Terminal Pin assignment Description



2-6. Block Diagram



2-7. Pin Description

DO5	Digital output Channel 5	DOF	Digital output Channel F
DO4	Digital output Channel 4	DOE	Digital output Channel E
DO3	Digital output Channel 3	DOD	Digital output Channel D
DO2	Digital output Channel 2	DOC	Digital output Channel C
DO1	Digital output Channel 1	DOB	Digital output Channel B
DO0	Digital output Channel 0	DOA	Digital output Channel A
EXT.PWR	The isolated side power input MAX.30V	DO9	Digital output Channel 9
EXT.GND	The isolated side ground	DO8	Digital output Channel 8
DC 10~30V	Input DC 10~30V	DO7	Digital output Channel 7
GND	Power Ground	DO6	Digital output Channel 6

3. Install TRP-C24H Hardware

STEP1: Connect power source with TRP-C24H, the PWR LED will blinking.

STEP2: Connect TRP-C24H with Network by RJ45 cable.

If the cable is properly connected the "LINK" LED will light up.

*The TRP-C24H Support Auto-MDIX, A straight-through or crossover RJ45 cable can be used to make a connection directly to the HUB/Router/PC LAN port.

STEP3: Connect TRP-C24H screw terminal wiring, such as 2-5 picture description.

4. How to configure TRP-C24H

*Please note that the computer's IP segment adjusted with TRP-C24H same section, modify the parameter values in order to effectively store! For example: Computer IP is 192.168.1.xx

TRP-C24H 192.168.1.1

There are 2 ways can change the module parameter values.

A.DSM Software

TRYCOM DSM 6.0	7							
TRYCOM		TRP-E	Etherne	et Se	eries	DS	SM	
-DSM Setting	PC	us List	037/037/0/037/4/	C37IMA/C2	241/0201/020	n/629r	1/C00H	
Setting	NO.	Device Name	MAC Address	DHCP	IP	Port	Mode	Status
-DSM Function Search		110-02-41	0000000000000000	Landon	172.100.0.125	502	10103001	1010
IP Search								
Device Setup								
Web Browser								
Restore								
Reboot								
Upgrade				DSM Status Progress:	: Idle			

B. WEB Server



TRP-C24H

WDT-inside

Isolated 16 CH. O.C Modbus TCP Module

TRP-C24H Setting	
Slave ID (1~255)	1
LED Display Panel Setting	OFF •
Polling Setting	High 🔹
System Mode	Power On Mo 🔻
Trycom Checksum	Disable 🔻
Power On Mode Output	0000
Safe Mode Output	0000
Digital Output Status	0000
Network Settings	
	🗹 Enable DHCP
Static IP Address	192.168.1.1
Static Subnet Mask	255.255.255.0
Static Default Gateway	192.168.1.3
Static DNS Server	168.95.1.1
Connection Type	TCP 🔻
Max Connection(1~16)	8
Plus(24 Enable)	0
Master/Slave	Master 🔻
Master:	
Master Listening Port	502
Slave:	
Slave IP Address	0.0.0.0
Slave Port	502
New Password (10000~65535)	Enable Reboot

4-1. Using DSM Utility

The DSM utility software performs several functions:

- A: Searching for TRP-C24H connected to the network.
- B: Displaying and changing the configuration.
- C: Upgrading the TRP-C24H firmware, Refer the Firmware upgrade help file.
- D: Saving and Loading Configuration from external log File or EEPROM.

4-2. Searching TRP-C24H

Once TRP-C24H is connected to the network the **DSM** software will search it and display it in a window by name, IP address, Mac....Information.

	DC	TRE	-C37/C37M/C37A/	C37MA/C	24H/C26H/C28	H/C29F	I/C68H	
M Setting	∟ □ Device Stat	us List						
Setting	NO.	Device Name	MAC Address	DHCP	IP	Port	Mode	Status
	1	TRP-C24H	00-0E-C6-00-01-38	Enable	192.168.0.125	502	Master	Idle
M Function								
Search								
IP Search								
evice Setup								
Veb Browser								
Restore								
Different 1								

4-3.Configuring Server Properties

Select the "NO." item and Double click to open the module configuration, after setting then click "Submit" will save the configuration to memory.

Serial Port Modbus Setting IRP-C24H Module Name IRP-C24H AC Address 00-0E-C5-00-01-56 Netmaak 255 255 255 0 RCP Eable Galeway 192 168 1.3 SaywarMader 102 168 0.125 DNS 166 95 1.1 Dab latening port 502 Transmit Time/Pixe 0 To 0 00.0 902 Mosimus Connection 8 To 0 00.0 902 Mosimus Connection 8 9 To 0 00.0 0 9 Mosimus Connection 9 Mubicatt To 0 00.0 0 9 Mos connection Mubicatt 9 existing Serial Fort Modbus Setting Mos connection Mubicatt 9 9 9 9 9 9 9 9	At Setting Serial Port Modbus Setting ice Name IRP-C24H Module Name IRP-C24H C Address IOOE-C6-00-01-38 Netmark 255 255 255 00 CP Enable Gateway I92.168.0.125 D Dab latening port 502 Transmit Time/Pus 0 Item Silese Diable T Maximum Connection 8 1 To 0 0.00.0 Serial 7 1 To 0 0.00.0 CF Keep Alive 7 1 To 0 0.00.0 CF Keep	e Setup			
vice Name IRP-C24H Module Name IRP-C24H AC Address 00-0E-C6-00-01-38 Netmaak 255 2255 2255.0 HCP Enable Galeway 192.168.1.3 Server/Metter 192.160.0125 DNS 168.951.1 Listening port 502 Transmit Time/Plus 0 Data histening port 502 Moximum Connection 8 To 0 0.00.0 502 Moximum Connection 8 To 0 0.00.0 502 Moximum Connection 8 • To 0 0.00.0 0 Firmware Version 610 • • To 0 0.00.0 0 Firmware Version 610 • <t< td=""><td>ise Name TP-C24H Module Name TP-C24H C. Address 00000000000000000000000000000000000</td><td>vork Setting Serial Port_1</td><td>Modbus Setting</td><td></td><td></td></t<>	ise Name TP-C24H Module Name TP-C24H C. Address 00000000000000000000000000000000000	vork Setting Serial Port_1	Modbus Setting		
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HCP Enable Galeway 192.168.1.3 Serven/Master 192.168.1.3 Galeway 192.168.1.3 Serven/Master 192.160.0.125 DNS 168.951.1 Data hitening port 502 Transmit Time/Plue 0 Galeway 192.168.1.3 0 0 Data hitening port 502 Transmit Time/Plue 0 To 0 0.00.0 502 Moximus Connection 8 To 0 0.00.0 0 New Password ***** To 0 0.00.0 0 Firmware Version 610 To 0 0.00.0 0 Parter rebot Wanagement Packet Type UP Auto connection 0 0 Auto connection 0 To 0 0.00.0 0 Parter rebot Wanagement Packet Type To 0 0.00.0 0 Parter rebot Wanagement Packet Type Bada rate 9600 Y Digital Output Status 1 Digital Output Status Party Noze Y Digital Input CH3 <td>2P Enable Gateway 19216813 enverMatter Gateway 19216813 interning IP 1921680125 DNS 168951.1 Data listening port 502 Transmit TimePhus 0 Data listening port 502 Transmit TimePhus 0 To 0 00.00 202 Maximun Connection 8 • To 0 00.00 0 TCP Keep Alive 7 • To 0 00.00 0 New Password •***** To 0 00.00 0 New Password •***** To 0 00.00 0 Put Rest Type ✓ To 0 00.00 0 ✓ ✓ To 0 00.00 0 ✓ ✓ Atter reboot ✓ Bababababa ✓ Multicast To 0 00.00 0 ✓ ✓ Atter reboot ✓ Digital Input CH3 0 Ø atta 9 Ø Digital Input CH3<!--</td--><td>IAC Address 0-00-0</td><td>E-C6-00-01-38</td><td>Natmack</td><td>255.255.255.0</td></td>	2P Enable Gateway 19216813 enverMatter Gateway 19216813 interning IP 1921680125 DNS 168951.1 Data listening port 502 Transmit TimePhus 0 Data listening port 502 Transmit TimePhus 0 To 0 00.00 202 Maximun Connection 8 • To 0 00.00 0 TCP Keep Alive 7 • To 0 00.00 0 New Password •***** To 0 00.00 0 New Password •***** To 0 00.00 0 Put Rest Type ✓ To 0 00.00 0 ✓ ✓ To 0 00.00 0 ✓ ✓ Atter reboot ✓ Bababababa ✓ Multicast To 0 00.00 0 ✓ ✓ Atter reboot ✓ Digital Input CH3 0 Ø atta 9 Ø Digital Input CH3 </td <td>IAC Address 0-00-0</td> <td>E-C6-00-01-38</td> <td>Natmack</td> <td>255.255.255.0</td>	IAC Address 0-00-0	E-C6-00-01-38	Natmack	255.255.255.0
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Power On Mode Digital Input CH12 Orycom Checksum Setting Disable ower On Mode Output Image: Chick of the chick of	stem Mode Power On Mode Digital Input CH12 0 rcom Checksum Setting Disable Digital Input CH13 0 ver On Mode Output 0 Digital Input CH14 0 e On Mode Output 0 Digital Input CH15 0 Digital Input CH16 0 Submit Save Load	Polling Setting	High	Digital Input CH11	0
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Digital Input CH16	Digital Input CH16 0 Submit Save Load		0	Digital Input CH14	0
	Submit Save Load	Safe On Mode Output	0	Digital Input CH14 Digital Input CH15	0

Device Name:

Device server name, Maximum 10 chars.

Model Name:

TRP-C24H.

MAC Address

The TRP-C24H MAC address.

DHCP

If DHCP is disabled, it allows user setting the IP address, Subnet mask, Gateway.

If DHCP is enabled, the IP address, Subnet mask, Gateway address will be dynamically configuration by DHCP server such router.

When DHCP is enabled, but the DHCP server is not available on the network, the TRP-C24H will timeout then back to factory setting IP=192.168.1.1.

Server Listening IP

The TRP-C24H IP address.

Server Data listening port

TRP-C24H port address.

Client Destination IP

When user using the pair mode, the client setting need to input module IP and port which one need to connect.

• Client Destination port

Client port address.

Port: 16 bit number. (1 ~ 65535)

Netmask

The default LAN Netmask is configured for a Class C address. This maybe reconfigured by the user.

Gateway

Input the gateway IP address that can be allows users to access the serial server from internet.

DNS

Short for Domain Name System, an Internet service that translates domain names into IP addresses. Because domain names are alphabetic, they're easier to remember. The Internet however, is really based on IP addresses. Every time you use a domain name, therefore, a DNS service must translate the name into the corresponding IP address.

• **Transmit Timer/Pulse:** Fill in the value 24 that will enable the mono stable function.

Maximum Connection: 1~16

The function allows the user to configure the TRP-C24H in Server mode, adjust 1~16 TCP client host connections.

◆ TCP Keep Alive: 1~7 /Minute

When TRP-C24H in Server or Client mode, the TRP-C24H without data over the 1~7 Min setting value,

The TRP-C24H will be disconnecting TCP port.

New Password: 1234

It only accepts value from 1000~9999 integer, if input the wrong password over 5 times, the WEB-Page will lock until the TRP-C24H re-boot.

- Firmware Version: ABC
- ♦ Slave ID:1~255.

ID performs MODBUS RTU / ASCII and TRP-ASCII will use to address.

LED Display Panel Setting :ON/OFF

The setting will turn on all panels LED or Turn off panel LED.

• Polling Setting: High/Low.

Digital High / Low potential settings, Applies only TRP-C26H/C28H

System Mode

Power ON Mode: Digital output state when the TRP-C24H Power On.

Save ON Mode: The digital output state when the TRP-C24H is working, Once this mode is set, the digital output state cannot be rewritten.

Pair Mode: It can be used as a remote manual remote control, when the TRP-C24H 16 DO and TRP-C26H 16 CH DI, TRP-C28H 4 D I/O with TRP-C28H 4 D I/O. Without any driver.

Trycom Checksum setting: Disable/Enable.

TRP-ASCII command used bit checksum.

• Power On Mode Output: 0000~FFFF.

Digital output state when TRP-C24H Boot!

Save ON Mode Output:0000~FFFF.

Digital output state when watchdog enable!

Digital Output Status

Display last stored in the memory of the digital output state.

Digital Input Status

This feature is only available to TRP-C26H and TRP-C28H,

Display last stored in the memory of the digital input state.

Digital Input CH1~CH16

Display last stored in the memory of the digital input counter value.

This feature is only available to TRP-C26H and TRP-C28H.

Submit

Save the setting value to memory.

Save

Save the setting value to external log file.

Load

Load the setting value to external log file.

Upgrade

Upgrade the TRP-C24H firmware.

4-4.Using the WEB Server mode

The Web Server can be used to configure the TRP-C24H from any web browser software (such as I.E).

In Internet Explorer type the IP Address of the TRP-C24H into the address field and press the Enter key. The following window will appear:

Example:

If TRP-C24H IP is 192.168.1.1 Please Input the 192.168.1.1 then enters at web address, the web-page will appear.



TRP-C24H

WDT-inside

Isolated 16 CH. O.C Modbus TCP Module

TRP-C24H Setting	
Slave ID (1~255)	1
LED Display Panel Setting	OFF 🔻
Polling Setting	High 🔻
System Mode	Power On Mo 🔻
Trycom Checksum	Disable 🔻
Power On Mode Output	0000
Safe Mode Output	0000
Digital Output Status	0000
Network Settings	
	Enable DHCP
Static IP Address	192.168.1.1
Static Subnet Mask	255.255.255.0
Static Default Gateway	192.168.1.3
Static DNS Server	168.95.1.1
Connection Type	TCP 🔻
Max Connection(1~16)	8
Plus(24 Enable)	0
Master/Slave	Master 🔻
Master:	
Master Listening Port	502
Slave:	
Slave IP Address	0.0.0.0
Slave Port	502
New Password (10000~65535)	 Enable Reboot
	Apply Reset

4-5 TRPCOM Test Utility

The TRPCOM test utility may help to use the debugging program development phase, the user can find this software in our CD internal directory copied to the hard disk, and then directly execute TRPCOM.exe.

TRPCOM utility can automatically detect the model, it will list the corresponding function key,

It helps developers to understand and control the digital state.

Setting Settin	2013 Test Ut Termial al Server/Ether 0.109 Port Cli command — Send (ility Scan 1 net I/O address 502 (Auto Command	ICP/IP	About Network Network Respons	: Status < On line! se -C24H	Version:102	Stop Link
							Ţ
-TRP-C26H/28	H Digital Input (D1	Counter Value - D2	D3	D4	D5	D6	D7
00000	00000	00000	00000	00000	00000	00000	00000
				DC		DE	DE
00000	00000	00000	00000	00000	00000	00000	00000
DO/DI Status	s 0000	Command		Respons	e		🗖 Auto Read
DO	D1	D2	D3	D4	D5	D6	D7
D8	D9	DA	DB	DC	DD	DE	DF
TRP-C2XH Co Back to	mmon comman	nds	Counter	Clear	D/O Value	Settir	ng Power On
Description The TCP Please e The prog 1.Test de 2.Test Th	/ IP Function Inter the test ram will auto evice serial (RP-C24H/C2	on: t device's IP omatically de Server loop b 26H/C26H Et	and Port, th etermine the ack wiring. hernet I / O.	en press the type and lis	Link button ts function k	, eys.	

4-6 How to setup the network security

In network security, the TRP-C24H is able to setup 1~ 8 sets host IP, only these host IP can access the TRP-C24H.

The TRP-C24H actually can make connections with any Host IP,

Once the user has filled in the Host IP, these IP are valid, the TRP-C24H will be pass with them. Other host IP will not pass.

Refer to the following example illustrates.

*Please make sure the firmware version is 610 above,

and the DSM utility version is 6.07 above.

Maximum 8 sets host IP that limits network access.

TRP-C2XH	etwork Host IP 192.164	PC 8.0.101~192.168.0.108
Device Setup		×
Network Setting Serial Port_Modbus Setting	1	
Device Name TRP-C24H	Module Name	TRP-C24H
MAC Address 00-0E-C6-00-01-38	Netmask	255.255.255.0
DHCP Enable	Gateway	192.168.1.3
Content Server/Master Listening IP 192.168.0.125	DNS	168.95.1.1
Data listening port 502	Transmit Time/Plus	0
C Client/Slave	Heart Beat	Disable 💌
0 To 0 192.168.0.101 502	Maximun Connection	8 💌
0 To 192.168.0.102	TCP Keep Alive	7 💌
0 To 0 192.168.0.103	New Password	****
0 To 0 192.168.0.104	Firmware Version	610
0 To 0 192.168.0.105	Data Packet Type —	Management Packet Type
	Auto connect	I Broadcast
10 10 192.168.0.107 0		Multicast
	Submit	SaveLoad

5. TRP-ASCII Communication Protocol

TRP-C24H supports three modes of communication Protocol TRP-ASCII, Modbus RTU, Modbus ASCII.

TRP-ASCII Command Protocol Description

Command Format :"Leading Code"+"ID Address"+"Command"+"CHK"+(cr) .

at :"Leading Code"+"ID Address"+"Data"+"CHK"+(cr) .

How to calculate the checksum

1. Calculate all characters of the command string to get the ASCII sum, except the character return.

2. Mask the sum of string with 0FFH.

Example:

Send the command is "\$06M".

Sum of string is "\$"+"0"+"6"+"M"="24H"+"30H"+" 4D"="A1H"......The checksum and [CHK]="A1". Response string with checksum is :" A1".

Command List	Function Description	Paragraph index
%IDNNPP00DD(CHK)(cr)	Setting module configuration	See 5-1
#IDPPDD (CHK)(cr)	Digital Output Data	See 5-2
\$ID6 (CHK)(cr)	Read digital input/output status	See 5-3
\$IDF (CHK)(cr)	Read the module's firmware version	See 5-4
\$IDM (CHK)(cr)	Read the module's name	See 5-5
\$01RS(CHK)(cr)	Reset Module	See 5-6
~IDONN (CHK)(cr)	Change the module's name	See 5-7
~IDLEDA(CHK)(cr)	Set the module's LED operating mode	See 5-8
~IDWE (CHK)(cr)	Enable watchdog	See 5-9
~IDWD (CHK)(cr)	Disable watchdog	See 5-10
~IDWR (CHK)(cr)	Read watchdog status	See 5-11
~ID4V (CHK)(cr)	Read power on/Safe on mode	See 5-12
~ID5V (CHK)(cr)	Store Power on/ Save on mode	See 5-13
~**(CHK)(cr)	Read Module ID and mode name	See 5-14
#**(CHK)(cr)	Back to factory	See 5-15

TRP-ASCII: ease of use TRP-ASCII integration to develop their own software, such as VB, VC .

5-1. Setting module configuration

Command	%IDNNPP00DD(CHK)(cr)			
	%	First leading code		
Svntax	ID	Address of setting module 00-FF(HEX)		
Description	NN	New address of setting from 00-FF(HEX)		
PP		The Digital I/O module type define to 40		
	00	00		
	DD	Data format		
	СНК	Checksum		
	(cr)	Carriage return		
Response	!ID(CHK) (cr)	Command valid		
	?ID (CHK)(cr)	Command Invalid		

DD: Data Format

Bit	7	6		5	4	3	2	1	0
Function	0	Checksum 1:Enable	0:Disable	0	0	0	0	0	0

EX: Send command:"%0103400000".

New ID is "03",D I/O type is "40" ,Checksum setting disable is "00", Response:"**!01**".

5-2.Digital Output Data

Command	#IDPPDD(CHK)(cr)		
	#	First leading code	
Syntax description	ID	Address of setting module 00-FF(HEX)	
	PP	D I/O type :0A/ 00 DO0~DO7 low byte data (Multi-Channel) :0B high byte data D8-D15(Multi-Channel) :1L/ AL: DO0~DO7 low byte data (Single-Channel) L=0~7 :BL : high byte dataD8-D15(Single-Channel) L=0~7	
	DD	DD:00~FF (Milti-Channel) DD:00 or 01 (Single-Channel)	
	СНК	Checksum	
	(cr)	Carriage return	
Response	>(CHK)(cr)	Command valid	
	!ID(CHK) (cr)	Parameter invalid (*Command data error!)	
	?ID (CHK)(cr)	Command Invalid	

*Multi-Channel mode (Output control for one BYTE)

EX: Send command :"#010A12".....Data="12":DO0~DO7="10000100"...1=Output Enable.

Response:">"..... Command valid.

- EX: Send command:"#010B34".....Data="34":DO8~DO15="110000010" ...1=Output Enable. Response:">"...... Command valid.
- EX: Send command:"#01000G"...Data="0G".....Data error!.

Response:"?0"......Parameter error! .

- *Single-Channel mode(Output control for one BIT)
- EX: Send command:"#011001"..... Data="01":DO0="1"....1=Output Enable.

Response:">"..... Command valid.

Send command:"#011201"..... Data="01":DO2="1". ..1=Output Enable.

Response:">"..... Command valid.

Send command:#01B301.....Data="00":DO11="1"... 1=Output Enable.

Response:">".....Command valid.

5-3.Read digital input/output status

Command	\$ID6(CHK)(cr)		
Syntax description	\$	First leading code	
	ID	Address of setting module 00-FF(HEX)	
	6	Read digital output status	
	СНК	Checksum	
	(cr)	Carriage return	
Response	!IDLLHH(CHK)(cr)	LL=DO0~DO7 status, HH=DO8~DO15 status.	
	?ID(CHK) (cr)	Command Invalid	

EX: Send command:\$016......Read digital output status .

Response:"!011234"......DO1,DO5,DO8,DO9 Output Enable.

5-4. Read firmware version

Command	\$IDF(CHK)(cr)	
	\$	First leading code
Syntax description	ID	Address of setting module 00-FF(HEX)
accomption	F	Command for reading module's version
	СНК	Checksum
	(cr)	Carriage return
Response	!IDMODDDMMYY(CHK)(cr)	MOD :The module's model DD: Date MM: Month YY : Year
	?ID(CHK)(cr)	Command Invalid

EX: Send command:\$01F...Read the TRP-C24H's version.

Response:"!01C24H090113"...... The TRP-C24H's version date is "01/09/2013".

5-5. Read the module's name

Command	\$IDM(CHK)(cr)		
	\$	First leading code	
Svntax	ID	Address of setting module 00-FF(HEX)	
description	М	Reading module's name	
	СНК	Checksum	
	(cr)	Carriage return	
Response	!IDNNNNNNNN(CHK)(cr)	NNNNNN :The chars from 1~9 chars	
	?ID(CHK)(cr)	Command Invalid	

EX: Send command:\$01M...Read the TRP-C24H's name.

Response:"!01TRPC24H"...... The module's name is "TRPC24H".

5-6. Reset Module

Command	\$IDRS(CHK)(cr)		
Syntax description	\$	First leading code	
	ID	Address of setting module 00-FF(HEX)	
	RS	Reset Module	
	(cr)	Carriage return	
Response	!ID (CHK)(cr)	Command valid	
	?ID(CHK)(cr)	Command Invalid	

EX: Send Command:"\$01RS"

Response:" !01"...... Command valid!

5-7. Change Module 's name

Command	~IDONN(CHK)(cr)		
Suntay	~	First leading code	
description	ID	Address of setting module 00-FF(HEX)	
	0	Change Module Name	
	NN	NN : 1~9 characters char	
	(cr)	Carriage return	
Response	!ID (CHK)(cr)	Command valid	
	?ID(CHK)(cr)	Command Invalid	

EX: Send Command:"~01O123456789"...Change Name.

Response:" !01"...... Command valid!

Send command:\$01M...Read the TRP-C24H's name.

Response:"!01123456789"...... The module's name is "TRPC24H".

5-8. Set LED operating mode

Command	~IDLEDA(CHK)(cr)	
	~	First leading code
Syntax description	ID	Address of setting module 00-FF(HEX)
	LED	Set the module's LED operating mode
	A	A=1 Turn off all LEDS, when Output Enable= ON. A=0 Turn on all LEDS, when Output Enable= OFF.
	СНК	Checksum
	(cr)	Carriage return
Response	!IDNN(CHK)(cr)	NN=ON or OFF Command valid
	?ID(CHK)(cr)	Command Invalid

EX: Send command:"~01LED1"..... Turn off all LED, when Channel Enable ON.

Response:"!010FF"...... Command valid.

5-9 Enable Watchdog

Command	~IDWE(CHK)(cr)		
	~	First leading code	
Syntax description	ID	Address of setting module 00-FF(HEX)	
accompact	WE	Watchdog function	
	СНК	Checksum	
	(cr)	Carriage return	
Response	!ID(CHK)(cr)	Command valid	
	?ID(CHK)(cr)	Command Invalid	

EX: Send Command:"~01WE".....Enable Watchdog .

.. Response:" !01"...... Command valid.

*The user can not change the digital output state when watchdog enable,

this mode will keep until the watchdog disable.

When the watchdog enable digital output into safe mode.

There are 3 ways you can set the safe mode, command / WEB / DSM.

5-10 Disable Watchdog

Command	~IDWD(CHK)(cr)		
Question	~	First leading code	
description	ID	Address of setting module 00-FF(HEX)	
	WD	Disable Watchdog	
	(cr)	Carriage return	
Response	!ID (CHK)(cr)	Command valid	
	?ID(CHK)(cr)	Command Invalid	

EX: Send Command:"~01WD"...Watchdog Disable.

Response:" !01"...... Command valid!

5-11 Read Watchdog State

Command	~IDWR(CHK)(cr)		
Question	~	First leading code	
description	ID	Address of setting module 00-FF(HEX)	
	WR	Read Watchdog State	
	(cr)	Carriage return	
Response	!IDWN (CHK)(cr)	N=E Enable N=D Disable	
	?ID(CHK)(cr)	Command Invalid	

EX: Send Command:"~01WR"...Read Watchdog state.

Response:" !01WE"...... Watchdog Enable.

5-12 Read Power on/Safe Mode

Command	~ID4V(CHK)(cr)		
	~	First leading code	
Syntax description	ID	Address of setting module 00-FF(HEX)	
	4	Read power on/safe mode status	
	V	V=P: Power on	
		V=S: Safe mode	
	СНК	Checksum	
	(cr)	Carriage return	
Response	!IDLLHH (CHK)(cr)	HH:DO15~DO8	
		LL:D07~D00	
	?ID(CHK)(cr)	Command Invalid	

EX: Send Command:~014P.....Read Power on output status.

.. Response:" !011234"...... Command valid.

5-13	Set the	digital	output status	Power	on/Save	Mode status
------	---------	---------	---------------	-------	---------	-------------

Command	~ID5V(CHK)(cr)	
Suntay	~	First leading code
description	ID	Address of setting module 00-FF(HEX)
	5	Save the current digital output is save or power on mode
	V	V=P Power on V=S Safe mode
	(cr)	Carriage return
Response	!ID (CHK)(cr)	Command valid
	?ID(CHK)(cr)	Command Invalid

EX: Send Command:"#010A33"...Digital output DO0~DO7= "11001100"

Send Command:"#010B17"... Digital output DO8~DOF= "10001110"

Send Command: "~015P"......Save Power on.

Send Command:"~014P"Read Power on

Response:"!013317".

5-14 Read Module ID and Model Name

Command	~**(CHK)(cr)	
Suntay	~	First leading code
description	**	When TCP connected, get online module ID and Model Name.
	(cr)	Carriage return
Response	!IDName (CHK)(cr)	ID: Decimal Name: Model Name.
	?ID(CHK)(cr)	Command Invalid

EX: Send Command:" \sim^{**} "... When TCP connected, get online module ID and model name.

Response:"!001TRP-C24H".

5-15 Back to Factory

Command	#**(CHK)(cr)	
Suntay	#	First leading code
description	**	Back to factory.
	(cr)	Carriage return
Response	!ID (CHK)(cr)	Command valid
	?ID(CHK)(cr)	Command Invalid

EX: Send Command:"~**"... Back to factory.

Response:"!01".

6. Modbus RTU/ASCII Communication Protocol

* For more modbus RTU / ASCII protocol specification, please download from http://www.modbus.org website.

Obtain more modbus TCP instruction test, we recommend user can be downloaded from the following Web site

Modbus Poll Test utility <u>http://www.modbustools.com/</u>

Modbusscan Test utility http://www.win-tech.com/html/modbus1.htm.

User can use the virtual-com program with TRPCOM.exe for Modbus RTU test; these programs can be found in our directory of the CD!

Install the Virtual-COM

Step 1. Insert the TRP-Serial CD and find the TRP-C24H folder.

Step 2. Click "Vcomm.exe" icon then install Virtual-COM utility.

*The Virtual COM utility support multi-language, please select which language do you need.

elects	serup Language
	Select the language to use during the installation:
	English
	OK Cancel

Step3. Click "OK" button and select "VSP run as Client support Server Device".

WORK MODE
Select VSPM work mode
VSPM run as Client support Server Device
C VSPM run as Server, support Client Device
O UDP broadcast
 ✓ OK ▲

Step4. Select "Create virtual serial by device scanner", then press "OK"

📣 Vin	tual Serial
	How to Create virtual serial
\leq	Create virtual serial by device scaner
	C Create Default virtual serial
	СК
	VCOMM

Step5. Run VCOMM.exe then click right button select "New Virtual COM"

🚸 Virtual Se	rialVSPM run as Client,suppor	t Server Devic	e Ver3.16		
Manager C	onfig Minimize VSPM About	t Exit			
Virtual COM	Remote Server IP and PORT	State	[COM->Network(Byte)	NetWork->COM(Byte)
			Scan and Ap	pend Device	
4			Edit Virtual C Delete Virtua Minimize VSP	OM COM M	
			Manager Dev	rice t	andard Mode
			Config		
			UpdateState	F5	
			Exit		

Step6. Select "Select Serial Port" and input TRP-C24H IP and port then press "OK".

/irtual COM F	Remote Server IP and PORT	State	COM->Network(Byte)	NetWork->COM(By
	Virtual Serial Info			×
	TCP/IP virtual serial param			
J				
		Serial: COM5		
		Remote Server IP: 192.168.	1.1	
	Ren	note Server PORT: 4000	•	
		Map mode: Client		
		Note:		

Step7. If Virtual-Com setting success, the display will appear bellow.

Step8.Run TRPCOM utility then select virtual-com port make a TRP-C24H command.

*If in VCOMM's configuration select "Boot with windows", the virtual-com will Auto-connection when windows start.

Baseconfig Networkconfig Workconfig	×
 Boot with windows Init VSP when Start Clear VSP when Start Ignore used VSP when exit Eanbled Device Scaner Process priority: Normal 	
 Boot with windows Init VSP when Start Clear VSP when Start Ignore used VSP when exit Eanbled Device Scaner Process priority: Normal 	
 Init VSP when Start Clear VSP when Start Ignore used VSP when exit Eanbled Device Scaner Process priority: Normal 	
 Clear VSP when Start Ignore used VSP when exit Eanbled Device Scaner Process priority: Normal 	
 Ignore used VSP when exit ✓ Eanbled Device Scaner Process priority: Normal 	
Eanbled Device Scaner Process priority: Normal	
Process priority: Normal	
Thread priority: Normal	
GUI default mode: Normal	
Data refresh interval: 2	
Cancel	

* TRP-C24H in use the Virtual com mode, the default data format is 9600, N, 8,1, this mode is not allowed to change.

Ferminal Command Input	- Instruction
1100010	Rand
Response	Jenu
01 01 02 33 71 6D 28	Auto 80 mS
	Clear
	Checksum
	01 01 00 00 00 10 3D C6
	Command + Checksum
Description	
Send the module's command and get real time re configuation setting is enable, the command check status	sponse. If your module's checksum (sum will show you the send command

Modbus TCP Command List

Command List	Function Description	C24H Description	Index
ID 01 00 SS 00 NN	Read Coils	Read digital output readback value	6-1
ID 03 00 SS 00 NN	Read Holding Registers	Read the mono stable time period value	6-2
ID 05 00 NN DD 00	Write Single Coil	Write Single channel output data	6-3
ID 0F 00 SS 00 NN 01 XX	Write Coils	Write multi channel output data	6-4
ID 06 00 SS DD NN 01 XX	Write single register	Write the mono-stable time period value	6-5
ID 16 00 SS 00 NN 01	Write multiple registers	Write the multi mono-stable time period value	6-6

Additional Modbus TCP Command List

Command List	Function Description	Index
ID 46 00 00	Read the module's name	6-7
ID 46 04 IP 00 00 00	Setting module new ID	6-8
ID 46 07 00	Read the module's Firmware	6-9
ID 46 0B WS 00	Enable/Disable watchdog.	6-10
ID 46 0C 00	Read watchdog status	6-11
ID 46 0D 0S 00	Set up LED ON/OFF	6-12

6-1. Read Coils

Read digital output readback value

Command	ID 01 00 SS 00 NN		
	ID 1By		Address of setting module 1~247
Syntax	01	1 Byte	Function Code
Description	00 SS	2 Bytes	Start channel number, 0x0000~0x000F
	00 NN	2 Bytes	Output channel number,0x0001~0x0010
Response	ID 01 BC LL HH	5 Bytes	ID=1~247 01:Function Code BC: Byte counter LL HH: Digital output read back value
Error Response	ID 81 ER	3 Bytes	ID=1~247 81 :Function Code ER=00 Syntax error ER=01 Data Format error ER=02 Start channel error ER=03 I/O out of range

Example:

Send command :" 01 01 00 00 00 10".....Read DO0~DOF Output read back value.

Response:" 01 01 02 21 43"..... 2bye,DO7~DO0=21,DOF~DO8=43.

6-2. Read Holding Registers

Read the mono stable time period value

Command	ID 03 00 SS 00 NN				
	ID 1Byt		Address of setting module 1~247		
Syntax	03	1 Byte	Function Code		
Description	00 SS	2 Bytes	Start channel number, 0x0000~0x000F		
	00 NN	2 Bytes	Output channel number,0x0001~0x0010		
Response	ID 03 BC NN NN	5 Bytes	ID=1~247 03:Function Code BC: Byte counter NN NN: Unit:100ms		
Error Response	ID 83 ER	3 Bytes	ID=1~247 83 :Function Code ER=00 Syntax error ER=01 Data Format error ER=02 Start channel error ER=03 I/O out of range		

Example:

Send command :" 01 03 00 00 00 03 ".....Read DO0~DO3 read time period value .

Response:" 01 03 06 00 02 00 05 00 01 "..... Byes Counter=6.

DO0 =200ms,DO1=500ms,DO3=100ms.

ę	βм	loď	bus]	Poll	- M	ĺbp	o111											_0	×
]	File	<u>C</u> 0	onnec	tion	. <u>S</u> e	tup	F <u>u</u> r	nction	s	<u>D</u> is <u></u>	olay	<u>V</u> i	ew [<u>W</u> ind	ow	<u>H</u> el <u></u>)		
	D	é	; 🔒	16	3	X				1	Л	05	06	15	16	22	23	101	8
ſ	.	Mbj	poll1															_ 🗆	×
Π	Τх	=	166	:	Err	=	0:	ID	=	1:	F	=	03:	SR	=	100	Oms		
Π	400	001	=			2 ৰ			- 2	200	ms								
Ш	400	002	=			5 ┥			- 5	500	ms								
Π	400	003	=			1	-			100	ms								
F	or H	elp,	pres	F1	For	Edi	it, doi	able c	lick	on	a va	lue.				192.	168.0).131: 5	50 //

6-3. Write Single Coil Write Single channel output data

Command	ID 05 00 SS DD 00		
	ID 1By		Address of setting module 1~247
Syntax	05	1 Byte	Function Code
Description	00 SS	2 Bytes	Start channel number, 0x0000~0x000F
	DD 00	2 Bytes	Write output data DD=00 Output Disable DD=FF Output Enable
Response	ID 05 00 SS DD 00	5 Bytes	Command Line
Error Response	ID 85 ER	3 Bytes	ID=1~247 85 :Function Code ER=00 Syntax error
			ER=01 Data Format error
			ER=02 Start channel error
			ER=03 I/O out of range

Mono-Stable status:

Example:

Send command :" 01 05 00 06 FF 00 ".....DO6 Output Enable

Response:" 01 05 00 06 FF 00"...Command Valid.

*When the DO6 enable which will keep on until 600ms then off.

If the holding register =0 that is normal DO output.

If the holding register>0 and transmit time/pulse=24 that is mono-stable available.

How to configuration mono-stable

Step1:

Please find the item "Pulse" then fill in the value "24" from the DSM utility or web browser .

	200.200.200.0
WEB configuration setting	192.168.1.3
	168.95.1.1
Connection Type	TCP •
Max Connection(1~16)	8
Plus(24 Enable)	
Master/Slave	Master
Master:	Enable Monostable
Master Listening Port	502
Slave:	
Slave IP Address	0.0.0.0
Slave Port	502
i@	i@
New Password (10000~65535)	
	🖵 Enable Reboot
	Apply Reset

Step2: Using the function 3 then fill in the value.

*The value will be auto save to the EEPRON of TRP-C24H.

ਮੈਂ Modbus Poll - Mbpol	
<u>File Connection Setup</u>	Functions Display <u>V</u> iew <u>W</u> indow <u>H</u> elp
🗅 🖻 🖶 🎒 🗙	🛅 🗒 🚊 几 05 06 15 16 22 23
👺 Mbpoll1	
Tx = 134: Err =	0: ID = 1: F = 03: SR =
40001 = 6	
40002 = 5	
40003 = 1	
40004 = 4	
40005 = 5	
40006 = 6 💘	Write Single Register
40007 = 7	Claus ID: 1 Send
40008 = 8	adve ID.
40009 = 9	Address 6 Cancel
40010 = 10	
40011 = 11	Value: 6
40012 = 12	- Use Function
40013 = 13	 Ω6: Write single register
40014 - 14 40015 - 15	O 16: Write multiple registers
40015 = 15 40016 = 25	
For Help, press F1. For Edit,	double click on a value.

Step3: Using the function 5 then click the "On" then "Send".



Step4: The DO6 will be keep on until 600ms.



6-4. Write Coils Write multi channel output data

Command	ID 0F 00 SS 00 NN BC LL HH				
	ID	1Byte	Address of setting module 1~247		
	0F	1 Byte	Function Code		
Svntax	00 SS	2 Bytes	Start channel number, 0x0000~0x000F		
Description	00 NN	2 Bytes	Output channel number=0x0001~0x0010		
	BC	1 Bytes	Byte counter		
	LL HH	2 Bytes	Write output data LL=00~FF HH=00~FF		
Response	ID 0F 00 SS 00 NN	6 Bytes	Command Line		
Error Response		3 Bytes	ID=1~247 8F :Function Code ER=00 Syntax error		
	ID 8F ER		ER=01 Data Format error		
			ER=02 Start channel error		
			ER=03 I/O out of range		

Example:

Send command:"01 0F 00 00 00 10 02 12 34"...Output DO Data DO0~DO7=21,DO8~DOF=43,Byte Counter=02 Response:"01 0F 00 00 00 10"...Command Valid.

6-5. Write single register

Write the mono-stable time period value.

Command	ID 06 00 SS DD DD		
	ID	1Byte	Address of setting module 1~247
Syntax Description	06	1 Byte	Function Code
Description	00 SS	2 Bytes	Start channel number, 0x0000~0x000F
	DD DD	2 Bytes	Write Counter Vaile DDDD=0x0000~0xFFFF
Response	ID 06 00 SS DD 00 6 E		Command Line
	ID 86 ER (CRC)	4 Bytes	ID 86 :Function Code ER=00 Syntax error ER=01 Data Format error ER=02 Start channel error ER=03 I/O out of range

Example:Send command :" 01 06 00 09 1A 37 ".....Write DO9 time period value=1A37. Response:"01 06 00 09 1A 37 "..... Command Valid.

6-6. Write multiple registers Write multi channel counter value

Command	ID 10 00 SS 00 CN BC DD DD		
	ID 1Byte A		Address of setting module 1~247
o 1	10	1Byte	10=Function Code
Syntax	00 SS	2 Bytes	Start channel number, 0x0000~0x000F
Description	00 CN	2 Bytes	Counter Number =0x0001~0x0010
	вс	1 Byte	Byte Counter
	DD DD	2~32 Bytes	Counter Vaile DDDD=0000~FFFF
	ID 10 00 SS 00 CN	6 Bytes	Command Line
Response			ID 90 :Function Code ER=00 Syntax error
	ID 90 ER	3 Bytes	ER=01 Data Format error
		,	ER=02 Start channel error
			ER=03 I/O out of range

Send command:" 01 10 00 00 00 03 06 00 0A 00 14 00 1E "... Write DO 1~3 Counter Value.

Response:"01 10 00 00 00 03"..... Command Valid.

6-7.Read the module's name

Command	ID 46 00 00				
	ID	Address of setting module 1~247			
Syntax	46	Function code			
Description	00	Read module's name			
	00	Reserved code			
Response	ID 46 00 00 0C 24 00	ID 46 00 00Module command Line 0C 24 :Module's Name is C24			
	ID C6 00	ID C6 C6:Function Code 00: Reserved code			

EX: Send Command:"01 46 00 00"......Read the TRP-C24's name.

Response:"01 46 00 00 0C 24 00 ".....Module's name is C24.

Error Response: "01 C6 00".....Error code.

6-8. Setting module new ID

Command	ID 46 04 IP 00 00 00				
	ID	Address of setting module 1~247			
	46	Function Code			
Syntax Description	04	Setting module ID			
	IP	New module's ID			
	00 00 00	Reserved code			
Response	ID 46 04 00 00	ID 46 04 00 00Command valid			
	ID C6 00	ID C6 C6:Function Code 00: Reserved code			

EX: Send Command:"01 46 04 08 00 00 00"......Set up the new ID is "03".

Response:"01 46 04 00 00 ".....New ID is 08.

Error Response: "01 C6 00".....Error code.

6-9.Read the module's Firmware

Command	ID 46 07 00	
	ID	Address of setting module 1~247
Syntax	46	Function Code
Description	07	Read module's Firmware
	00	Reserved code
Response	ID 46 07 YY MM DD 00	ID 46 07Module command Line YY :Year MM :Month DD: Date 00 : Reserved code
	ID C6 00	ID C6 C6:Function Code 00: Reserved code

Example:

Send Command:"01 46 07 00"......Read Firmware Version.

Response:"01 46 07 13 01 10 00"...Firmware Version 01/10/2013.

Error Response: "01 C6 00".....Error code.

6-10.Enable/Disable watchdog

Command	ID 46 0B WS 00	
	ID	Address of setting module 1~247
	46	Function Code
Syntax Description	0B	Setting Watchdog Status
	ws	WS=00 Watchdog Disable WS=01 Watchdog Enable
	00	Reserved code
Response	ID 46 0B 00	00 ID 46 0B 00Command valid
	ID C6 00	ID C6 C6:Function Code 00: Reserved code

Example:

Send Command:"01 46 0B 01 00"......Watchdog Enable.

Response:"01 46 0B 00"...Command valid.

Error Response: "01 C6 00".....Error code.

6-11.Read watchdog status

Command	ID 46 0C 00	
	ID	Address of setting module 1~247
Syntax	46	Function Code
Description	0C	Read watchdog status
	00	Reserved code
Response	ID 46 0C WT	ID 46 0CModule command line WT=00 Watchdog Disable WT=01 Watchdog Enable
	ID C6 00	ID C6 C6:Function Code 00: Reserved code

Example:

Send Command:"01 46 0C 00"...Read watchdog status.

Response:"01 46 0C 01Watchdog enable.

Error Response: "01 C6 00"...Error code.

6-12.Set up LED ON/OFF

Command	ID 46 0D 0S 00	
	ID	Address of setting module 1~247
	46	Function Code
Syntax Description	0D	Set Up LED Status Value
	0S	S = 0 Turn on all LED when DIO enable off S = 1 Turn off all LED when DIO enable on
	00	Reserved code
Response	ID 46 0D 00	ID 46 0DCommand valid
	ID C6 00	ID C6 C6:Function Code 00: Reserved code

Example:

Send Command:"01 46 0D 01 00.

Response:"01 46 0D 00.

Error Response: "01 C6 00"...Error code.

7. Pair Mode

TRP-C24H support pairing mode with the TRP-C26H, Applied to 16 digital channels input and 16 digital output with over the network, without any driver with computer hardware.

All digital LED flashes in pairing mode until successfully paired will stop blinking; TRP-C24H sustained in connection automatically, regardless of any party the power to re-open or network disconnection to ensure normal transmission. product application are as follows:



7-1 Parameter setting example

Perform DSM utility to change the parameters

• TRP-C24H parameter setting

M Setting	Device Status List				
Setting	NO. Device Name NO. Device Name I TRP-C24H	MAC Add	tress	DHCP IP Disable 192.168.1.1	Port Mode Status 502 Slave Connected
A Function	Device Setup				
Search	Network Setting Serial Po	rt_Modbus Setting	1		
	Device Name	RP-C24H		Module Name	TRP-C24H
IP Search	MAC Address	0-0E-C6-00-00-99	7	Nataaak	255.255.255.0
evice Setup	DHCP [Disable	•	Gateway	192.168.1.3
	C Server/Master	92.168.1.1		DNS	168.95.1.1
eb Browser	Data listening port	02		Transmit Timer	10
	Client/Slave			Heart Beat	Disable 💌
Restore		2.168.1.2	S Port	Maximun Connection	8 -
Reboot	0 To 0 0.0	0.0	0	TCP Keep Alive	7
	- <u>0</u> To 0.0	.0.0	0	New Password	****
Upgrade	0 To 0 0.0	.0.0	0	Firmware Version	416
	0 To 0.0	.0.0	0	– Data Packet Type ——	Management Packet Type
	0 To 0	.0.0	0	UDP	🔽 Broadcast
	0 To 0.0	.0.0	0	after reboot	🗖 Multicast
	-			Submit	1
			-		Save Load
	Device Setup				Save Load
	Device Setup Network Setting Serial Po	rt_Modbus Setting	1		Load
	Device Setup Network Setting Serial Po	rt Modbus Setting	1	Digital Output Status	Load
	Device Setup Network Setting Serial Po Serial Port Setting Baud rate	rt_Modbus Setting 9600		Digital Output Status Digital Input Status	C Load
	Device Setup Network Setting Serial Po Serial Port Setting Baud rate Data bits	rt Modbus Setting 9600		Digital Output Status Digital Input Status Digital Input CH1	C Load
	Device Setup Network Setting Serial Po Serial Port Setting Baud rate Data bits	rt _Modbus Setting 9600	 	Digital Output Status Digital Input Status Digital Input CH1 Digital Input CH2 Digital Input CH2	Save Load 0
	Device Setup Network Setting Serial Po Serial Port Setting Baud rate Data bits Parity	rt Modbus Setting 9600 8 None	- 	Digital Output Status Digital Input Status Digital Input CH1 Digital Input CH2 Digital Input CH3 Digital Input CH4	Save Load 0
	Device Setup Network Setting Serial Po Serial Port Setting Baud rate Data bits Parity Stop bits	rt "Modbus Setting 9600 8 None	T T	Digital Output Status Digital Input Status Digital Input CH1 Digital Input CH2 Digital Input CH3 Digital Input CH4 Digital Input CH5	Save Load 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
	Device Setup Network Setting Serial Po Serial Port Setting Baud rate Data bits Parity Stop bits Flow Control	rt Modbus Setting 9600 8 None 1 None		Digital Output Status Digital Input Status Digital Input CH1 Digital Input CH2 Digital Input CH3 Digital Input CH4 Digital Input CH5 Digital Input CH6	Save Load 0 1 1000 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
	Device Setup Network Setting Serial Po Serial Port Setting Baud rate Data bits Parity Stop bits Flow Control Modbus Setting	rt Modbus Setting 9600 8 None 1 None		Digital Output Status Digital Input Status Digital Input CH1 Digital Input CH2 Digital Input CH3 Digital Input CH4 Digital Input CH5 Digital Input CH6 Digital Input CH7	Save Load 0 1 fft00 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1
	Device Setup Network Setting Serial Po Serial Port Setting Baud rate Data bits Parity Stop bits Flow Control Modbus Setting Slave ID	rt_Modbus Setting 9600 8 None 1 None		Digital Output Status Digital Input Status Digital Input CH1 Digital Input CH2 Digital Input CH3 Digital Input CH4 Digital Input CH5 Digital Input CH6 Digital Input CH7 Digital Input CH8	Save Load 0 1 1000 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1
	Device Setup Network Setting Serial Po Serial Port Setting Baud rate Data bits Parity Stop bits Flow Control Modbus Setting Slave ID LED Display Panel Settin	rt Modbus Setting 9600 8 None 1 None 9 0 0 0 0 0 0 1	4	Digital Output Status Digital Input Status Digital Input CH1 Digital Input CH2 Digital Input CH3 Digital Input CH4 Digital Input CH5 Digital Input CH6 Digital Input CH7 Digital Input CH8 Digital Input CH9	Save Load 0 1 ff00 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1
	Device Setup Network Setting Serial Po Serial Port Setting Baud rate Data bits Parity Stop bits Flow Control Modbus Setting Slave ID LED Display Panel Settin Polling Setting	rt ,Modbus Setting 9600 8 None 1 None 9 0 1 High		Digital Output Status Digital Input Status Digital Input CH1 Digital Input CH2 Digital Input CH3 Digital Input CH3 Digital Input CH4 Digital Input CH5 Digital Input CH7 Digital Input CH7 Digital Input CH8 Digital Input CH9 Digital Input CH10	Save Load 0 1 fft00 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1
	Device Setup Network Setting Serial Po Serial Port Setting Baud rate Data bits Parity Stop bits Flow Control Modbus Setting Slave ID LED Display Panel Settin Polling Setting System Mode	rt Modbus Setting 9600 8 None 1 None 9 1 None 1 None Pair Mode		Digital Output Status Digital Input Status Digital Input CH1 Digital Input CH2 Digital Input CH3 Digital Input CH4 Digital Input CH4 Digital Input CH5 Digital Input CH6 Digital Input CH8 Digital Input CH8 Digital Input CH9 Digital Input CH10 Digital Input CH11 Digital Input CH11	Save Load 0
	Device Setup Network Setting Serial Po Serial Port Setting Baud rate Data bits Parity Stop bits Flow Control Modbus Setting Slave ID LED Display Panel Settin Polling Setting System Mode Trycom Checksum Settin	rt Modbus Setting 9600 8 None 1 None 9 0 Film High Pair Mode pg Disable		Digital Output Status Digital Input Status Digital Input CH1 Digital Input CH2 Digital Input CH3 Digital Input CH3 Digital Input CH4 Digital Input CH5 Digital Input CH6 Digital Input CH7 Digital Input CH9 Digital Input CH10 Digital Input CH10 Digital Input CH11 Digital Input CH12 Digital Input CH12	Save Load 0
	Device Setup Network Setting Serial Por Serial Port Setting Baud rate Data bits Data bits Parity Stop bits Flow Control Modbus Setting Slave ID LED Display Panel Setting System Mode Trycom Checksum Setting Power On Mode Output Setting	rt "Modbus Setting 9600 8 None 1 None 9 0 ff High Pair Mode p 0		Digital Output Status Digital Input Status Digital Input CH1 Digital Input CH2 Digital Input CH3 Digital Input CH3 Digital Input CH5 Digital Input CH5 Digital Input CH6 Digital Input CH7 Digital Input CH9 Digital Input CH10 Digital Input CH11 Digital Input CH12 Digital Input CH13 Digital Input CH13 Digital Input CH14	Save Load 0

• TRP-C26H parameter setting

		-			DOM
Trycon		Ethe	rne	et Serie	es d'SM
IP	C		TR	P-C37/C37M/C	24H/C26H/C28H
M Setting	Device Status List				
Setting	NO. Device Name	MAC Add	iress	DHCP IP	Port Mode Status
	☑ 1 TRP-C26H	00-0E-C6-00	-00-9B	Disable 192.168.1	.2 502 Master Connected
M Function	Device Setup				
Search	Network Setting Serial Po	ort_Modbus Setting	1		
	Device Name	IRP-C26H		Module Name	TRP-C26H
IP Search	MAC Address	00-0E-C6-00-00-9I	3		
		Divible		Netmask	200.200.0
)evice Setup	G Server/Master	Jisadle		Gateway	192.168.1.3
1	Listening IP	192.168.1.2		DNS	168.95.1.1
Veb Browser	Data listening port	502		Transmit Timer	10
Destruction	C Client/Slave	ent/Slave IP Addres	S Davet	Heart Beat	Disable 💌
Restore		2.168.1.1	502	Maximun Connection	8
Reboot	0 To 0 00	0.0.0	0	TCP Keep Alive	7
		0.0.0	0	N D	****
Upgrade		3.0.0	0	New Fassword	416
		0.0.0	0	Parmware Version	Management Backet Trees
	0 To 0 0.0	3.0.0	10	UDP	Management Packet Type
		3.0.0	10	Auto connect after reboot	Multicast
			1	TCP	
	0 10 8 83	3.0.0	0	IV ICI	
		3.0.0	0		
		3.0.0	0		
	Device Setup	3.0.0	0		· · · ·
	Device Setup).0.0	0		
	Device Setup Network Setting Serial Port) () () Modbus Setting	0		
	Device Setup Network Setting Serial Port	. Modbus Setting	0	Digital Output Status	ff00
	Device Setup Network Setting Serial Port Serial Port Setting Baud rate	3.0.0 . Modbus Setting 9600		Digital Output Status Digital Input Status Digital Input Status	ff00 ff00
	Device Setup Network Setting Serial Port Serial Port Setting Baud rate Data bits	3.0.0 Modbus Setting 9600	•	Digital Output Status Digital Input Status Digital Input CH1 Digital Input CH2	ff00 ff00 0
	Device Setup Network Setting Serial Port Serial Port Setting Baud rate Data bits Parity	. Modbus Setting 9600 8 None		Digital Output Status Digital Input Status Digital Input CH1 Digital Input CH2 Digital Input CH3	ff00 ff00 ft00 0 0
	Device Setup Network Setting Serial Port Serial Port Setting Baud rate Data bits Parity	3.0.0 . Modbus Setting 		Digital Output Status Digital Input Status Digital Input CH1 Digital Input CH2 Digital Input CH3 Digital Input CH3	ff00 ff00 0 0 0 0
	Device Setup Network Setting Serial Port Serial Port Setting Baud rate Data bits Parity Stop bits	3.0.0 Modbus Setting 9600 8 None 1		Digital Output Status Digital Input Status Digital Input CH1 Digital Input CH2 Digital Input CH3 Digital Input CH4 Digital Input CH4	ff00 ff00 ff00 0 0 0 0 0 0 0 0 0
	Device Setup Network Setting Serial Port Serial Port Setting Baud rate Data bits Parity Stop bits Flow Control	. Modbus Setting 9600 8 None 1 None		Digital Output Status Digital Input Status Digital Input CH1 Digital Input CH2 Digital Input CH3 Digital Input CH4 Digital Input CH5 Digital Input CH5	ff00 ff00 ff00 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
	Device Setup Network Setting Serial Port Serial Port Setting Baud rate Data bits Parity Stop bits Flow Control Modbus Setting	Modbus Setting 9600 8 None 1 None		Digital Output Status Digital Input Status Digital Input CH1 Digital Input CH2 Digital Input CH3 Digital Input CH3 Digital Input CH4 Digital Input CH5 Digital Input CH6 Digital Input CH7	ff00 ff00 0
	Device Setup Network Setting Serial Port Serial Port Setting Baud rate Data bits Parity Stop bits Flow Control Modbus Setting Slave ID	3.0.0 Modbus Setting 9600 8 None 1 None		Digital Output Status Digital Input Status Digital Input CH1 Digital Input CH2 Digital Input CH3 Digital Input CH3 Digital Input CH4 Digital Input CH5 Digital Input CH6 Digital Input CH7 Digital Input CH8	ff00 ff00 ff00 0
	Device Setup Network Setting Serial Port Serial Port Setting Baud rate Data bits Parity Stop bits Flow Control Modbus Setting Slave ID LED Display Panel Setting	. Modbus Setting 9600 8 None 1 None		Digital Output Status Digital Input Status Digital Input CH1 Digital Input CH2 Digital Input CH3 Digital Input CH3 Digital Input CH5 Digital Input CH5 Digital Input CH6 Digital Input CH7 Digital Input CH8 Digital Input CH9	ff00 ff00 ff00 0
	Device Setup Network Setting Serial Port Serial Port Setting Baud rate Data bits Parity Stop bits Flow Control Modbus Setting Slave ID LED Display Panel Setting Polling Setting	. Modbus Setting 9600 8 None 1 None 3 5 0ff Hish		Digital Output Status Digital Input Status Digital Input CH1 Digital Input CH2 Digital Input CH3 Digital Input CH3 Digital Input CH4 Digital Input CH5 Digital Input CH6 Digital Input CH7 Digital Input CH8 Digital Input CH9 Digital Input CH9	ff00 ff00 ff00 0
	Device Setup Network Setting Serial Port Serial Port Setting Baud rate Data bits Parity Stop bits Flow Control Modbus Setting Slave ID LED Display Panel Setting Polling Setting	Modbus Setting 9600 8 None 1 None 2 Off High Pair Mode		Digital Output Status Digital Input Status Digital Input Status Digital Input CH1 Digital Input CH2 Digital Input CH3 Digital Input CH3 Digital Input CH5 Digital Input CH5 Digital Input CH6 Digital Input CH7 Digital Input CH8 Digital Input CH9 Digital Input CH10 Digital Input CH11	ff00 ff00 ff00 0
	Device Setup Network Setting Serial Port Serial Port Setting Baud rate Data bits Parity Stop bits Flow Control Modbus Setting Slave ID LED Display Panel Setting Polling Setting System Mode	Modbus Setting		Digital Output Status Digital Input Status Digital Input Status Digital Input CH1 Digital Input CH2 Digital Input CH3 Digital Input CH3 Digital Input CH5 Digital Input CH5 Digital Input CH6 Digital Input CH7 Digital Input CH8 Digital Input CH9 Digital Input CH10 Digital Input CH11 Digital Input CH11	ff00 ff00 ff00 0
	Device Setup Network Setting Serial Port Serial Port Setting Baud rate Data bits Parity Stop bits Flow Control Modbus Setting Slave ID LED Display Panel Setting Polling Setting System Mode Trycom Checksum Setting Power On Mode Output	Modbus Setting 9600 8 None 1 None 5 Off High Pair Mode 5 Disable		Digital Output Status Digital Input Status Digital Input CH1 Digital Input CH2 Digital Input CH3 Digital Input CH3 Digital Input CH4 Digital Input CH5 Digital Input CH6 Digital Input CH6 Digital Input CH7 Digital Input CH9 Digital Input CH10 Digital Input CH11 Digital Input CH12 Digital Input CH13	ff00 ff00 ff00 ff00 0
	Device Setup Network Setting Serial Port Serial Port Setting Baud rate Data bits Parity Stop bits Flow Control Modbus Setting Slave ID LED Display Panel Setting Polling Setting System Mode Trycom Checksum Setting Power On Mode Output	Modbus Setting 9600 8 None 1 None 5 Off High Pair Mode 5 Disable 0 0		Digital Output Status Digital Input Status Digital Input Status Digital Input CH1 Digital Input CH2 Digital Input CH3 Digital Input CH3 Digital Input CH4 Digital Input CH5 Digital Input CH6 Digital Input CH7 Digital Input CH9 Digital Input CH9 Digital Input CH10 Digital Input CH10 Digital Input CH11 Digital Input CH12 Digital Input CH13 Digital Input CH14	ff00 ff00 ff00 0
	Device Setup Network Setting Serial Port Setting Baud rate Data bits Parity Stop bits Flow Control Modbus Setting Slave ID LED Display Panel Setting Poling Setting System Mode Trycom Checksum Setting Power On Mode Output Safe On Mode Output	Modbus Setting 9600 8 None 1 None 0 G Disable 0 0 0 0 0		Digital Output Status Digital Input Status Digital Input Status Digital Input CH1 Digital Input CH2 Digital Input CH3 Digital Input CH3 Digital Input CH5 Digital Input CH5 Digital Input CH6 Digital Input CH7 Digital Input CH8 Digital Input CH9 Digital Input CH10 Digital Input CH11 Digital Input CH11 Digital Input CH13 Digital Input CH13 Digital Input CH14 Digital Input CH15 Digital Input CH15	ff00 ff00 ff00 0

8. Application

