



CMC-MOD01
Modbus TCP Communication Card for
C2000
Operation Manual



<http://www.delta.com.tw/industrialautomation>

Warning

- ✓ This operation manual provides information on specifications, installation, basic operation, setup and details of the communication protocol.
- ✓ AC motor drive is a delicate electrical and electronic product. For the safety of operator and the mechanical equipment, please allow professional electrical mechanics to do the trial run and adjust parameters for you. Should there be any questions, please consult your local Delta distributors. Our professional staff will be happy to help you.
- ✓ Please read this operation manual thoroughly and follow the instructions in case damage on the device or injury on the operation staff occur.

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1 Introduction to CMC-MOD01

Thank you for choosing Delta CMC-MOD01 communication card. To ensure correct installation and operation of the product, please read this operation manual carefully before using it.

CMC-MOD01 is an Ethernet communication card for remote setup and communication through DCISoft or Web. CMC-MOD01 is able to send e-mails, conduct IP filter and on-line monitoring. It supports Modbus TCP protocol and remote controls Delta C2000 series AC motor drive by using graphic control software or human machine interface. In addition, by auto MDI/MDI-X function, no jumper cable is required when using the network cable.

1.1 Features

- Auto-detects transmission speed 10/100 Mbps
- Auto MDI/MDI-X
- Supports Modbus TCP master communication protocol
- E-mail alarm
- Web browser setup and monitors C2000 on-line
- Virtual serial port

1.2 Specifications

■ Network Interface

Interface	RJ-45 with Auto MDI/MDIX
Number of ports	1 Port
Transmission method	IEEE802.3, IEEE802.3u
Transmission cable	Category 5e shielding 100m
Transmission speed	10/100 Mbps Auto-Detect
Network protocol	ICMP, IP, TCP, UDP, DHCP, SMTP, MODBUS OVER TCP/IP, Delta Configuration

■ Environment

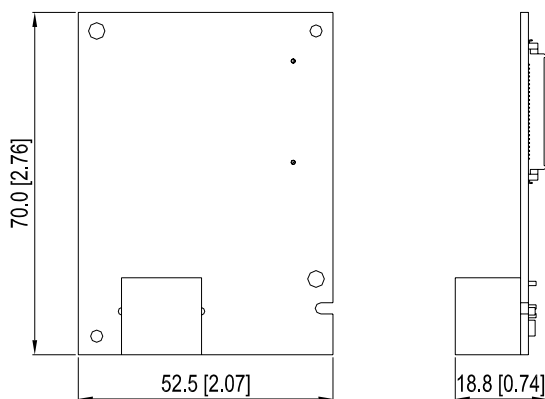
Noise immunity	ESD (IEC 61800-5-1, IEC 6100-4-2) EFT (IEC 61800-5-1, IEC 6100-4-4) Surge Test (IEC 61800-5-1, IEC 6100-4-5) Conducted Susceptibility Test (IEC 61800-5-1, IEC 6100-4-6)
Operation	-10°C ~ 50°C (temperature), 90% (humidity)
Storage	-25°C ~ 70°C (temperature), 95% (humidity)
Vibration/shock immunity	International standard: IEC 61800-5-1, IEC 60068-2-6/IEC 61800-5-1, IEC 60068-2-27

■ Electrical Specification

Power supply voltage	5 VDC
Power consumption	0.8 W
Insulation voltage	500 VDC
Weight	25g

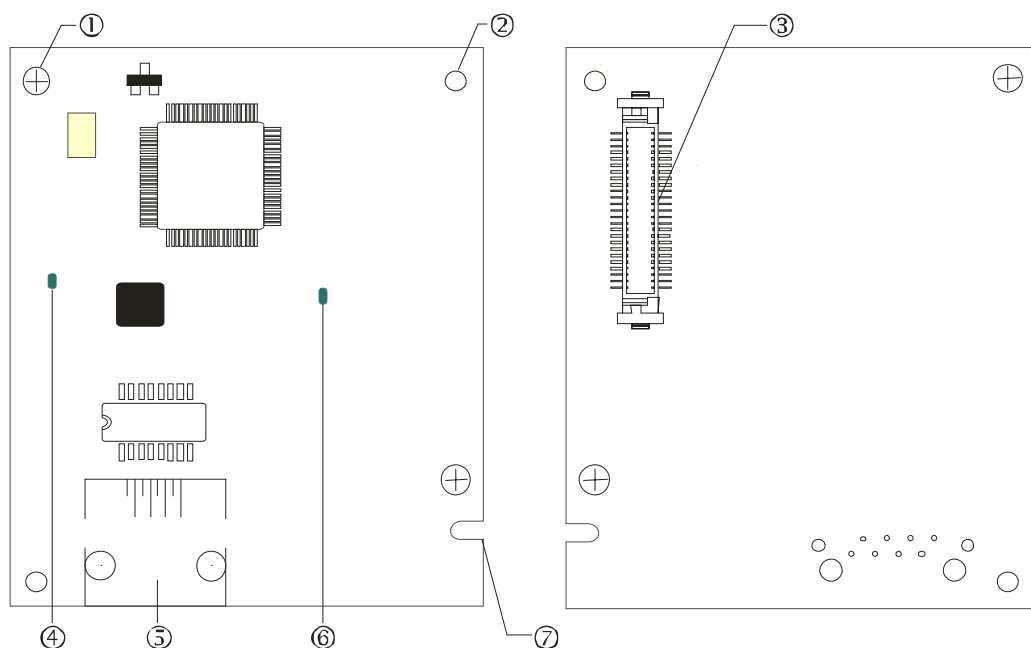
2 Product Profile and Outline

2.1 Dimension



Unit: mm [inch]

2.2 Parts



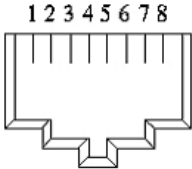
①	Screw fixing hole	⑤	RJ-45 connection port
②	Positioning hole	⑥	POWER indicator
③	AC motor drive connection port	⑦	Fool-proof groove
④	LINK indicator		

2.3 LED Indicator

LED	Status		Indication	How to correct
POWER	Green	On	Power supply in normal status	--
		Off	No power supply	Check the power supply

LED	Status	Indication	How to correct	
LINK	Green	On	Network connection in normal status	--
		Flashes	Network in operation	--
		Off	Network not connected	Check if the network cable is connected.

2.4 RJ-45 PIN Definition

RJ-45 sketch	PIN	Signal	Definition
	1	Tx+	Positive pole for data transmission
	2	Tx-	Negative pole for data transmission
	3	Rx+	Positive pole for data receiving
	4	--	N/C
	5	--	N/C
	6	Rx-	Negative pole for data receiving
	7	--	N/C
	8	--	N/C

2.5 Error Codes

ID	Code	Definition
75	ECFF	Incorrect default setting
76	ECiF	Serious internal error
80	ECEF	Ethernet connection error
81	ECto	Communication timeout between CMC-MOD01 and C2000
82	ECCS	Checksum error in the communication between CMC-MOD01 and C2000
83	ECrF	Reset CMC-MOD01 to default setting
84	ECo0	Exceeds max. number of communications in Modbus TCP
85	ECo1	Exceeds max. number of communications in EtherNet/IP
86	ECiP	IP error
87	EC3F	Mail alarm
88	ECbY	C2000 is busy.

2.6 Trouble-shooting

Abnormality	Cause	How to correct
POWER LED off	AC motor drive not powered	Check if the AC motor drive is powered, and if the power supply is in normal status.
	CMC-MOD01 not connected to AC motor drive	Make sure CMC-MOD01 is tightly connected to AC motor drive.
LINK LED off	CMC-MOD01 not connected to network	Make sure the network cable is correctly connected to the network.
	Poor contact to RJ-45 connector	Make sure RJ-45 connector is connected to Ethernet port.
No module found	CMC-MOD01 not connected to the network	Make sure CMC-MOD01 is connected to the network.

Abnormality	Cause	How to correct
	PC and CMC-MOD01 in different networks and blocked by firewall	Search by IP or set up relevant settings by the keypad on AC motor drive.
Fail to open CMC-MOD01 setup page	CMC-MOD01 not connected to network	Make sure CMC-MOD01 is connected to the network.
	Incorrect communication setting in DCISoft	Make sure the communication setting in DCISoft is set to Ethernet.
	PC and CMC-MOD01 in different networks and blocked by firewall	Conduct the setup by the keypad on AC motor drive
Able to open CMC-MOD01 setup page but fail to utilize webpage monitoring	Incorrect network setting in CMC-MOD01	Check if the network setting for CMC-MOD01 is correct. For the Intranet setting in your company, please consult your IT staff. For the Internet setting in your home, please refer to the network setting instruction provided by your ISP.
Fail to send e-mail	Incorrect network setting in CMC-MOD01	Check if the network setting for CMC-MOD01 is correct.
	Incorrect mail server setting	Please confirm the IP address for SMTP-Server.

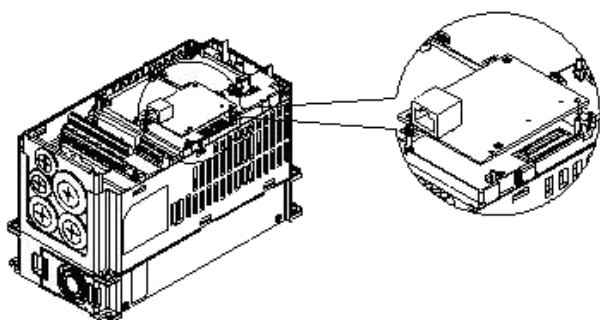
3 Installation and Wiring

In this section, we illustrate how to connect CMC-MOD01 to C2000 and the network.

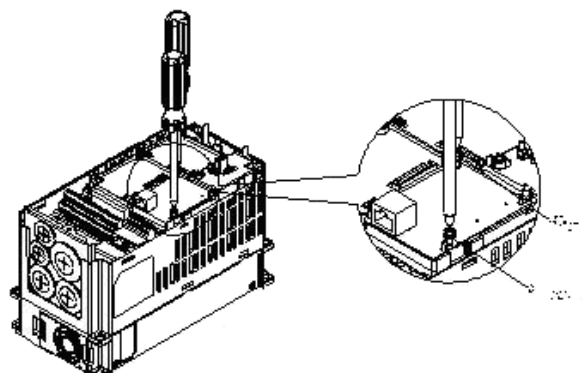
3.1 How to Install

How to connect CMC-MOD01 to C2000 series AC motor drive:

- Switch off the power supply of C2000.
- Open the front cover of C2000.
- Insert CMC-MOD01 to Slot 1 on C2000 and screw it up at torque 6 ~ 8 (Kgf-cm) or 5.21 ~ 6.97 (lbf-in). See [Figure 1] and [Figure 2].



[Figure 1]



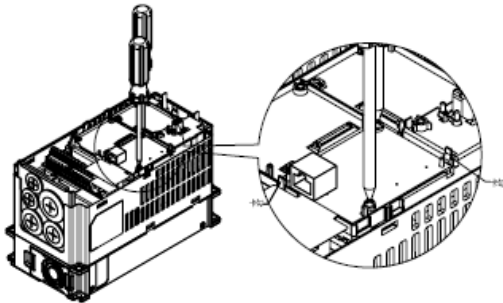
[Figure 2]

3.2 How to Disconnect

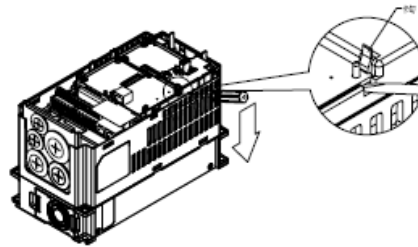
How to disconnect CMC-MOD01 from C2000:

- Switch off the power supply of C2000.
- Open the front cover of C2000.

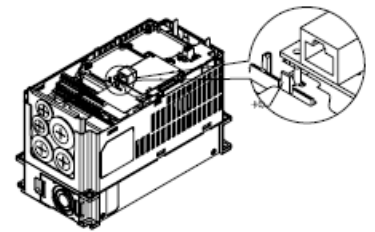
- Remove the two screws. See [Figure 3].
- Twist open the card clip and insert the slot type screwdriver to the hollow to prize the PCB off the card clip. See [Figure 4].
- Twist open the other card clip to remove the PCB. See [Figure 5].



[Figure 3]



[Figure 4]

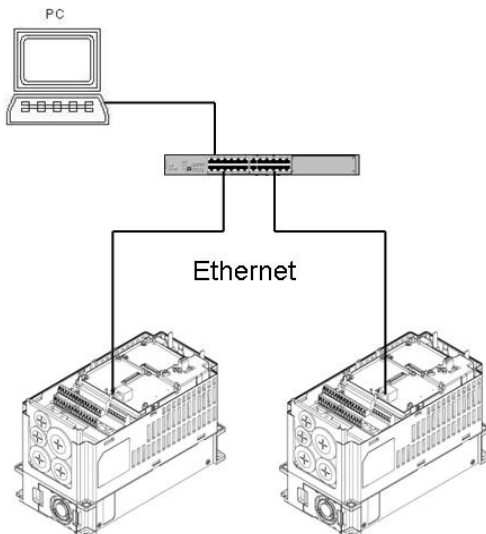


[Figure 5]

3.3 How to Connect to Network

Connect CMC-MOD01 to the Ethernet hub by CAT-5e pair twisted wire. Since CMC-MOD01 has auto MDI/MDIX function, so CAT-5e does not require jumper cable.

Network structure of PC and CMC-MOD01:



Note:

When operating C2000 through CMC-MOD01 on the network, set the controller of C2000 to CMC-MOD01 first.

Parameter settings:

00-20 = 8

00-21 = 5

09-30 = 0

4. Basic Registers (BR)

4.1 Basic Registers in CMC-MOD01

BR#		Attribute	Content	Definition
HW	LW			
	#0	R	Model name	System defined and read only. Model code of CMC-MOD01: H0203'
	#1	R	Firmware version	In hex form, displaying the current firmware version.
	#02	R	Release date of the version	In decimal form 10,000s/1,000s digits => month 100s/10s digists => day 1s digit => morning or afternoon (0: morning; 1: afternoon) Ex: 12191 represents the version is launched in the afternoon of December 19.
	#11	W	Modbus communication timeout	Default : 500 (ms) Minimum : 5 Maximum: 65535
	#13	W	Modbus TCP keep alive time	Default: 30 (s) Minimum: 5; Maximum: 65535

4.2 Explanations on BR

BR#0: Model Name

Explanations:

1. Model code of CMC-MOD01 = H'0203
2. You can read the model code in the program to see if the communication card exists.

BR#1: Firmware Version

Explanations:

The firmware version of CMC-MOD01 is displayed in hex, e.g. H'0100 indicates version V1.00.

BR#2: Release Date of the Version

Explanations:

Displaying the data in decimal form. 10,000s digit and 1,000s digit are for "month"; 100s digit and 10 digit are for "day". For 1s digit: 0 = morning; 1 = afternoon.10

Example: 12191 indicates the version is released in the afternoon of December 19.

BR#11: Modbus Communication Timeout

Explanations:

For setting up the communication timeout (ms) in Modbus TCP mode.

BR#13: Modbus TCP Keep Alive Time

Explanations:

The Modbus TCP keep alive time (s). Range: 5 ~ 65535; Default: 30s. If the connection idle time exceeds the keep alive time, CMC-MOD01 will cut off the idling connection.

4.3 Definitions of Parameter Address for C2000 Communication Protocol

Parameter content	Address	Definition		
Parameters set in C2000	GGnnH	GG is the parameter group; nn is the parameter number. Ex: Parameter 04-01 is indicated by 0401H.		
Commands to C2000	2000H	bit0 ~ 3	0: No function	
			1: Stop	
			2: Run	
		bit4 ~ 5	3: Enable JOG	
			00B: No function	
			01B: Forward command	
			10B: Reverse command	
		bit6 ~ 7	11B: Change direction command	
			00B: 1 st acceleration/deceleration section	
			01B: 2 nd acceleration/deceleration section	
			10B: 3 rd acceleration/deceleration section	
			11B : 4 th acceleration/deceleration section	
			bit8 ~ 11	0000B: Main speed
				0001B: 1 st acceleration/deceleration section
		0010B: 2 nd acceleration/deceleration section		
		0011B: 3 rd acceleration/deceleration section		
		0100B: 4 th acceleration/deceleration section		
		0101B: 5 th acceleration/deceleration section		
		0110B: 6 th acceleration/deceleration section		
		0111B: 7 th acceleration/deceleration section		
		1000B: 8 th acceleration/deceleration section		
		1001B: 9 th acceleration/deceleration section		
		1010B: 10 th acceleration/deceleration section		
		1011B: 11 th acceleration/deceleration section		
		1100B: 12 th acceleration/deceleration section		
		1101B: 13 th acceleration/deceleration section		
		1110B: 14 th acceleration/deceleration section		
		1111B: 15 th acceleration/deceleration section		
bit12	1: Enable bit6 ~ 11			
bit13 ~ 14	00B: No function			
	01B: The command is operated by keypad			
	10B: The command is operated by parameter setting			

Modbus TCP Communication Card for C2000: CMC-MOD01

Parameter content	Address	Definition	
			(00-21)
			11B: Change the operational source of the command
		bit15	Reserved
	2001H	Frequency command	
	2002H	bit0	1: E.F. = ON
		bit1	1: Reset command
		bit2	1: External interruption (B.B) = ON
		bit3 ~ 5	Reserved
Monitor C2000 status	2100H	Error code: Refer to parameter 06-17 ~ 06-22	
	2119H	bit0	1: Forward running command
		bit1	1: Running status
		bit2	1: JOG command
		bit3	1: Reverse command
		bit4	1: Reversing status
		bit8	1: Main frequency comes from communication interface
		bit9	1: Main frequency comes from analog/external terminal signal input
		bit10	1: The command is operated by communication interface
		bit11	1: Lock the parameter
		bit12	1: Enable parameter copy function in keypad
		bit13 ~ 15	Reserved
	2102H	Frequency command (F)	
	2103H	Output frequenc (H)	
	2104H	Output current (AXXX.X)	
	2105H	DC bus voltage (UXXX.X)	
	2106H	Output voltage (EXXX.X)	
	2107H	Current execution speed of the multi-section command	
	2109H	Counting value	
	2116H	Multi-function display (parameter 00-04)	
	211BH	Max. frequency	
	2200H	Feedback signal %	
	2201H	Reserved	
	2203H	AVI percentage	
	2204H	ACI percentage	
	2205H	AUI percentage	
	2206H	Temperature of IGBT	
	2207H	Temperature of capacitor	
	2208H	Status of digital input	
	2209H	Status of digital output	

5 Modbus Communication

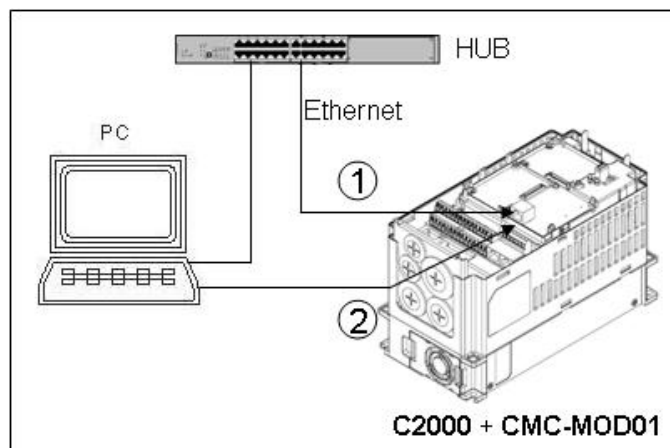
Function codes supported:

Code	Definition
0x03	Read register in C2000
0x06	Write single datum in register in C2000
0x10	Write many data in register in C2000

6 Software Setting

This section gives instructions on how to set up CMC-MOD01 by Delta's Communication Software, DCISoft, and explanations on each setup page. Before you open the setup pages, you have to select "Ethernet" as the communication type. Next, you can search by "Search" or "IP Search" function. CMC-MOD01 is set up by UDP port 20006; therefore, be aware of relevant settings of the firewall.

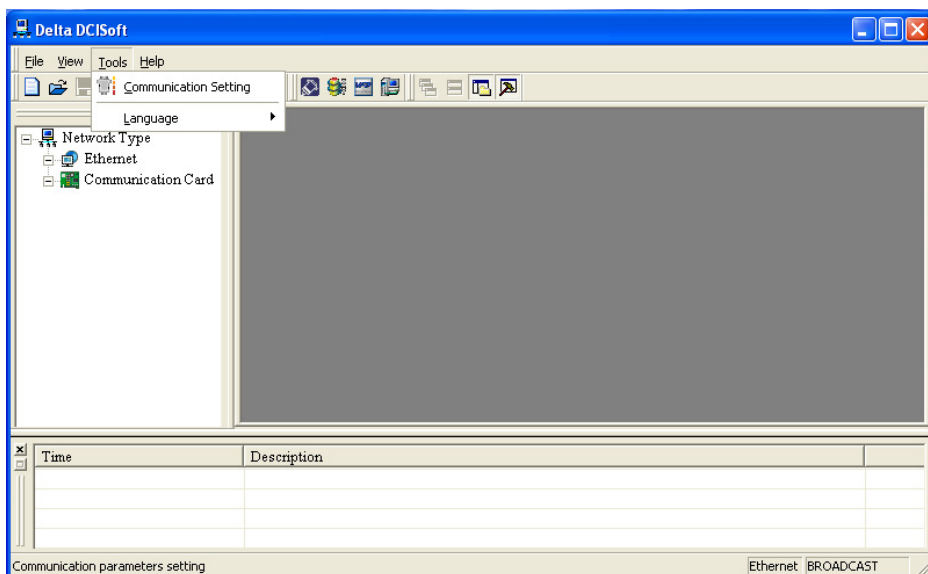
The PC is connected to C2000 with communication card through cable or hub:



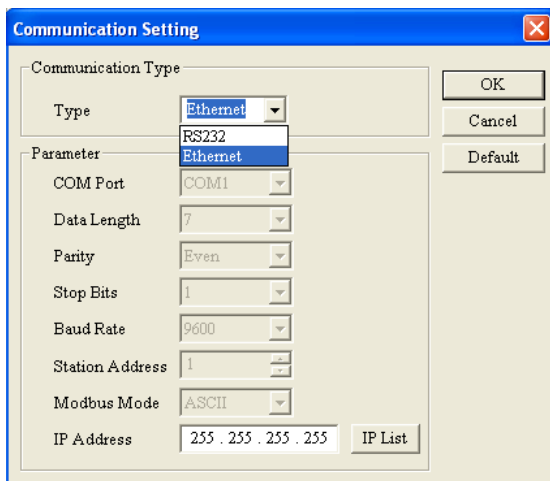
6.1 Setting up Communication and Searching for Modules in DCISoft

- Communication Setting

1. Open DCISoft on the PC and select “Tools” => “Communication Setting”.

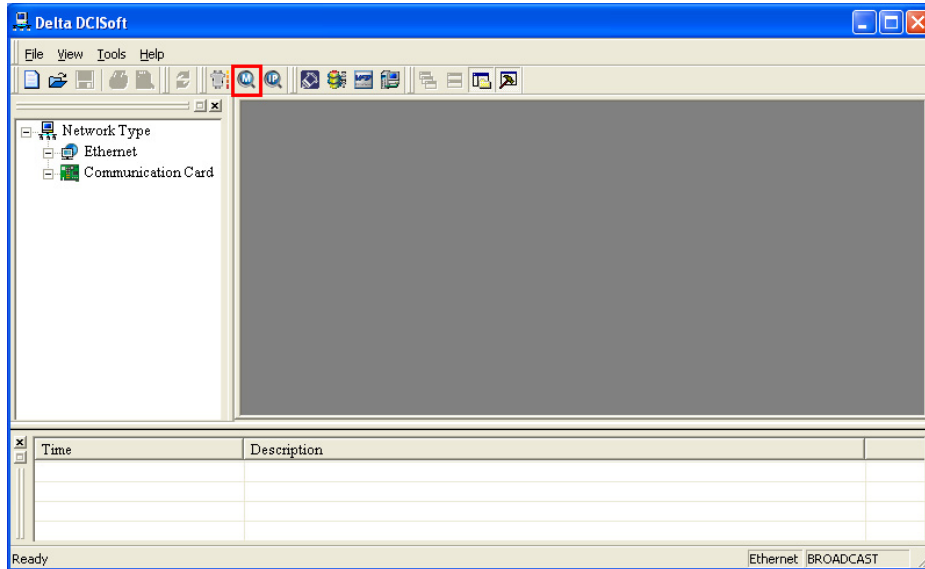


2. Select “Ethernet” for the communication setting.

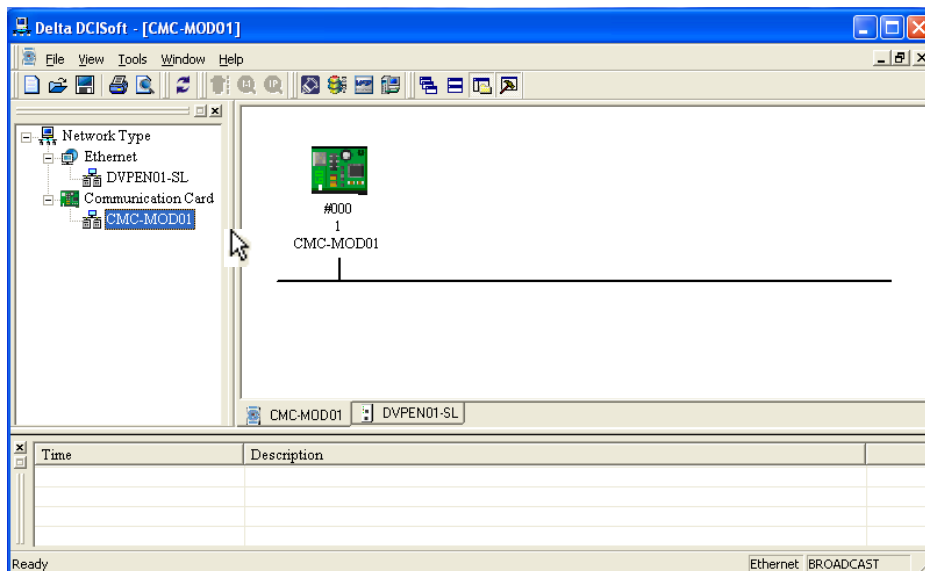


■ Search

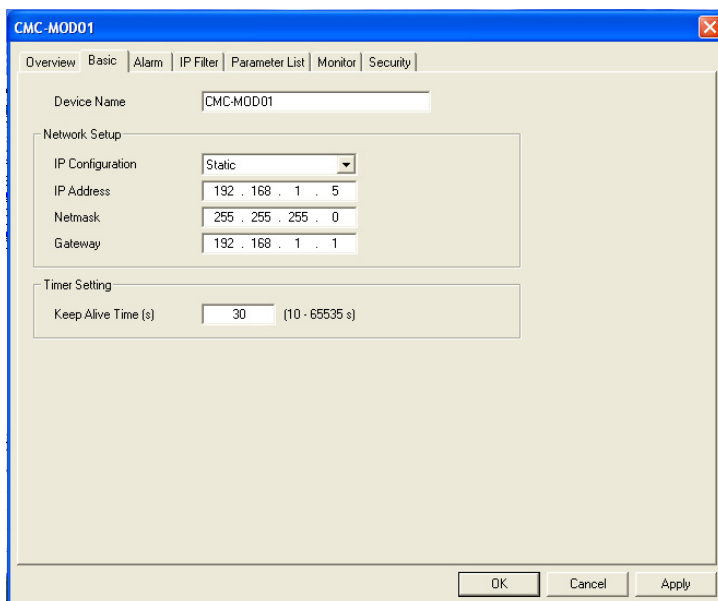
1. Click the “Search” icon in DCISoft to search for all Delta’s Ethernet products on the network by search function. The modules found are displayed in the left-hand side column, and the device list of all modules is displayed on the right-hand side column.



2. Click the module you need in the left-hand side column to display the device list of the module in the right-hand side column. Click the device on the right-hand side column to enter the setup page of the device.

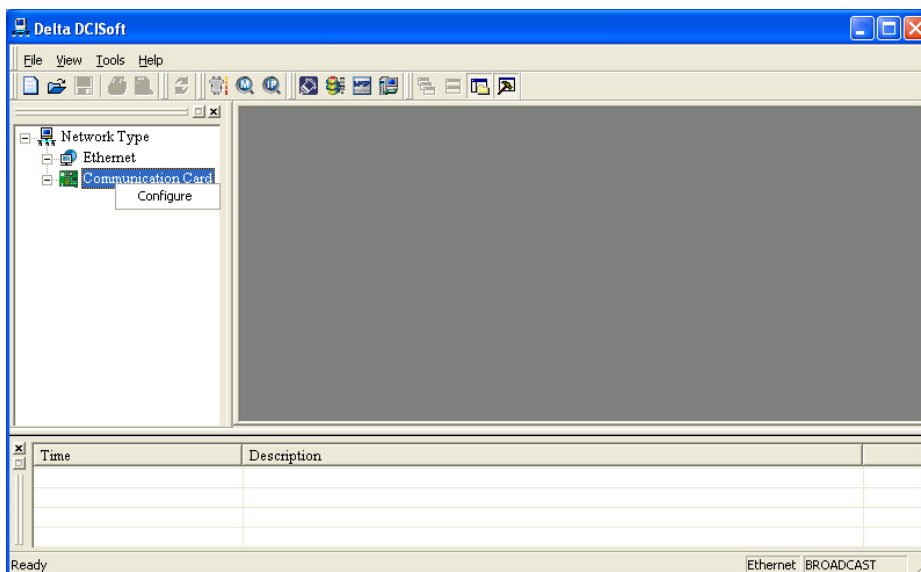


3. The setup page for CMC-MOD01.

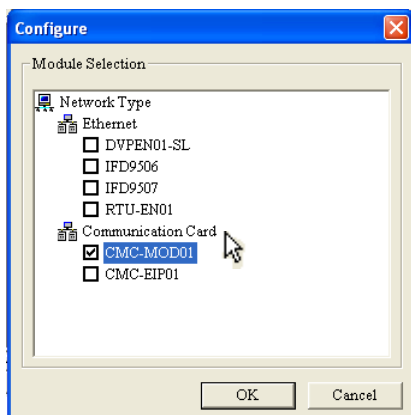


■ Search for Designated Module

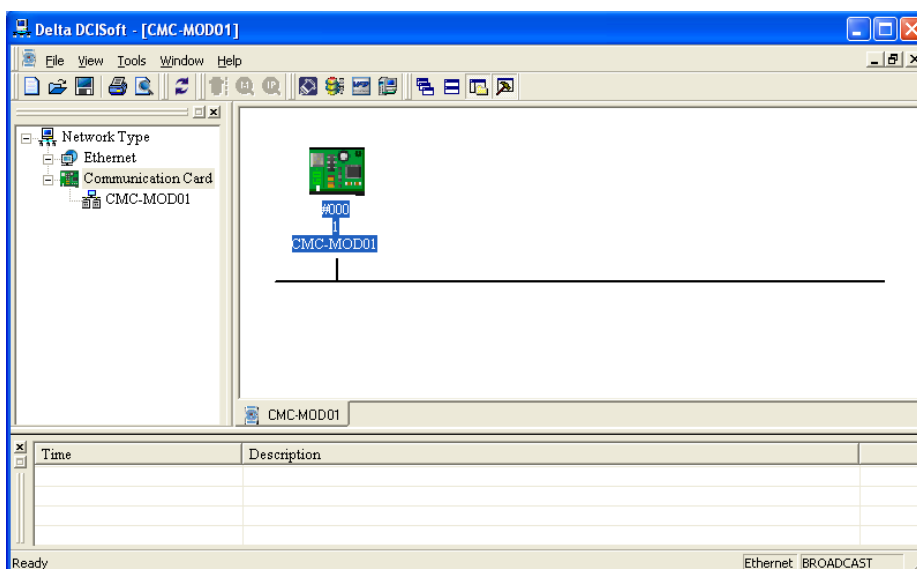
1. Click "Ethernet" in the left-hand side column. Right click the mouse and select "Configure" to search for the designated module.



2. Select CMC-MOD01 to be searched. Click “OK” and DCISoft will start to search for the existing CMC-MOD01 cards on the network.

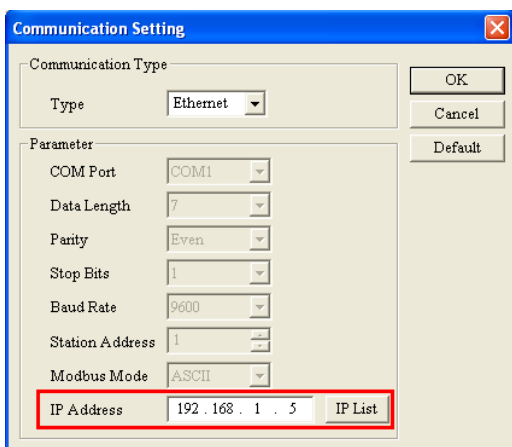


3. Device list of the existing CMC-MOD01.

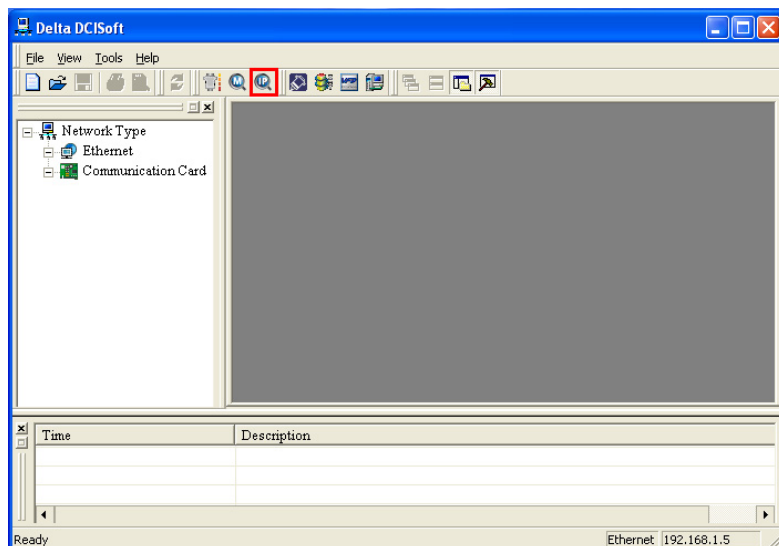


■ Search for Designated IP

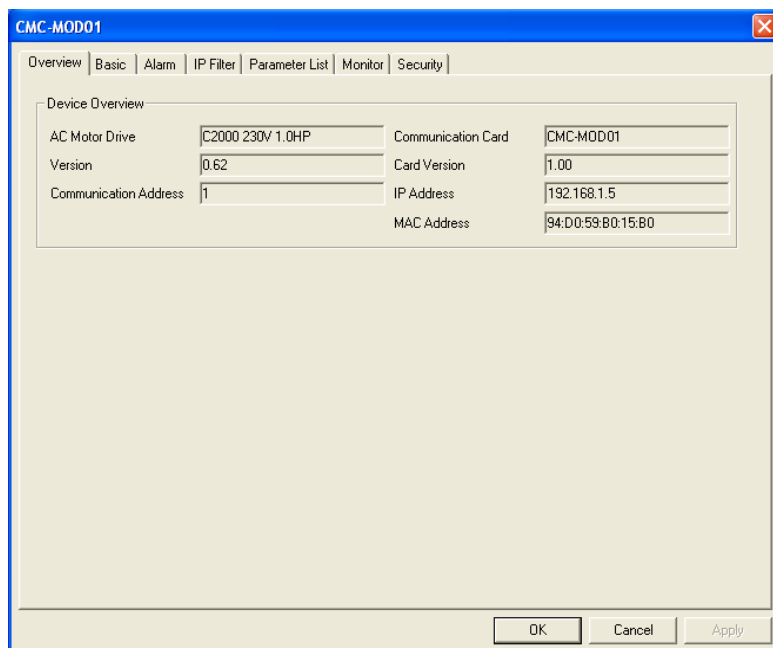
1. Set the communication type to “Ethernet” and enter the designated IP address in the address column. Click “OK”.



2. Click IP search icon to start searching for the designated IP.



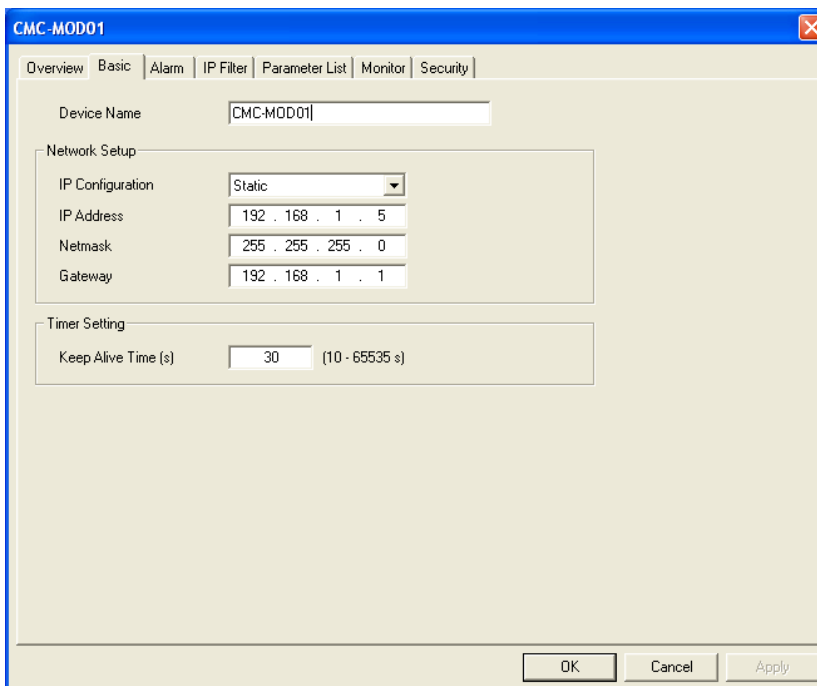
3. The CMC-MOD01 cards found are displayed in the right-hand side column. Double click the device to be set up to enter its setup page.



6.2 Basic Settings

The basic settings include the settings for device name, IPs and timer.

- The basics



1. Device Name:
There can be many CMC-MOD01 cards on the network. Therefore, you can set up a device name for the module to be controlled to identify it when you need to search for it.

2. Network Setup:

- (1) IP Configuration:

There are 2 types of IP, static IP and DHCP.

Static IP: Preset or manually modified by the user.

(DHCP: Automatically updated by the server. There has to be a server on the LAN.

IP	Explanation
Static	The user manually enters the IP address, netmask and gateway.
DHCP	DHCP server offers the IP address, netmask and gateway.

- (2) IP Address:

IP address is the location of the equipment on the network. Every equipment connected to the network has to have an IP address. Incorrect IP address will result in connection failure. Consult your ISP for how to set up the IP address. The default IP for CMC-MOD01 is 192.168.1.5.

- (3) Netmask:

Netmask is an important parameter for setting up the subnet, used for seeing if the destination IP and local equipment are in the same subnet. If not, the equipment will send the packet to the gateway, and the gateway will send the packet to another subnet. Incorrect setting may cause the destination equipment unable to communicate to CMC-MOD01. To see if your setting is correct, conduct bitwise AND operations between your IP and netmask and destination IP and netmask. If the two values

obtained are the same, the two IPs are in the same subnet. The default netmask of CMC-MOD01 is 255.255.255.0.

(4) Gateway:

Gateway is the window for two different subnets, allowing two ends in different subnets to communicate with each other. For example, if the LAN has to be connected to the WAN, it will need a gateway to bridge the communication. The IP of the gateway has to be in the same subnet as CMC-MOD01. The default gateway of CMC-MOD01 is 192.168.1.1.

3. Timer Setting

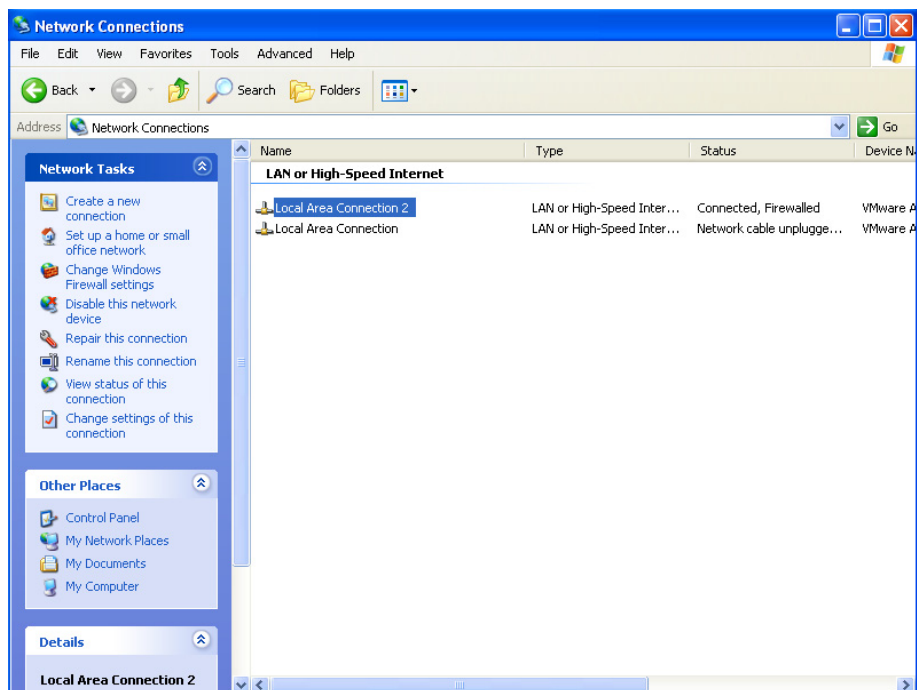
For setting up the Modbus TCP keep alive time (Unit: second; Range: 5 ~ 65,535; Default: 30s). If the idling time of the connection is longer than the keep alive time, CMC-MOD01 will cut off the idling connection.

6.3 Network Settings

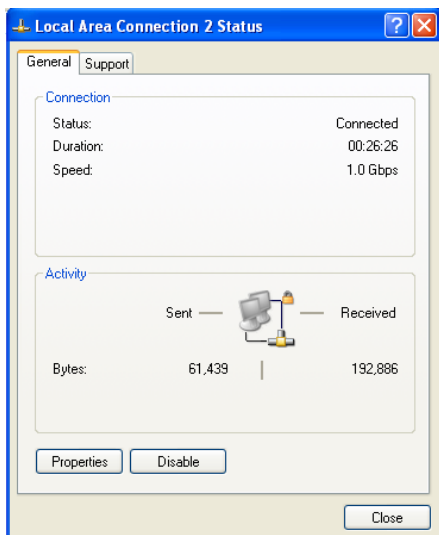
The first step for all the equipment to connect to the network is to have its own IP (Internet Protocol) address. The IP address is like a number for every device on the network to be identified.

■ Setting up static IP of the PC

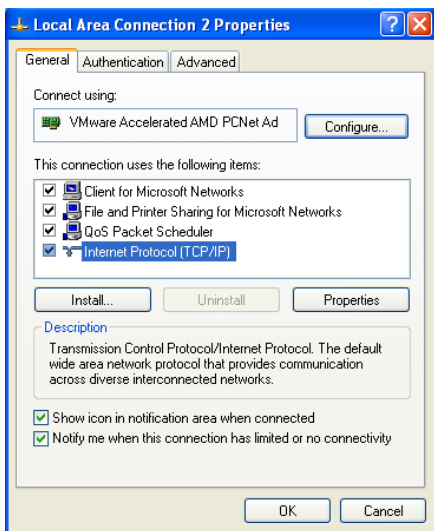
1. Enter Control Panel → Network Connections → click “Local Area Connection 2”.



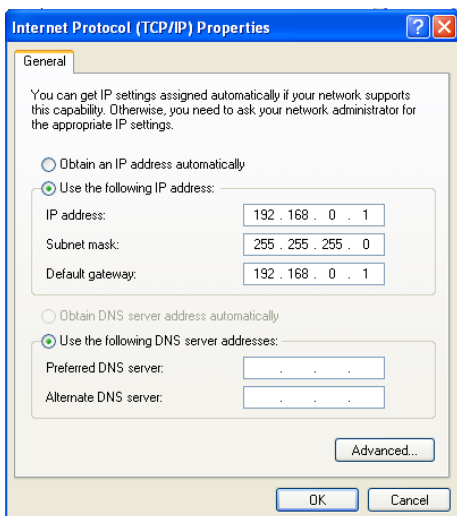
2. You will see the “Local Area Connection 2 Status” window. Click “Properties”.



3. Click "Internet Protocol (TCP/IP)".



4. Enter "192.168.0.1" into IP address. Click "OK" to complete the IP address setting of the PC.



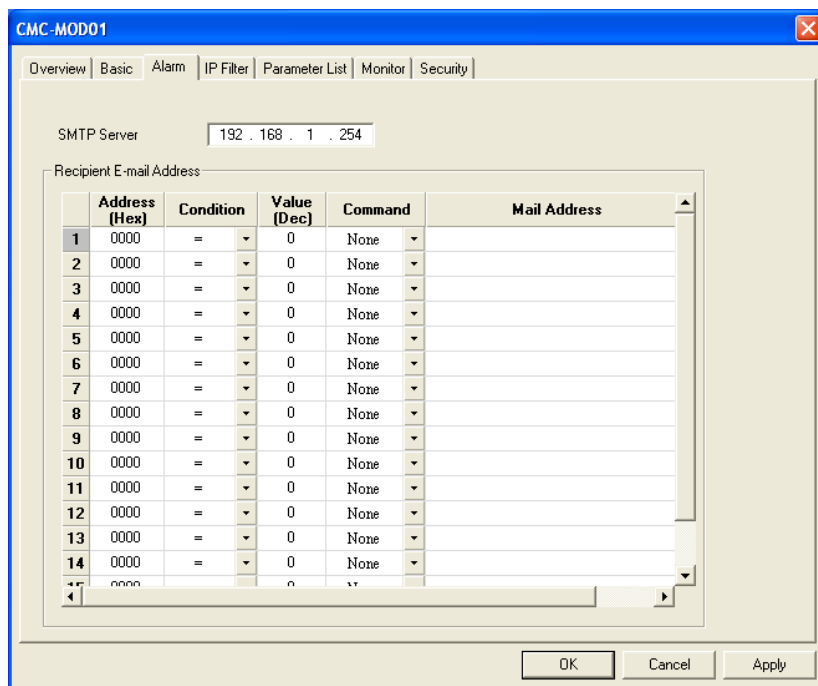
6.4 Alarm Setting

E-mail is the abbreviation of electronic mail which transmits mails through the network. CMC-MOD01 has e-mail functions, and the user is able to self-define triggering conditions. When the condition to

trigger e-mail is true, CMC-MOD01 will send an e-mail to the e-mail address set by the user.

The triggering condition is the change of value in a certain register of C2000. When the set value is achieved, the action set is the command will be executed, and an e-mail will be sent to designated e-mail address.

■ Alarm Setting



1. SMTP Server:

The e-mail will first be sent to the SMTP server, and the SMTP server will send it to the designated address. For example, assume there is an e-mail to be sent to Test@delta.com.tw, and the SMTP server is at IP 192.168.1.255, the e-mail will be sent to the SMTP server first, and the SMTP server will further send it to Test@delta.com.tw.

2. Recipient E-mail Address:

Setting up conditions

(1) Address (Hex)

Address of register (parameter) in C2000

(2) Condition

=, >, <, >=, <= or <>

(3) Value (Dec)

A decimal value

(4) Command

When the triggering condition is true, the action set in Command will be executed.

CMC-MOD01 executes "Free RUN", "Quick Stop" and "Stop" to C2000.

(5) Mail Address

The recipient address of the e-mail to be sent (max. 63 English characters)

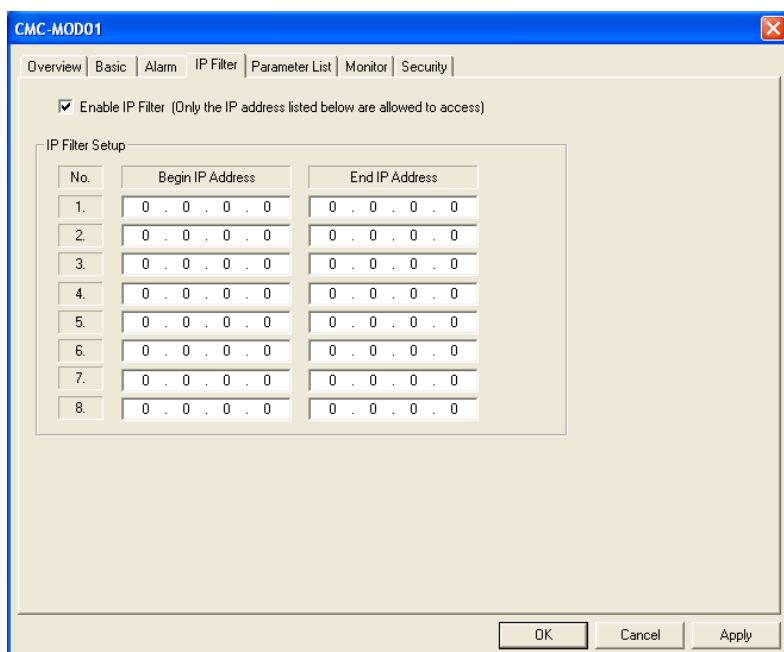
Note:

To correctly send out e-mails, there has to be an SMTP server on the network. When we send out an e-mail, the mail will be sent to the SMTP server first, and the server will further send the mail to the designated address.

6.5 IP Filter

The IP filter is used for restricting the connection of the network in case some uncertain IP will cause errors. Only the IP set within the allowed range can establish the connection; other IPs will be rejected.

■ Setting up IP filter

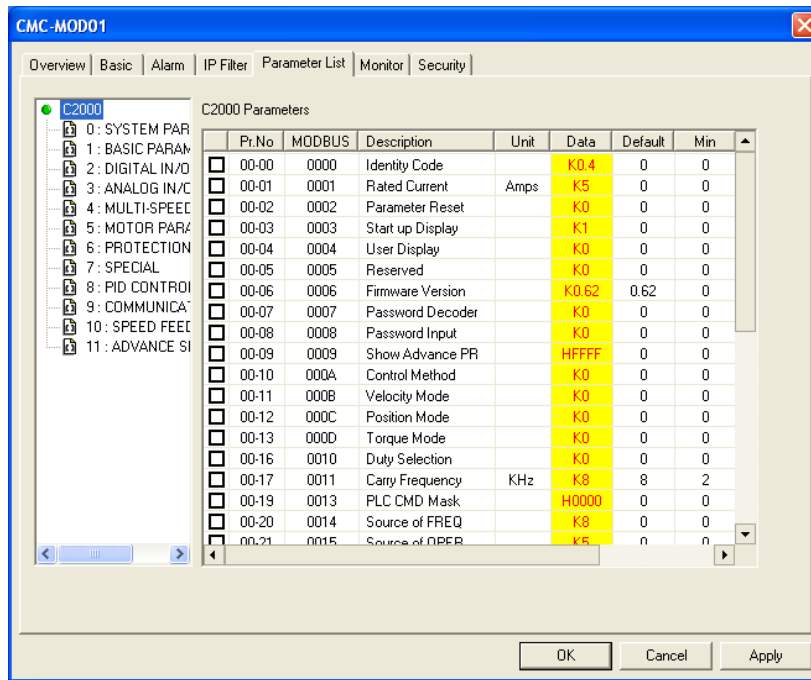


1. Enable IP Filter:
Check the box to enable IP filter.
2. Begin IP Address:
The beginning IP addresses that are allowed to establish a connection. Max. 8 IPs are allowed.
3. End IP Address:
The ending IP addresses that are allowed to establish a connection. Max. 8 IPs are allowed.

6.6 Parameter List

In the parameter list, there are parameter number (0 ~ 11) in C2000, Modbus address, register name, unit, present value, default value, range (minimum and maximum values) and attribute. Check a parameter on the parameter page to display it on the monitoring page and monitor it.

■ Setting up parameter list



1. :

Check the parameter in C2000 to be monitored. You can check max. 100 parameters.
Click “Apply” and save it.

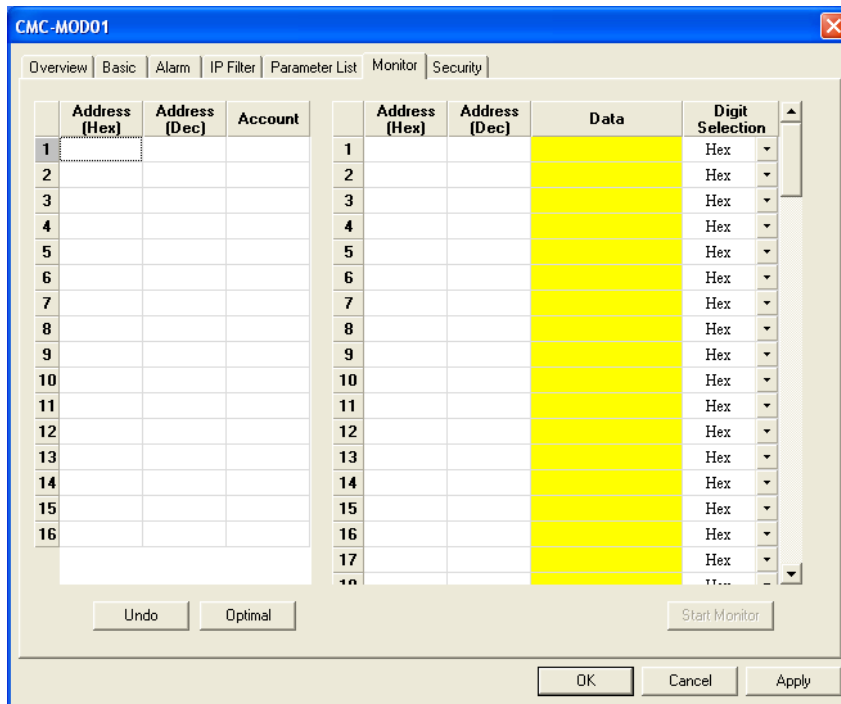
Note:

- (1) Check the box to display the parameter in the monitoring page, but you still need to click “Apply” to save it; otherwise it will return to the previous setting when you leave the page and re-enter it.
- (2) Consecutive parameters can be seen as one group. Max. 16 groups (total 100 data) can be monitored at a time.

6.7 Monitor

All the contents in the parameters of C2000 can constantly be read and saved in the flash memory of CMC-MOD01. If the content is read through the network, the flash memory will respond directly, enhancing the reading efficiency. In addition, this page can also be used to monitor the present values set in the parameters of C2000 on-line.

- Setting up monitoring



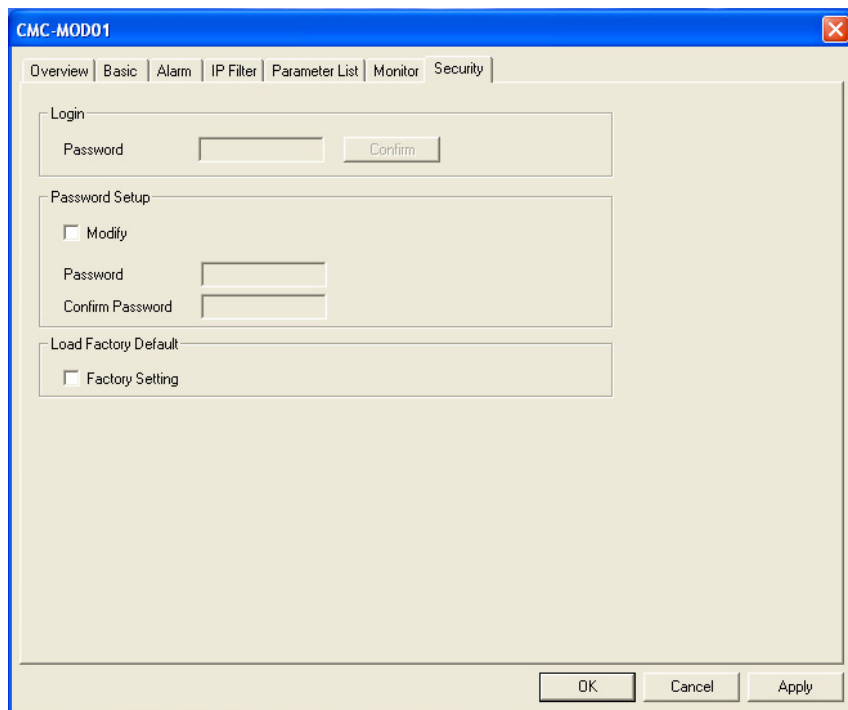
The monitoring function will be automatically enabled when “Account” > 1. The monitoring function can be executed no matter on-line monitoring (start/end monitoring) is executed or not.

1. Address (Hex): Enter a four-digit hex (0 ~ FFFF) address in this column, and its corresponding decimal address will be automatically calculated when you shift to Address (Dec) column.
2. Address (Dec): Enter a six-digit decimal address in this column, and its corresponding hex address will be automatically calculated when you shift to Address (Hex) column.
3. Account: The number of data to be monitored. The number in every row represents the consecutive number of data monitored. Max. total: 100.
4. Digit Selection: Hex, Dec or Bin.
5. Undo: To return to the previously saved set value
6. Optimal: To integrate repeated and consecutive addresses in each group to a set of consecutive addresses.
7. Start/Stop Monitor: To start or stop on-line monitoring

6.8 Security

After you set up all the functions and network environment for CMC-MOD01, to prevent the set values from being modified, you can set up passwords to lock the settings in CMC-MOD01.

■ Setting up password



The screenshot shows the 'Security' tab of the CMC-MOD01 configuration interface. It features three main sections: 'Login', 'Password Setup', and 'Load Factory Default'. The 'Login' section has a 'Password' input field and a 'Confirm' button. The 'Password Setup' section includes a 'Modify' checkbox, a 'Password' input field, and a 'Confirm Password' input field. The 'Load Factory Default' section has a 'Factory Setting' checkbox. At the bottom, there are 'OK', 'Cancel', and 'Apply' buttons.

1. Password Setup:

Check the box to modify the password.

2. Password:

Max. 4 characters. Leave it blank to disable the password function.

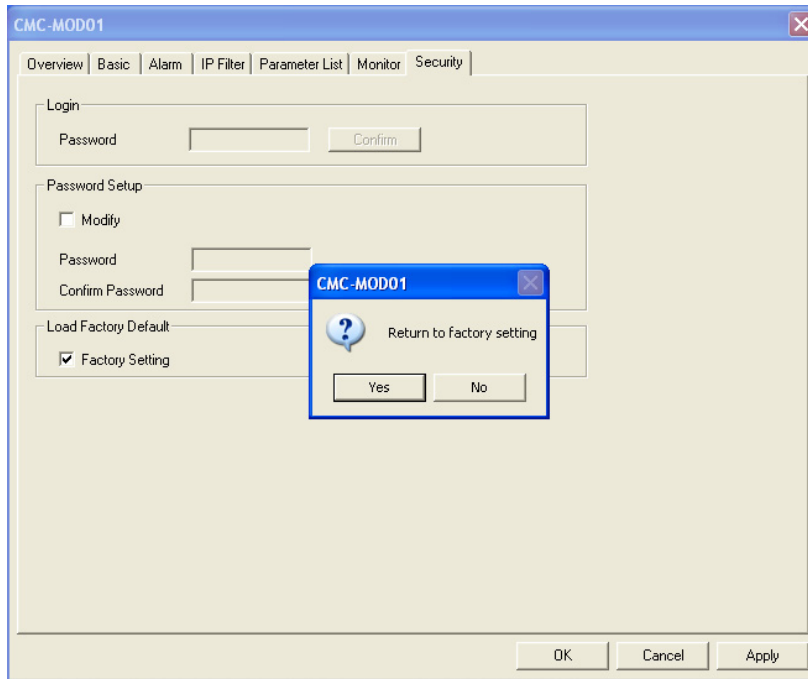
3. Confirm password:

Enter the new password again.

Note:

Once the password is locked, all the pages cannot be set up unless you unlock the password. However, if you set up CMC-MOD01 by C2000 keypad and there is no password set inside, you can only return to the default setting.

6.9 Returning to Default Settings



Check the “Factory Setting” box and click “Yes” to reset all the settings of CMC-MOD01 to default settings.

Note:

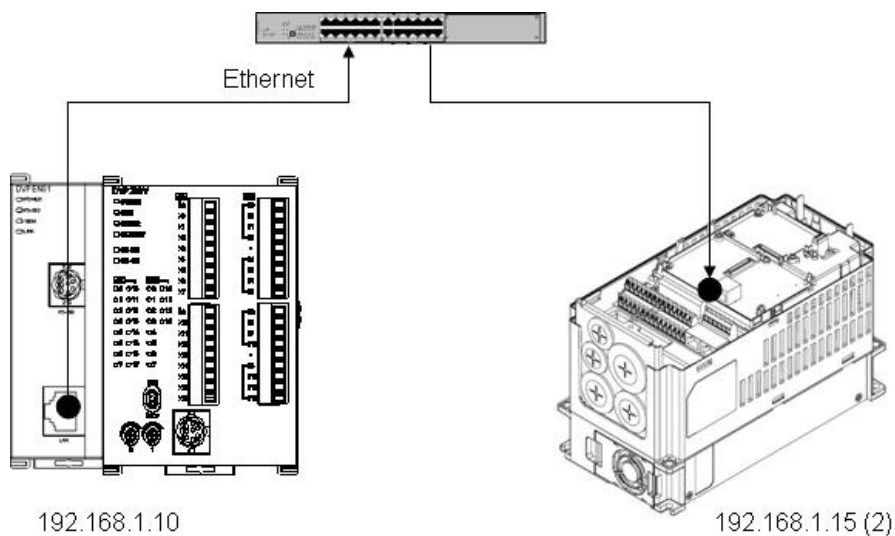
If you reset CMC-MOD01 to default settings by C2000 keypad, you can do it whether CMC-MOD01 is locked by a password or not, and please do not shut down the power supply during the process.

7 Application Examples

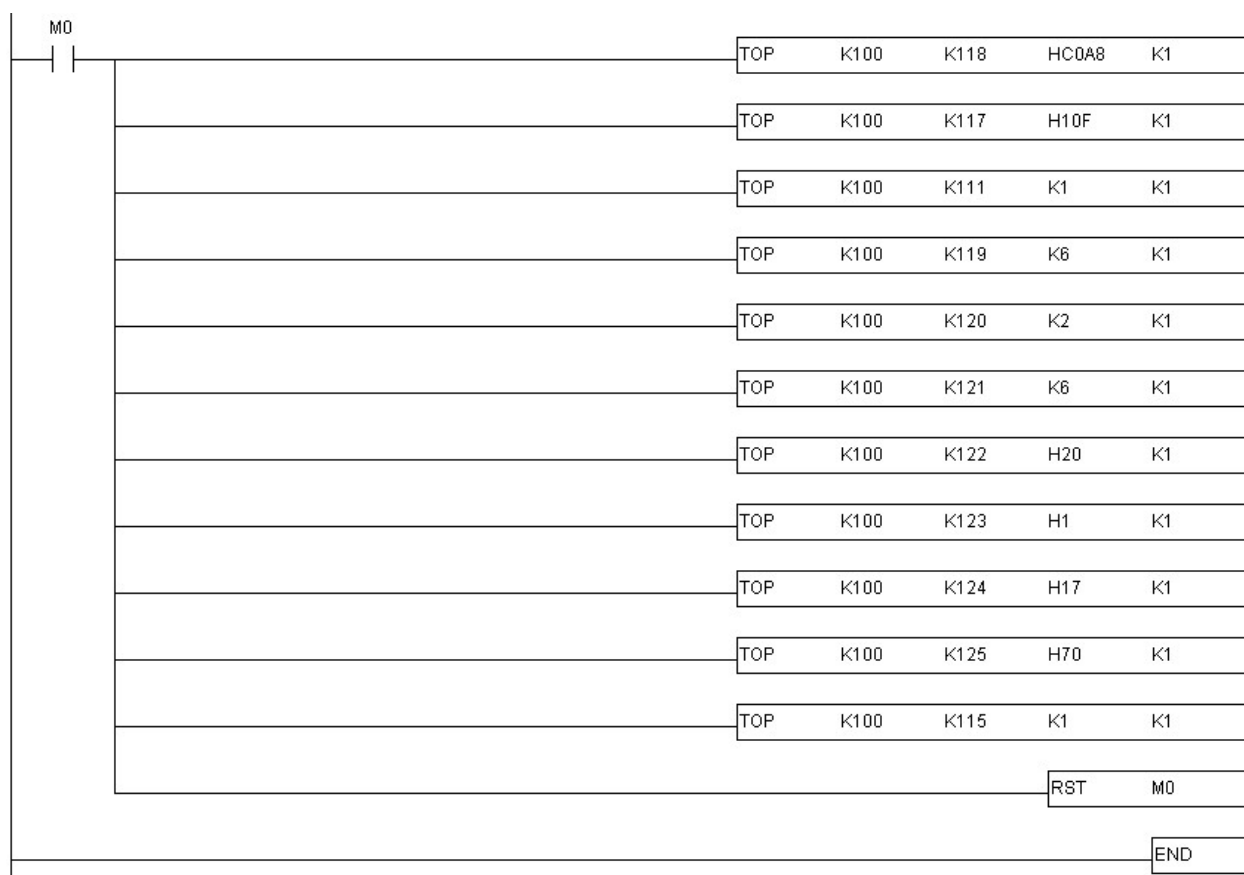
7.1 Write Frequency of C2000 to DVP-SV + DVPEN01-SL through Network

Application	Writing 60Hz frequency into C2000 (parameter address: H'2001, 60Hz = H'1770) by PLC through Ethernet
Steps	(1) IP of Ethernet module DVPEN01-SL: 192.168.1.10 (2) IP of C2000 Ethernet communication card: 192.168.1.20. Station No.: 2 PLC sends out Modbus TCP command "06020620011770".

1. The connection:



2. PLC program:



Use Delta DVP-SV series PLC (DVP28SV) and Ethernet module DVPEN01-SL to send

Modbus TCP command "06 02 06 20 01 17 70".

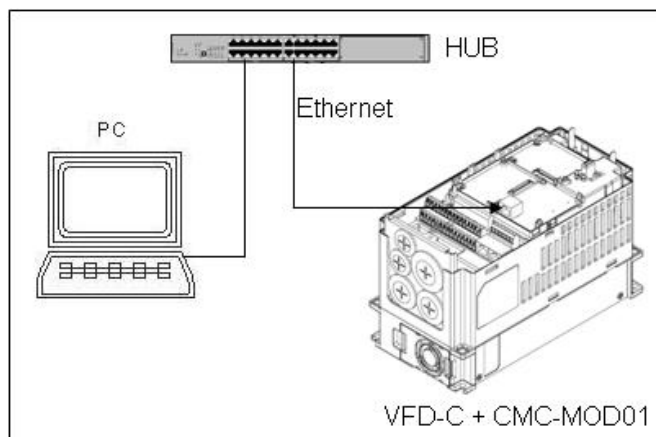
1. Convert IP address 192.168.1.15 into "HC0A8, H010F" and write them to K118 and K117 in DVPEN01-SL.
2. Send command length "06" to K119 in DVPEN01-SL.
3. Send station address "02" to K120 in DVPEN01-SL.
4. Send function code "06" to K121 in DVPEN01-SL.
5. Send C2000 parameter "H'2001" to K122, K123 in DVPEN01-SL.
6. Send C2000 parameter "H'1770" to K124, H125 in DVPEN01-SL.
7. Write "1" into K115 in DVPEN01-SL to enable transmission.
8. Download the program to PLC and enable M0 to send "06020620011770" to 192.168.1.15.

Please refer to "DVPEN01-SL Operation Manual" for relevant settings of DVPEN01-SL.

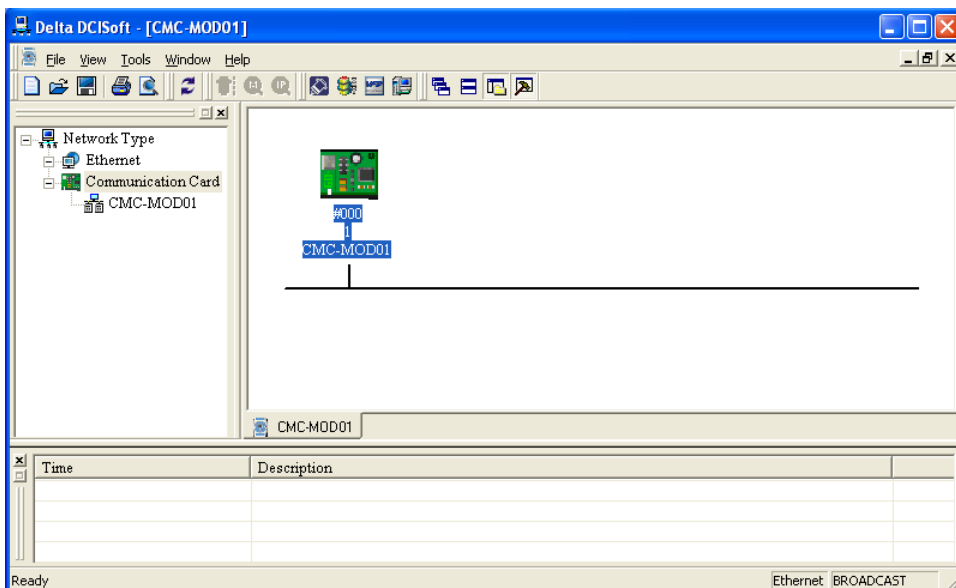
7.2 Monitor C2000 Parameters On-Line through DCISoft/Web

Application	Using DCISoft to monitor C2000 parameters
Steps	(1) IP of PC: 192.168.1.30 ◦ (2) IP of C2000 Ethernet communication card: 192.168.1.20 ◦

1. The connection:



2. Open DCISoft's "Search" function (if in different LAN, search by designed IP) to search for CMC-MOD01.

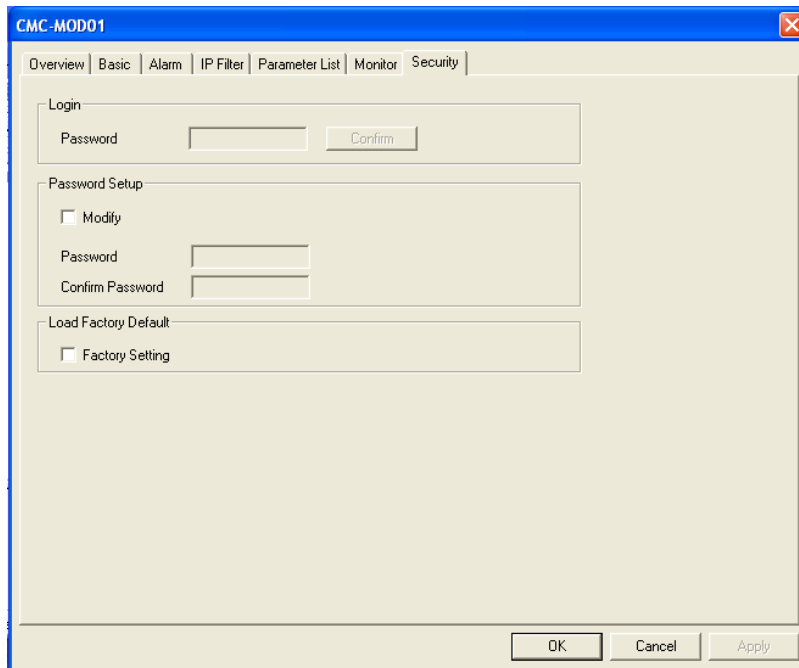


3. Enter "Parameter List" page and check the C2000 parameters to be monitored.
4. Assume you are to monitor parameters 00-01, 01-01, 02-01, 03-01, 04-01, 05-01 and 06-01, check them on the parameter list.
5. Switch to monitor page, and the checked addresses will be displayed on the monitor list.
6. Click "Apply" to automatically open the monitoring function in DCISoft and monitor CMC-MOD01.

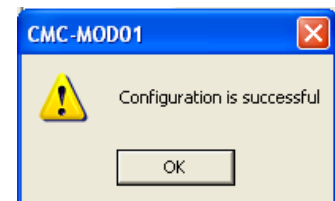
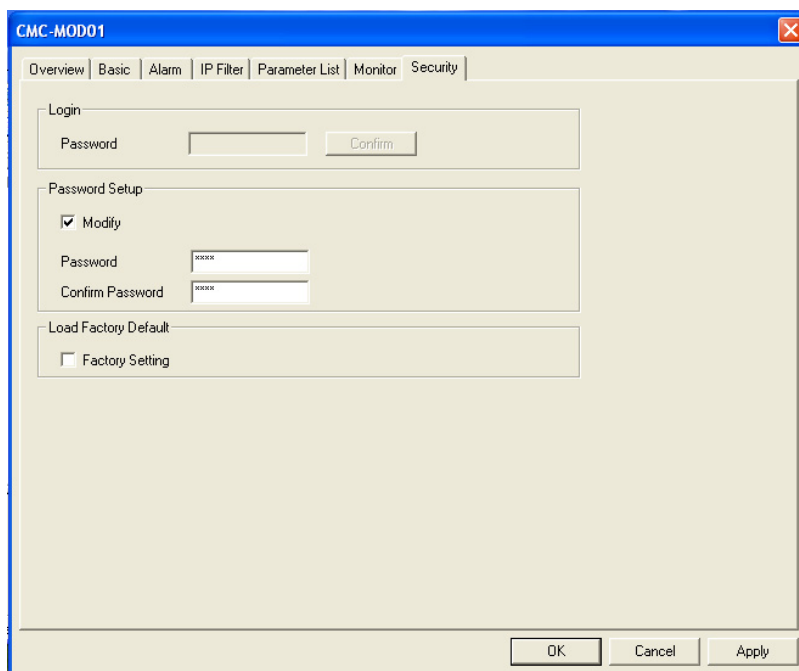
7.3 Set Up and Clear Password

Application	Using DCISoft to set up and clear the password in CMC-MOD01
Steps	(1) Set up password in CMC-MOD01. (2) Unlock CMC-MOD01. (3) Clear password in CMC-MOD01.

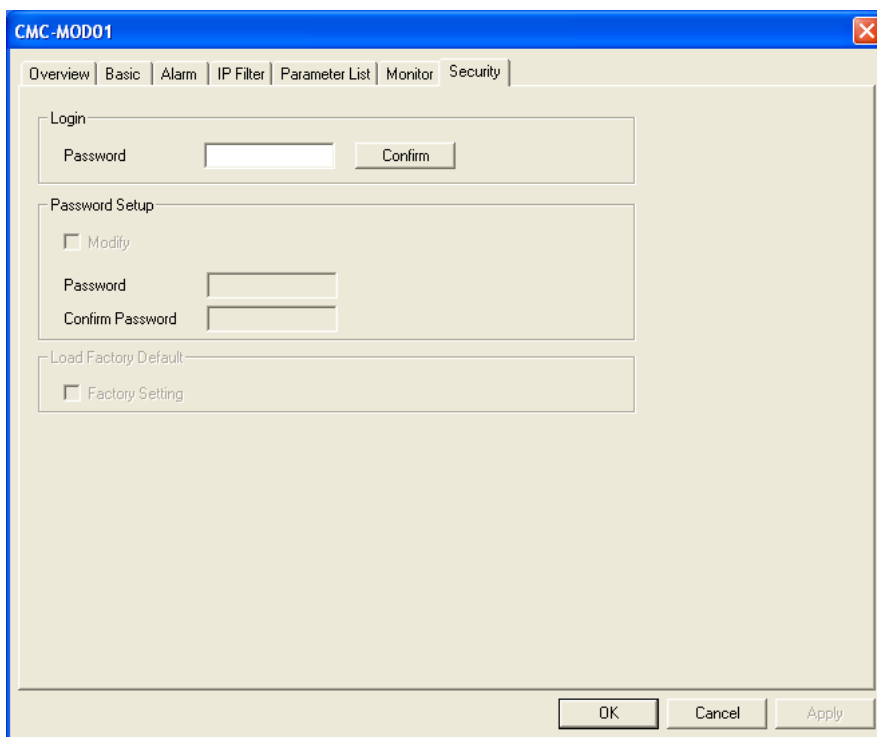
1. See 6.1 for the connection and communication settings.
2. Open the setup pages for CMC-MOD01 and switch to "Security" page.



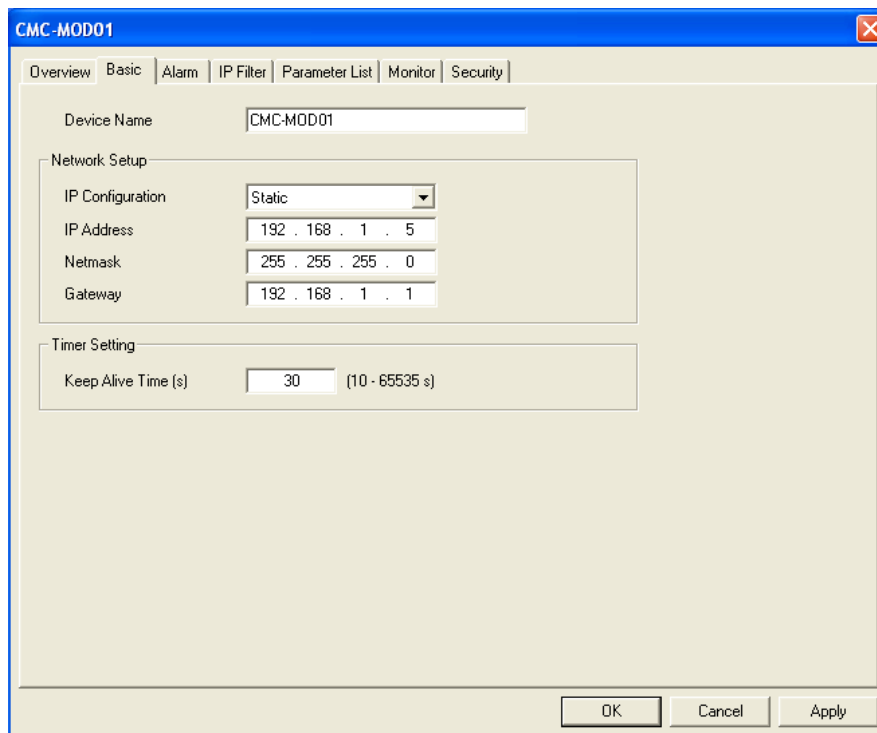
3. Check "Modify" and enter password "1234" into the "Password" and "Confirm Password" columns. Click "Apply" to save the password.



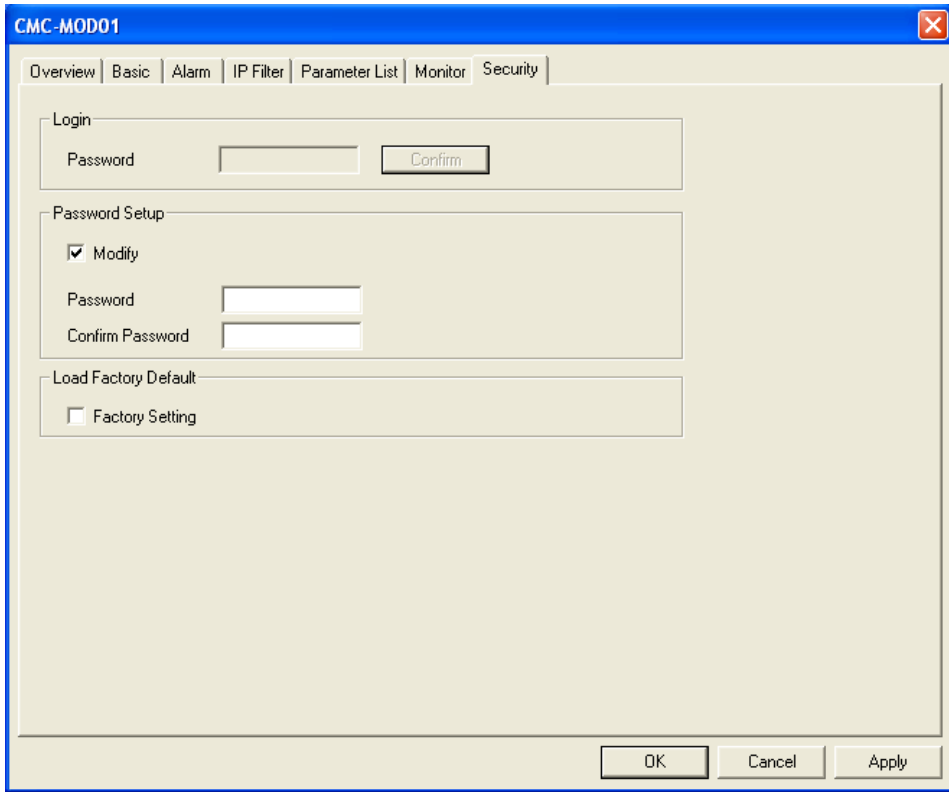
4. Reopen the setup page, and all settings are now locked by password. Enter the password and click "OK".



5. Enter the password to unlock the settings and modify parameters. If you close the setup page now, the settings will remain being locked.



6. To clear the password, leave the password columns blank and click "Apply".

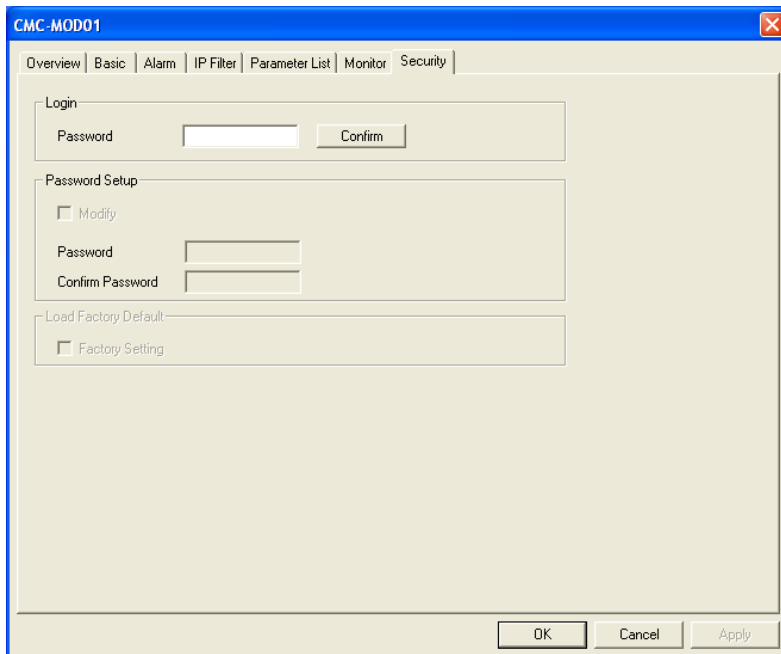


7. After the password is cleared, you can then modify parameters.

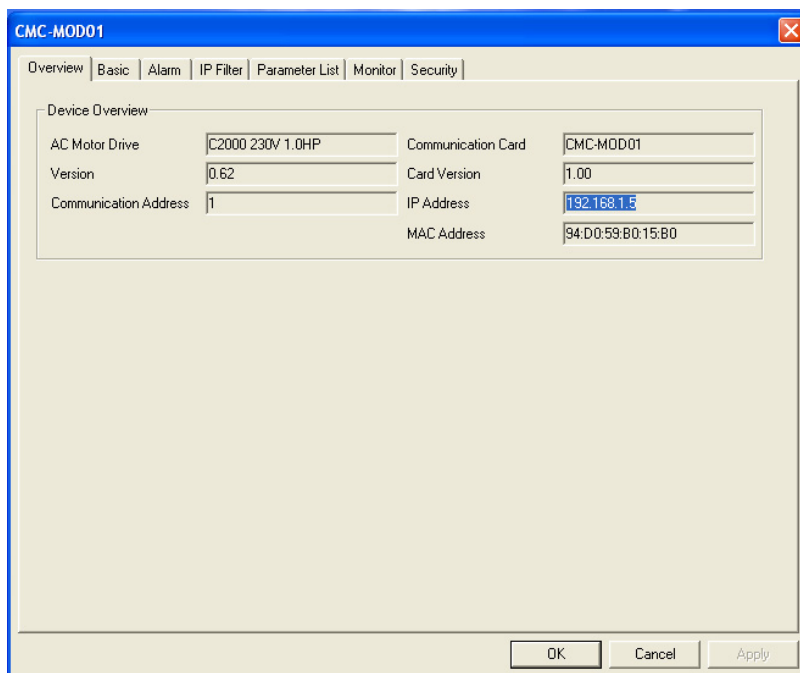
7.4 Forget Password (Reset to Default Settings by Keypad)

Application	Returning to default settings by C2000 keypad
Steps	(1) Set up password in CMC-MOD01. (2) If you forget the password, reset all the settings to default ones by C2000 keypad.

1. See 6.8 for how to set up a password for CMC-MOD01.
2. Reopen the setup page. The settings are now locked by the password. You cannot neither open any setting, nor reset them to default ones.



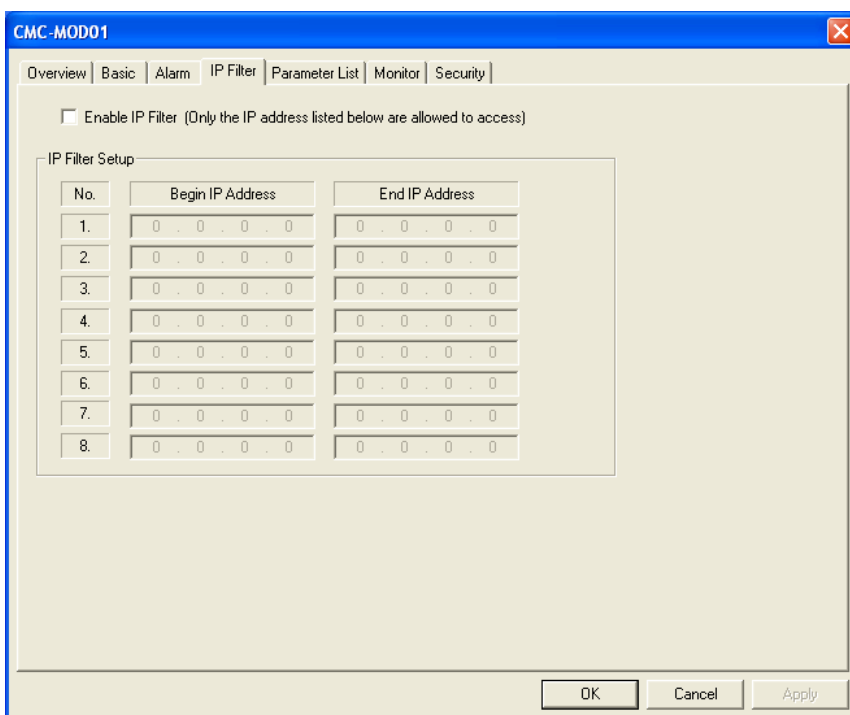
3. Set the value of parameter “09-90” to “1” by using C2000 keypad.
4. Use DCISoft to reopen the setup page. The password is now cleared and settings are reset to default ones.



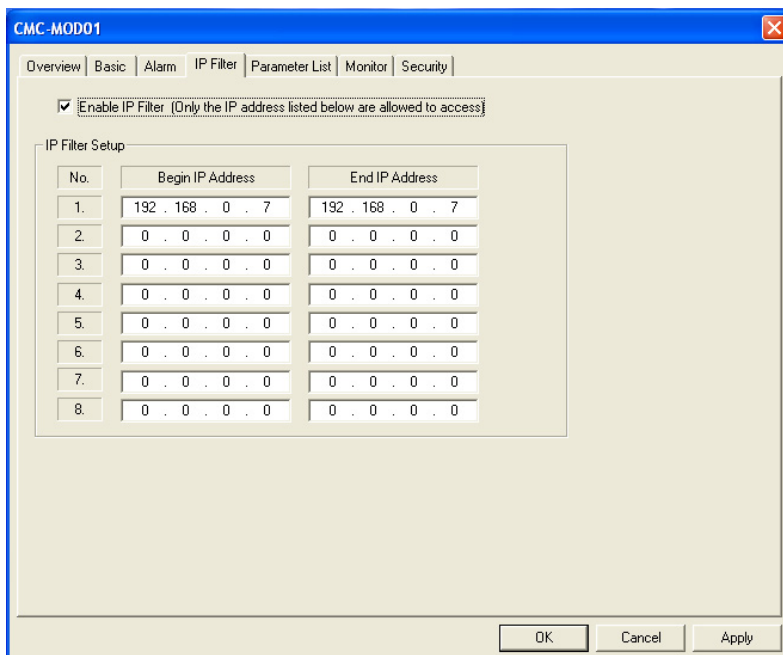
7.5 IP Filter Protection

Application	Setting up IP filter protection
Steps	(1) IP of CMC-MOD01: 192.168.0.4 (2) Allow connection between 192.168.0.7 and 172.16.0.1~172.16.0.254 only.

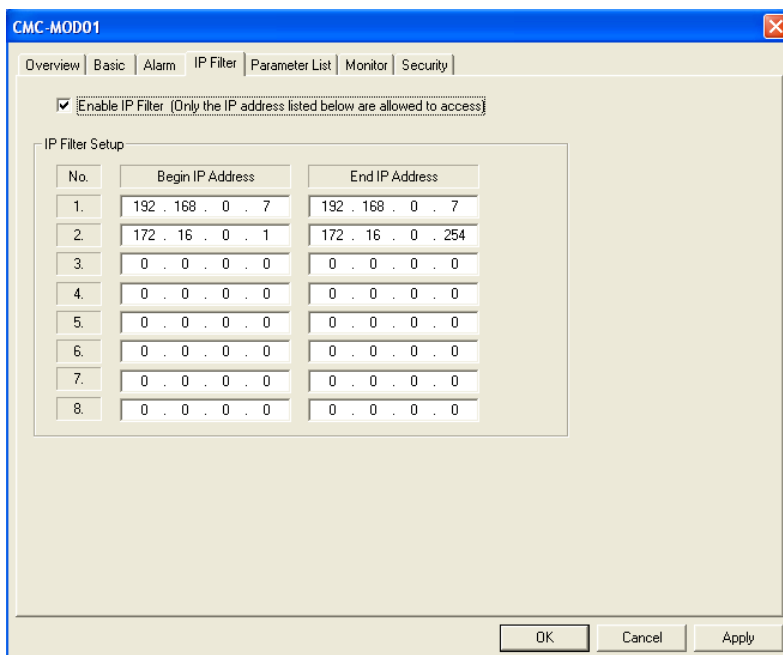
1. See 6.1 for the connection and communication settings.
2. Open the setup page for CMC-MOD01 and switch to “IP Filter” page.



3. Check "Enable IP Filter". Enter "192.168.0.7" in No.1 Begin IP Address and "192.168.0.7" in End IP Address.



4. Enter "172.16.0.1" in No.2 Begin IP Address and "172.16.0.254" in End IP Address. Click "Apply", then only equipment within the allowed IP range can be connected.

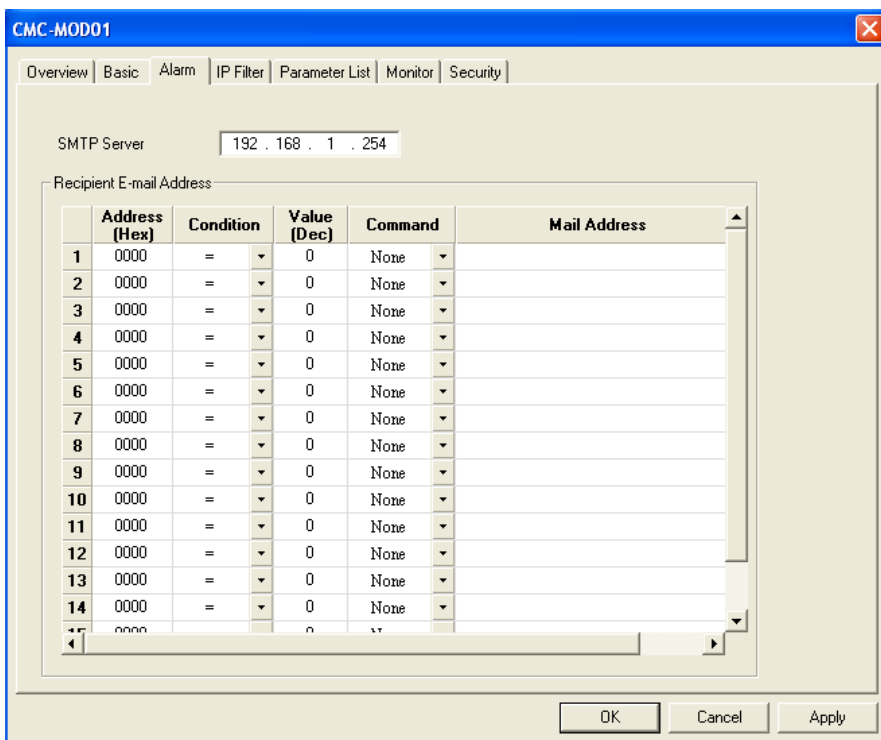


7.6 E-Mail

Application	When the value in Address (Hex) = Value (Dec), CMC-MOD01 will make C2000 execute the command and send e-mail to notify the administrator.
Steps	<ol style="list-style-type: none"> (1) IP of SMTP server: 172.16.144.122 (2) Administrator's e-mail address: test@sample.com (3) When H'2103 = 60, execute "STOP" and send e-mail to designated address.

1. See 6.1 for the connection and communication settings.

- Open the setup page for CMC-MOD01 and switch to “Alarm” page.



- Set up e-mail and trigger event. Enter “172.16.144.122” in SMTP Server. Enter “2103” in Address (Hex) in the first row, “=” in Condition, “60” in Value (Dec), “Stop” in Command and “test@sample.com” in Mail Address. Click “Apply” to complete the alarm setting.

