RM-012-IP-10/100 / TCP TO RS-485/RS-232 CONVERTER

■ DESCRIPTION

- Converter device convert from TCP / IP to RS485 / RS232.
- Able to set device via normal web browser page. No need install program.
- LED show operation status
  - Power : LED ON when supply voltage 9-30 VAC/VDC.
  - Tx : LED ON when the device transmit signal.
  - Rx : LED ON when the device data signal.
- Adaptor 9 VDC for supply voltage to RM-012-IP

■ GENERAL DESCRIPTION

RM-012-IP-10/100 device is the intermediary with the industrial devices which support RS-485 or RS-232 such as PLC, CNC, Weighting Scale, Scanner etc. by communicate direct on TCP/IP network.

RM-012-IP-10/100 device setting can set via Web browser such as Internet Explorer by no need to install program.

RM-012-IP-10/100 Series has 4 model as follow

-RM-012-IP-10/100-232   -RM-012-IP-10/100-232-485

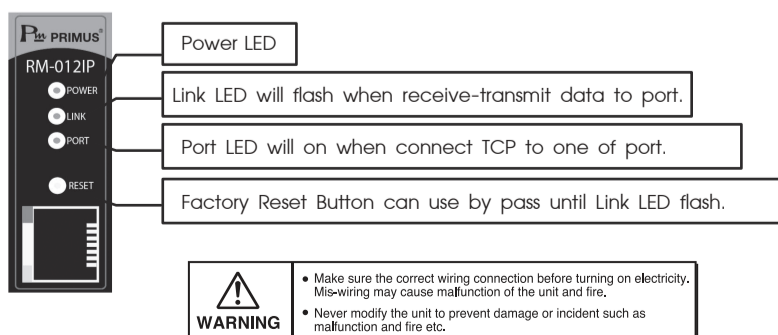-RM-012-IP-10/100-485   -RM-012-IP-10/100485-485

■ TECHNICAL SPECIFICATION

Power supply		9 - 30 VAC/VDC
Power consumption		1.8 VA
Display		1 LED (Show Status power supply)
		1 LED (Show Status Tx)
		1 LED (Show Status Rx)
		RJ-45, 10/100 Base-T Haft/Full Deplex
Protection Port Ethernet		Ethernet port 1.5 KV
Serial Port		RM-012-IP-10/100-232
		RM-012-IP-10/100-485
		RM-012-IP-10/100-232-485
		RM-012-IP-10/100-485-485
Communication	Protocol	TCP/IP (Configuration Parameter)
	Communication mode	TCP Socket, Modbus
	Address	1 - 128
	Baud rate	2400, 4800, 9600, 19200, 38400, 57600 bps
	Parity	None, even, odd
	Data Bit	8 bit
	Stop Bit	1, 2
	Support device node	32
Ambient operation	Temperature	-10˚C to 60˚C
	Humidity	85 % RH Non-Condensing
Ambient storage	Temperature	-20˚C to 80˚C
	Humidity	85 % RH Non-Condensing
Protection degree		IP20
Installation		Panel, Mounting
Material		IP20 IEC 529, EN60529
Size		22.5 x 82.5 x 90.5 mm.
Weight		100 g.

■ DIMENSION

22.5 mm.   90.5 mm.   12 mm.

82.5 mm.

■ INSTALLATION

DIN Rail

RM-012-D

● POWER
● Tx
● Rx

USB TO RS485/422 CONVERTER

■ DISPLAY

RM-012IP

●POWER — Power LED
●LINK — Link LED will flash when receive-transmit data to port.
●PORT — Port LED will on when connect TCP to one of port.
RESET — Factory Reset Button can use by pass until Link LED flash.

⚠ WARNING
- Make sure the correct wiring connection before turning on electricity. Mis-wiring may cause malfunction of the unit and fire.
- Never modify the unit to prevent damage or incident such as malfunction and fire etc.

■ USAGE AND TEST AT FIRST TIME SETTING

Required device

1. RM-012-IP-10/100   1 Device   3. Computer   1 device
2. LAN cable Cross type   1 Device   4. USB cable to Serial or USB to RS-485

1. Set IP Address by user on Computer. Example in picture below. Set IP Address 192.168.1.100 Do not set IP 192.168.1.99 because Module use this IP Address.
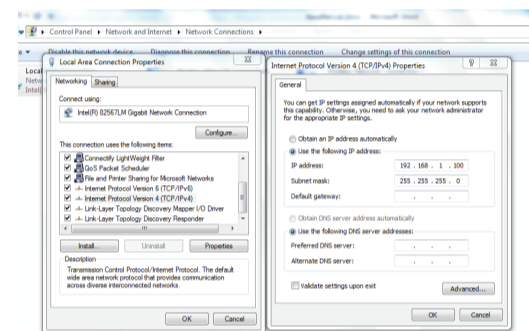
IP Address setting picture

2. Connect Module with Computer by LAN Cross.

3. Open web browser and fill address http://192.168.1.99 then we will find Homepage for setting below
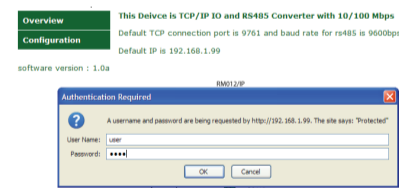
Picture Home page Web
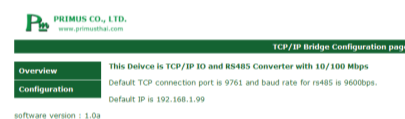
if user cannot enter to setting page.
Check LAN cable and other setting.

If It is still does not enter to setting page. Please try to reset module by press reset button and hold for 3-4 seconds until LED green light will flash.
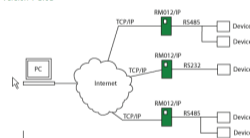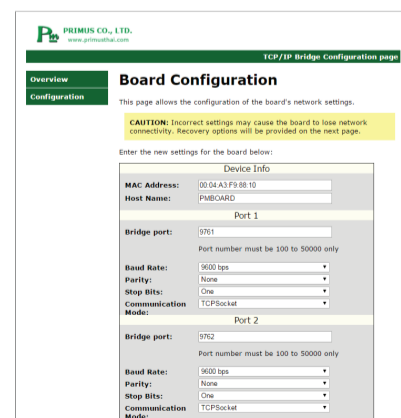
4.

Picture shows User and Password

For manufacturer setting Username is "user' and password is "1234" which you can change in later. In case that user can't log in or forgot password. User can Reset module by press Reset until green LED will flash.

5. If user log in successful. User will find Configuration page.

Picture shows Configuration page

*For 1 Port model, Port 2 setting will not appear.

■ ORDERING CODE

RM-012-IP-10/100- ☐ - ☐

PORT 1	
232	RS-232
485	RS-485

OPTION PORT 2	
485	RS-485

RM-012-IP-10/100

TCP TO RS-485/RS-232 CONVERTER

6. Setting detail of Device Info and Port 1 and Port 2 (if have) to be follow

| Name	Description	Start Value
MAC Addrress	MAC Address value is specific value for each address has pattern HH:HH:HH:HH:HH:HH can not change value.	–
Host Name	Host name of device you can reach device via Host name without reach by IP Address directly such as http://pmboard limited letters 12 letters and no gap.	PMBOARD
Bridge Port	TCP/IP port number can set since 100-50000 for 2 port model. Port 1 value and Port 2 must be difference.	Port A = 9761 Port B = 9762
Baud Rate	Baud rate Serial part can set value 2400, 4800, 9600, 19200, 38400 or 57600 bps	9600 bps
Parity	Can set parity bit by 3 value is None no Odd parity and Even parity.	None
Stop Bits	Stop bits can be 2 value is 1 or 2	One
Communication Mode	Communication mode can choose 2 mode are Socket and Modbus type	TCP Socket

7. Setting details of Network setting and describe follow this table.

Name	Description	Start Value
User ID	User Name for log in to system **can set maximum 6 letters**	user
Password	Password for log in to system **can set maximum 6 letters**	1234
Enable DHCP	DHCP is choice for case request receive from other devices automatic if turn on module It will be defined value such as IP Address from Router or Switch	Disable
IP Address	IP Address of RM-012-IP	192.168.1.99
Gateway	IP address of gateway device It usually be Router or Switch	192.168.1.1
Subnet Mask	Subnet mask	255.255.255.0
Primary DNS	Primary DNS (Point to Gateway in normal)	192.168.1.1
Secondary DNS	Secondary DNS จะถูกใช้กรณี Primary DNS มีปัญหา	0.0.0.0

After press Save Config the module will start and back to first page automatic.
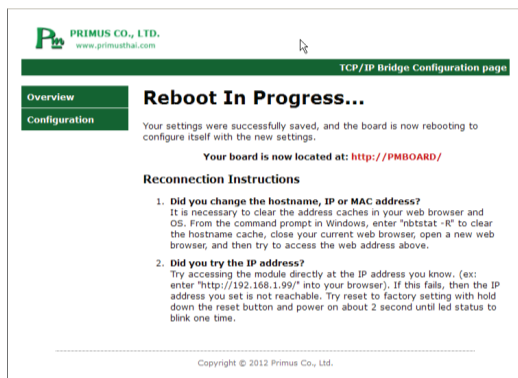
8. From setting in previous unit now we will test the device in the beginning.

Connection of model which has 485 only.

Connection of model which has 232.
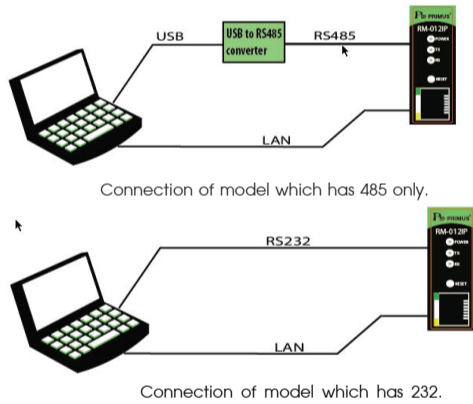
LAN cable must be Cross the same for model that has 2 ports. Use must choose one port but in this test we use 1 port model to be main. Open program Hercules Hercules to 2 windows.

download from http://www.hw-group.com/products/hercules/index_en.html

■ TCP SOCKET MODE

First window choose Tab TCP Client to connect to IP number of device and port number that use in test first window. Choose Tab TCP Client and connect to port that user needs to test (In this topic will test Port A that has Port Number = 9761). The second window choose tab Serial and set to correct value before press Open.
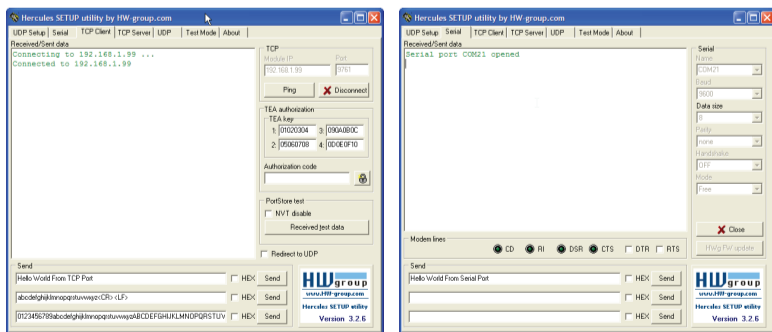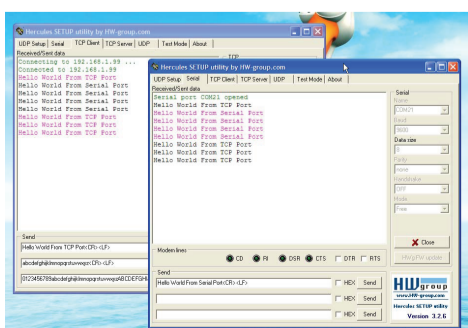

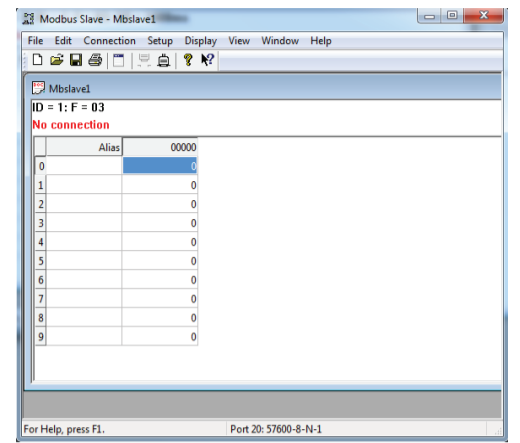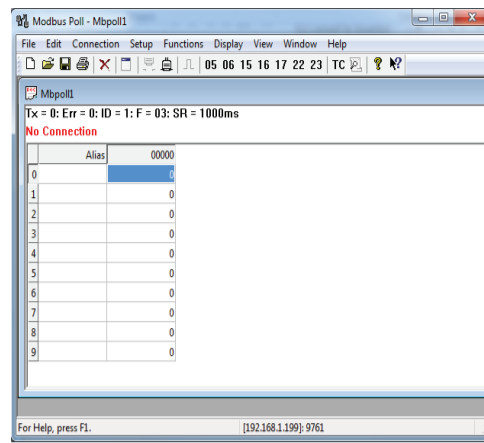Window 1.   Window 2.

The second window choose tab Serial and set to correct value before press Open.

Device operate in Bridge form is send data that receiving from TCP or Serial to another.

■ MODBUS MODE

Open program Modbus Poll for being Master Modbus TCP and program Modbus Slave for to be Slave Modbus RTU.


Modbus Poll program window with Modbus Slave

Set Modbus Poll go to Tab Connection-> Connect... choose Modbus TCP/IP (This example set IP Address 192.168.99 and Port 9767) then press OK. For setting Modbus Slave go to Tab Connection-> Connect..choose Serial Port set all correct value then press OK.
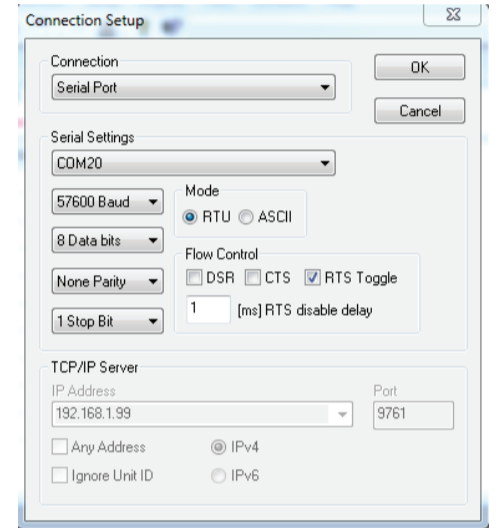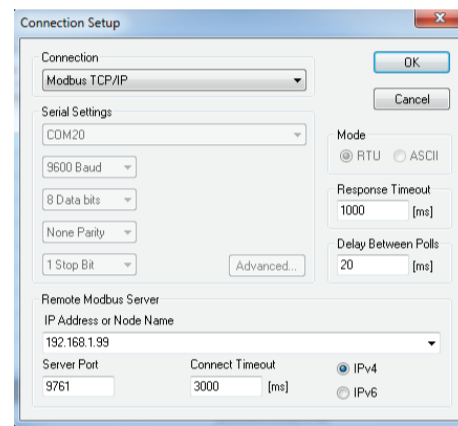
Picture Modbus Poll program setting   Picture Modbus Slave program settng

After finished setting value both of 2 programs by sort. We will see program Modbus Poll will send command set in Modbus TCP protocol but Modbus Slave receive command is Modbus RTU as same as when transmit back (Set Register of Modbus Slave will get number follow picture)
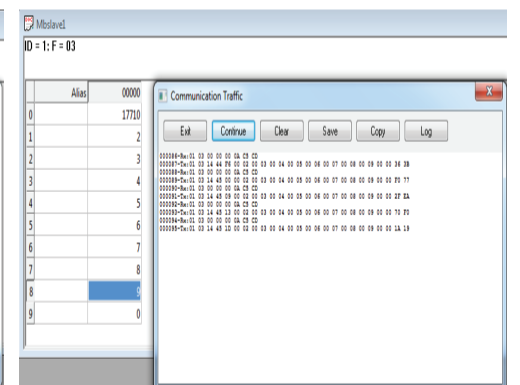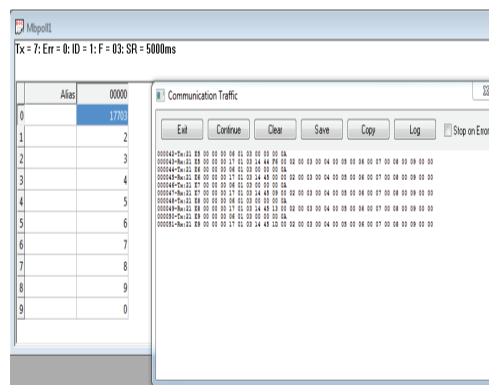
Picture show result from 2 programs

Frequently Question and Problem

● How to reset Configuration value

1. Press Reset and hold.
2. You will see Link LED flash (Green LED).
3. Leave Reset button complete reset process.

● Can not enter to web page for setting devices.

1. Check IP Address or Host name of device that change or not. If user does not sure. Reset Configuration value in device.
2. Network system has the problem or not. In case that you connect with your own network. IP Address Subnet mask setting and other are correct and suitable or not. Try to ask correct setting from It department from your company.
3. In case user connect with connect directly without router or switch. User has to use LAN cable in Cross type.

● Forgot username or password how can we retrieve the data.

1. The data can not retrieve you have to reset device only and set other value again. default username is "user" and password is "1234".

● Software can not connect with other device in RS485/RS232 side such as CNC and PLC or operate incorrect.

1. Check the setting Serial such as Baud Rate, Parity and Stop bits are correct or not.

RM-012-IP