



LUC-CE系列模块与三菱FX5U 系列PLC的连接应用

关键词: CC-LINK IE FB, LUC-CE, FX5U, ES-02MB-232



# 修订记录

| 变更 | 内容: |
|----|-----|

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### 1.模块参数及IP地址配置

1.1 LAEConfig软件界面介绍



1.2 扫描网络中的硬件

点击 扫描模块按钮,设置需要扫描的IP地址范围(在显示区中),并且是电脑的网络IP参数要与设置的在同一网段内。点击"开始"进入扫描阶段。就会在设置的IP范围内,把扫描上来的模块显示出来。

| Config   |                                     |              |                             |
|--|-------------------------------------|--------------|-----------------------------|
| 2 B 👑 🤁 🕁 🎭 ?  |                                     |              | English 🔻                   |
| > LUC-CE(192.168.0.3) 产品示图   |                                     | Type:        | LUC-CE                      |
|  |                                     | MAC:         | 7C-BA-CC-15-E1-4E           |
| UIC:CE ES284C ES2888   | 3 4<br>A E\$246YD E\$4460D          | IP:          | 192.168.0.3                 |
|  |                                     | Submodules:  | 4 for                       |
|  |                                     | Firnware:    | V1.01 Jan 29 202414:41:32   |
| And and an and a second se |                                     | InterFirava  | reNONE B                    |
|  |                                     | I_SIZE (byte | ) 0_Size(byte) C_Size(byte) |
|  | C Scanning module                   | 38           | 6 121                       |
|  |                                     | Submodule    | Information                 |
|  | • Net                               | Type:        | ESUZHC                      |
|  |                                     | Description  | :: 1 通道高速计数模块               |
|  | Local IF 192. 168. 0. 1             | ▼ Res        | set Default Parameter       |
|  | TP Range: 192 168 0 1 192 168 0 100 |              |                             |
| General  |                                     |              |                             |
| I/ Stat  |                                     |              |                             |
| Safe   | • Mode USB                          |              |                             |
|  | ×                                   |              |                             |
|  |                                     |              |                             |
|  | 0%                                  |              |                             |
|  |                                     |              |                             |
|  | Scan stop                           |              |                             |
|  |                                     |              |                             |
|  | 3                                   |              |                             |
|  |                                     |              |                             |
|  |                                     |              |                             |

1.3修改模块的IP地址

点击工具栏中的 按钮,点击全局扫描,选中IP地址进行修改,点击修改IP地址。进入分配IP地址的过程,分配是否成功可以在后面的状态列中显示出来。

| IO LA_Config  |              |                           |        |
|---|--------------|---------------------------|--------|
| 2 8 🛱 🛛 🏟 7 🕾 📾   |              | Engl                      | lish • |
| > LUC-CE(192.168.0.3) Product ing   | Type:        | LUC-CE                    |        |
|   | MAC:         | 7C-BA-CC-15-A5-E1         |        |
| LUC-CE ENTAMINA   | IP:          | 192.168.0.3 fod           | ifi) 🚆 |
|   | Submodules:  | 1                         | If or  |
|   | Firnvare:    | V1.01 Jan 29 202414:41:32 | nat    |
| ₩ Wassen in the second | InterFirmvar | NONE                      | S      |
| I let   | 1_SIZE(byte) | 0_Size(byte) C_Size(byt   | e)     |
|   |              |                           | _      |
| Local 19 192.108.0.200 V  | Submodule I  | Information               | _      |
| IP Range 192.168.0.3 3 192.168.0.5  | Type:        |                           | _      |
|   | Description: | 1                         | -      |
| O USB   | buberiperom  |                           | =      |
| COMP (web on HOR-OFFILI (HIGH)) V   | Rese         | et Default Parameter      |        |
| Coupler Hodale)   |              |                           |        |
| Static TP St  |              |                           |        |
| 监控表 Safe Kode Fr 4 France France  |              |                           |        |
| Kuscan stop   |              |                           |        |
|   |              |                           |        |
|   |              |                           |        |

1.4 修改模块的参数

修改ES-02MB参数:点击扫描模块按钮,选择USB,选择对应的usb转TYPEC的串口,点击扫描开始。

| 10 L/ | A_Config   |        |    |                     |                  |                     |              |     |                      |  |
|-------|------------|--------|----|---------------------|------------------|---------------------|--------------|-----|----------------------|--|
| ð     | B          | DHCP   | €₹ | ৶                   | £                | ?                   |              | CAR |                      |  |
| > LUC | -CE(192.16 | 8.0.2) | 0  | Prod                | luct img         |                     |              |     |                      |  |
|       |            |        | •  | Bar<br>Sett<br>Ling | ■ 1<br>-CE ES02M | BA<br>Stati<br>Safe | c IP<br>Mode |     | Dynameic I<br>Enable | Image:       192.168.0.200         IP Range:       192.168.0.20         IP Range:       192.168.0.2         IP COM5 (wch. on USB-SERIAL CH340) >       3         (wch. on USB-SERIAL CH340) >       0%         Scan       stop |

安如下通信参数设置,关键是要与从站参数设置一致 设置通讯速率为9600bps;设8个数据位,无校验,1个停止位;



## 具体通讯如下:

功能码1,设置端口1,自由协议,输入数据长度10字节,输出数据长度10字节。

在参数设定区设定模块参数。设置完成之后点击
可以下载模块参数。

| ₽. | (J) (J)   | ?   | Ø    |          |               |                    |          |             |      |           |                 |                             |           |                  |                  |                  |         |  |  | Engli  | .sh 🔻                      |
|----|---|-----|------|----------|---------------|--------------------|----------|-------------|------|-----------|-----------------|-----------------------------|-----------|------------------|------------------|------------------|---------|--|--|--|----------------------------|
|    | Product ing   | 3   |      |          |               |                    |          |             |      |           |                 |                             |           |                  |                  |                  | ×       | Type:<br>MAC:<br>IP:<br>Submodules:<br>Firmware:<br>I_SIZE(byte)<br>0<br>Submodule 1<br>Type:<br>Firmware:<br>Description: | 0.00.00.00.00<br>0.0.0<br>0<br>V1.01 Oct 28 2<br>(NONE<br>0_Size (byte)<br>0 | 0-00<br>todf<br>02413.26:04<br>C_Size(byte)<br>0 | Module Information         |
| 1  | Basic<br>Jata記篇<br>Message<br><u>aonitor</u><br>监控表 | 1 渊 | Port | ave Addr | e F<br>Free M | un Code<br>Tessage | F<br>• 0 | Reg Address | Swap | ut Date I | :put Date<br>10 | igger Mo<br>Change <u>▼</u> | Poll Time | neout Tin<br>100 | I.Address<br>110 | Q.Address<br>110 | Descrip | tion   | et Default Pa:   | pate new<br>Import Ex<br>Status                  | Exc<br>ccel<br>wor<br>l wc |

#### 2.ES-02MB原理概述

三菱FX5U系列 PLC可以通过cc-link iefb 通信连接远程 IO 模块,通过添加LUC-CEB耦合器和ES-02MB扩展模块,即可通过简易连接进行远程 IO 控制。

◆模块支持2通道 Modbus RTU 之 232 从站通讯。

◆模块支持 TYPC-USB 参数下载。

2.1接线端子定义

| 端子序号 | ES-02MB-232 |         |
|------|-------------|---------|
|      | 符号          | 说明      |
| 1    | TX_1        | RS232-A |
| 2    | TX_2        | RS232-B |
| 3    | GND1        | 接地      |
| 4    | Y_1         | 保留      |
| 5    | Z_1         | 保留      |
| 6    | GND1        | 接地      |
| 7    | TX_1        | RS232-A |
| 8    | TX_2        | RS232-B |
| 9    | GND2        | 接地      |
| 10   | Y_2         | 保留      |
| 11   | Z_2         | 保留      |
| 12   | GND2        | 接地      |

2.2接线图

| CH1 CH2<br>PS TX TX<br>RX RX<br>ER |   |  |
|------------------------------------|---|--|
| RY<br>ES-02MB-232                  |   |  |
| TYPC-USB                           | CH1-RS232-TX<br>CH1-RS232-RX<br>CH1-GND | 232-TX(DB9针: 2) <sub>R</sub> S232设备<br>232-RX(DB9针: 3)<br>GND(DB9针: 5) |
|                                    | CH2-RS232-TX<br>CH2-RS232-RX<br>CH2-GND | 232-TX(DB9针: 2) <sub>R</sub> S232设备<br>232-RX(DB9针: 3)<br>GND(DB9针: 5) |
| 02MB(232)                          |   |  |

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#### 3.调试环境

-三菱GX-WORKS3软件

-LAE-config软件

### 4.技术实现

4.1硬件连接

1.正确连接三菱FX5U系列 PLC 与远程 IO 模块电源。

2.将测试对象 PLC 的RJ45接口,通过专用以太网电缆接入到远程 IO 模块的以太网口上。

3.用LAE-config软件,通过type-c接口,扫描下载参数。

4.ES-02MB-232的A\_1连接到从站的A+上, ES-02MB-485的B\_1连接到从的B-上, ES-02MB-232的gnd连接到从站的gnd上



#### 4.2新建工程

打开GX Words 3软件,菜单栏中选择"工程""新建",选择PLC系列以CPU机型,在此以5U系列的CPU 为例,如图 所示。

| MELSOFT GX Works3         |  | - 0 ×                               |
|---------------------------|--|-------------------------------------|
| Project Edit Find/Replace | Convert View Online Debug Recording Diagnostics Tool Window Help |                                     |
| DBB390                    |  |                                     |
|                           |  |                                     |
| Navigation # ×            |  | Element Selection 🛛 🕴 ×             |
| 마달   마드 🕸   All 👻         |  | (Find POU)                          |
|                           |  | 警察に見て                               |
|                           |  | N II                                |
|                           |  | Display Target:                     |
|                           |  |                                     |
|                           |  |                                     |
|                           | T  |                                     |
|                           | <b>_</b>   |                                     |
|                           | New X  |                                     |
|                           | Series FXSCPU V  |                                     |
|                           |  | P F H M Li                          |
|                           | Type FSU V   | Input the Configurat $rac{1}{2}$ × |
|                           |  |                                     |
|                           | Mode 👻   |                                     |
|                           | Program Language 👜 Ladder 🗸 🗸                                    |                                     |
|                           |  |                                     |
|                           | OK Cancel  |                                     |
|                           |  |                                     |
|                           |  |                                     |
|                           | 2  |                                     |
|                           | -  |                                     |
|                           |  |                                     |
|                           |  |                                     |
|                           |  |                                     |

### 4.3 CC-Link IE Feild Basic参数设置

在左侧导航窗口中选择参数/FX5UCPU/模块参数/以太网端口,如图所示

| Navigation 7 × | 📲 ProgPou [PRG] [Local 💁 ProgPou [PRG] [LD] 15   | 🜹<br>🛱 1 [Device/Buffer Mem 🖙 2 [Device/Buffer Mem  |   | 4 ▷ ▾ Element Selection  |  |  |  |  |  |  |
|----------------|--|---|---|--|--|--|--|--|--|--|
| 📴 🗠 🏟 All 👻    | Setting Item List  | Setting Item  |   | (Find POU)   |  |  |  |  |  |  |
| Navigation 2 × | Satting Iten List<br>Input the Setting Iten to Search<br>The Br<br>Set Settings<br>Set Settings<br>The Application Settings<br>Iten List Find Result | Setting:         Item           Orn Hode Settings         If Address           If P Address         Statess           Default Gateway         Communication Data Code           CC-Link IEF Basic Settings         To Use or Not to Use COLInk IEF Basic Setting           Hetwork Configuration Settings         Refresh Settings           DoBES/TCP Settings         DoBES/TCP Setting           Device Assignment         External Device Configuration           External Device Configuration         External Device Configuration           Check         Restore the Default | Setting<br>192.108.0.10<br>255.255.255.0<br>192.108.0.200<br>Einary<br>Use<br>(Detailed Setting)<br>(Detailed Setting)<br>Hot Used<br>(Obtailed Setting)<br>(Detailed Setting)<br>ress. | (Find POU)<br>Mile Ly Ly<br>Display Target: Y<br>P. F. H. M. Li.<br>Input the Configurat ? X |  |  |  |  |  |  |
|                |  |   | Ápp   | ly   |  |  |  |  |  |  |
|                | Progress   |   |   |  |  |  |  |  |  |  |
|                |  |   |   | ^  |  |  |  |  |  |  |

### 设置PLC主站的IP地址及子掩码,如图所示。

| MELSOFT GX Works3 C:\Us   | ers\latcos\Documents\FX5U\DIDQ308802HC.gx3 - [Module | Parameter Ethernet Port]  |   | - D X                                       |
|---------------------------|--|---|---|---|
| Project Edit Find/Replace | Convert View Online Debug Recording Diagnost         | ics Tool Window Help  |   | - 8 1                                       |
| i 🗅 😂 💾 😂 🙄 🕑             | X - C  | , 💌 🚽 🖓 🔜 🔜 🕀 Q 🕂 🚽 🗸   | Max.: 🔻 🗸   |   |
| 1294 0 00 //              |  |   |   |   |
| Navigation 🛛 🕮 🛪          | 🐞 ProgPou [PRG] [Local 💀 ProgPou [PRG] [LD] 1S       | 🛜 1 [Device/Buffer Mem 🛛 🛱 2 [Device/Buffer Men                 | n 🔨 🖧 Module Parameter Eth 🔀  | 💶 🔍 🕶 Element Selection 🛛 🕸                 |
| 🖳 🗠 🍄 All 👻               | Setting Item List                                    | Setting Item  |   | (Find POU)                                  |
| h Project                 | Input the Setting Item to Search                     | Iten  | Setting   | 第二部 (1) (1) (1) (1) (1) (1) (1) (1) (1) (1) |
| Module Configuratic       |  | Own Node Settings   |   | ST IN ST                                    |
| 🛚 🔚 Program               | 9 <u> </u>   | E IP Address  | 9   | Display Target:                             |
| 🚳 FB/FUN                  | 🖶 🙋 Basic Settings                                   | - IP Address  | 192.168.0.10  | Sopar Tagoo                                 |
| 🛚 🇯 Label                 | Ovn Node Settings                                    | Subnet Hask   | 255.255.255.0   |   |
| 🛚 🚰 Device                | - MODEUS/TCP Settings                                | — Default Gateway   | 192.168.0.200   |   |
| 🗉 🚱 Parameter             | External Device Configuration                        | Communication Data Code   | Binary  |   |
| 🧬 System Parameter        | Hom Application Settings                             | To Har on Hot to Har Of Link HW Pools Setting                   | Tee   |   |
| E 🚱 FX5UCPU               | 1  | Notwork Configuration Settings                                  | (Detailed Catting)  |   |
| CPU Parameter             |  | Refrech Settinge  | (Detailed Setting)  |   |
| Module Paramet            |  | = IODBUS/TCP Settings   | (betarred betterik)   |   |
| Sa Ethernet Port          |  | To Use or Not to Use MODBUS/TCP Setting                         | Not Used  | P F H M Ll                                  |
| 485 Serial Port           |  | Device Assignment   | <detailed setting=""></detailed>                                      | Input the Configurat 7 >                    |
| Input Perpane             |  | External Device Configuration                                   |   |   |
| 2 Analog Input            |  | External Device Configuration                                   | <detailed setting=""></detailed>                                      |   |
| Analog Output             |  |   |   |   |
| Expansion Boar            |  | Explanation<br>Sat to determine how many hits of the TP address | are used as the network address which is used to identify the network |   |
| Memory Card Pa            |  | Masked bit has been specified from top between the              | e top bit and bit 2.  |   |
| 🙆 Module Informatio       |  | [Setting range]   | per 24 bits of iF address to the subnet mask.                         |   |
| 🌆 Remote Password         |  | - Empty<br>= 0.0.0.1 to 255 255 255 (in decimal)                |   |   |
|                           |  |   |   |   |
|                           |  |   |   | v .   |
|                           |  | Check Restore the Delault                                       |   |   |
|                           | Item List Find Result                                | Settings  |   |   |

\_\_\_\_\_

设置好主站地址及子掩码后,在 CC-Link IE Field Basic设置窗口中勾选"USE" CC-Link IE Field Basic,设置网络配置设置,如图所示。

| All  All  All  All  All  All  All  All   | Setting Iten List  |  | 😭 1 [Device/Buffer M  | ¥€Q⋪ <mark>∊</mark> ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,  | ØØ₽ Max.: ▼                      |                         |
|--|--|--|---|---|----------------------------------|-------------------------|
| abel   | ProgPou (PRG) [Local<br>Setting Iten List<br>Input the Setting Iten to | ProgPou (PRG) (LD) 15  | 🎦 1 [Device/Buffer M  |   |                                  |                         |
| ation # ×<br>ation # × | ProgPou [PRG] [Local<br>Setting Iten List<br>Input the Setting Iten to | ProgPou [PRG] [LD] 19  | 🛱 1 [Device/Buffer M  |   |                                  |                         |
| Aduli All All Adult Adul   | Setting Item List<br>Input the Setting Item to                         |  | and [Device/Buller ivi  | am 2 Davica/Buffar Me   | Module Parameter Eth             | 1 b = Element Coloction |
| oject<br>Jodule Configuratic<br>Program<br>B/FUN<br>abel   | Input the Setting Item to  |  | Constitute These  | enn 🖉 z [Device/Builer Mit  | anima a wodule Parameter Ethin A | Element selection       |
| oject<br>Module Configuratic<br>Program<br>B/FUN<br>abel<br>-  | Input the Setting Item to  | Input the Setting Item to Search   |   | Itos  | Sotting                          | (Find POU)              |
| Module Configuratic<br>Program<br>IB/FUN<br>Iabel  |  | Search   | 1 Own Node Settings   | I tea   | Detting                          | duard all rev.rX        |
| ogram<br>3/FUN<br>abel   | 0- 0-  |  | IP Address  |   |                                  |                         |
| abel   | TE BA  |  | IP Address  |   | 192.168.0.10 2                   | Display Target:         |
|  | - Ovn Node Settings  |  | Subnet Hask   |   | 255 . 255 . 255 . 0              |                         |
| evice  | - CC-Link IEF Basic  | Settings   | Default Gateway   | у   | 192.168.0.200                    |                         |
| rameter  | External Device Co   | ss<br>onfiguration   | Communication Da  | ta Code   | Binary                           |                         |
| ystem Parameter  | 🗄 🌆 Application Settings   |  | CC-Link IEF Basic   | Settings  |                                  |                         |
| X5UCPU   |  |  | To Use or Not to  | Use CC-Link IEF Basic Settin  | g Use                            |                         |
| CPU Parameter  | 1  |  | Network Configur  | ation Settings  | <detailed setting=""></detailed> |                         |
| Module Paramet   | l  | •  | Refresh Settings  | ar .  | (Detailed Setting)               |                         |
| B Ethernet Port  |  |  | To Use or Not to  | Use MODRUS/TCP Setting  | Not lised                        | P F H M                 |
| 485 Serial Port  |  |  | Device Assignmen  | t   | (Detailed Setting)               | Input the Configur      |
| Input Perponse   |  |  | External Device C   | onfiguration  |                                  |                         |
|  |  |  | External Device (   | Configuration   | <detailed setting=""></detailed> |                         |
| Analog Output  |  |  |   |   |                                  |                         |
| note russionu  |  |  | - 0.0.0.1 to 255.255  | 5.255.255 (in decimal)  |                                  | ~                       |
|  | Item List Find Result  |  | Check   | Restore the Delault<br>Settings   |                                  |                         |
|  |  | etting Iten  | Iton  |   |                                  |                         |
|  |  |  |   |   | Setting                          |                         |
|  |  | 0wn Node Settings  |   |   | Setting                          |                         |
|  |  | Own Node Settings  | . (Can  |   | Setting                          |                         |
|  |  | Own Node Settings<br>IP Address<br>IP Address  |   | 192.168.0.10  | Setting                          | I                       |
|  |  | Own Node Settings<br>□ IP Address<br>□ IP Address<br>□ Subnet Mask   |   | 192.168.0.10<br>255.255.255.0   | Setting                          |                         |
|  |  | <ul> <li>Own Node Settings</li> <li>IP Address</li> <li>IP Address</li> <li>Subnet Mask</li> <li>Default Gateway</li> </ul>  |   | 192.168.0.10<br>255.255.255.0<br>192.188.0.200  | Setting 3                        |                         |
|  |  | Own Node Settings<br>IP Address<br>Submet Mask<br>Default Gateway<br>Communication Data C<br>CC-Link LWR Rajc Set  | ode   | 192.168.0.10<br>255.255.255.0<br>192.168.0.200<br>Binary  | Setting<br>3                     |                         |
|  |  | <ul> <li>Own Node Settings</li> <li>IP Address</li> <li>IP Address</li> <li>Subnet Mask</li> <li>Default Gateway</li> <li>Conaunication Data C</li> <li>CC-Link IEF Basic Set</li> <li>To Use or Not to Use</li> </ul>   | ode<br>tings<br>CC-Link IEF Basic Settine                       | 192.108.0.10<br>255.255.255.0<br>192.108.0.200<br>Binary  | Setting<br>3                     |                         |
|  |  | <ul> <li>Own Mode Settings</li> <li>IF Address</li> <li>IF Address</li> <li>Subnet Mask</li> <li>Default Gateway</li> <li>Communication Data C</li> <li>CC-Link IEF Basic Set</li> <li>To Use on Not to Use</li> <li>Noteork Configuration</li> </ul>  | ode<br>tings<br>CC-Link IEF Basic Setting<br>on Settings        | 192, 168, 0, 10<br>255, 255, 255, 0<br>192, 168, 0, 200<br>Binary<br>Use<br>(Qetailed Setting)  | Setting<br>3                     |                         |
|  |  | <ul> <li>Own Mode Settings</li> <li>□ IP Address</li> <li>□ IP Address</li> <li>□ LP Address</li> <li>□ Subnet Mask</li> <li>□ Default Gateway</li> <li>□ Communication Data C</li> <li>□ CO-Link IEF Basic Set</li> <li>□ To Use or Not to Use</li> <li>We twork Configurati</li> <li>Refresh Settings</li> </ul>   | ode<br>tings<br>CC-Link IEF Easic Setting<br>on Settings        | 192.168.0.10<br>255.255.255.0<br>192.168.0.200<br>Binary<br>Use<br>(Detailed Setting)<br>(Detailed Setting)   | Setting<br>3                     |                         |
|  |  | <ul> <li>Own Mode Settings</li> <li>○ IP Address</li> <li>○ IP Address</li> <li>○ IP Address</li> <li>○ Subnet Mask</li> <li>○ Default Cateway</li> <li>○ Consumication Data C</li> <li>○ CC-Link IEF Basic Set</li> <li>○ To Use or Not to Use</li> <li>○ Ketorck Configurati</li> <li>Refresh Settings</li> <li>○ IDDBUS/TCP Settings</li> </ul>             | ode<br>tings<br>CC-Link IEF Basic Setting<br><i>an Settings</i> | 192.188.0.10<br>255.255.255.0<br>192.188.0.200<br>Binary<br>Use<br>(Detailed Setting)<br>(Detailed Setting)   | Setting<br>3                     |                         |
|  |  | Orn Node Settings<br>P Address<br>IP Address<br>Subnet Mask<br>Default Cateway<br>Consumication Data C<br>CO-Link IEF Basic Sett<br>Fatresh Settings<br>To Use or Not to Use<br>To Use or Not to Use   | ode<br>timgs<br>CC-Link IEF Easic Setting<br>MODEUS/TCP Setting | 192.168.0.10<br>255.255.255.0<br>192.188.0.200<br>Binary<br>5 Use<br>( <b>Clotailed Setting</b> )<br>Kot Used   | Setting<br>3                     |                         |
|  |  | <ul> <li>Orn Node Settings</li> <li>Or Address</li> <li>P Address</li> <li>Submet Mask</li> <li>Default Cateray</li> <li>Commication Data CO-Link IEF Basic Set</li> <li>To Use on Not to Use</li> <li>Fatrenh Settings</li> <li>IODBX/TCP Settings</li> <li>To Use on to to Use</li> <li>Derice Assignment</li> <li>Externh Settings</li> </ul>               | ode<br>tings<br>CO-Link IEF Basic Setting<br>MODBUS/TCP Setting | 192.168.0.10         255.255.255.0         192.168.0.200         Binary         5 Use         Chetailed Setting>         Hot Used            Chetailed Setting>   | Setting<br>3                     |                         |
|  |  | <ul> <li>Own Bode Settings</li> <li>IP Address</li> <li>IP Address</li> <li>IP Address</li> <li>Subnet Mask</li> <li>Default Gateway</li> <li>Commication Data C</li> <li>CC-Link HF Basic Set</li> <li>Factorsk Southage</li> <li>INOBES/TCP Settings</li> <li>To Use or Not to Use</li> <li>Derice Assignment</li> <li>External Device Configured</li> </ul> | ode<br>tings<br>on Satting<br>MODEUS/TCP Setting<br>guration    | 192.168.0.10           255.255.255.0           192.168.0.200           Binary           Use           Chetailed Setting>           (Abetailed Setting)           Hot Used           (Abetailed Setting)           (Abetailed Setting) | Setting<br>3                     |                         |

手动添加模块,在CC-Link IE Field Basic配置窗口中,将右侧IO模块直接拖曳在下方的CPU组态中,更

改CC-Link IE Field Basic IP地址与模块地址一致,然后点击"反映设置并关闭"。



#### 4.4 IO映射配置

| Iten   | Setting  |
|--|--|
| Own Hode Settings  | DECCINE  |
| IP Address   |  |
| IP Address   | 192.168.0.10   |
| Subnet Mask  | 255 . 255 . 255 . 0  |
| Default Gateway  | 192.168.0.200  |
| - Communication Data Code  | Binary   |
| CC-Link IEF Basic Settings   |  |
| To Use or Not to Use CC-Link IEF Basic Setting   | Use  |
| Network Configuration Settings   | <detailed setting=""></detailed>   |
| Refresh Settings   | <detailed setting=""></detailed>   |
| TODBUS/TCP Settings  |  |
| To Use or Not to Use MODBUS/TCP Setting  | Not Used   |
| Device Assignment  | <detailed setting=""></detailed>   |
| External Device Configuration  |  |
| <ul> <li>External Device Configuration</li> </ul>  | <detailed setting=""></detailed>   |
| <pre>cplanation et the Refresh. es setting is necessary to transfer data automati le register, and refresh data register). o set the CC-Link IE Field Network Basic, it is re </pre> | ally between the link device (RX/RY/RWr/RWw) and CPU device (user device, equired to set the Network Configuration Settings and Refresh Setting. |
| Check Kestore the Derault<br>Settings  | ×  |

在C 图所示。

CC-Link IE Field Basic输出点映射方式:每个从站占用64个点即64DI、64DO、32AI、32AO。此处设置 的输入输出点对应起始点为 X100, Y100, 寄存器输入输出点对应起始地址为D500, D600。

|   | Link Side                                 | 9                              |                              |                        |                               |                     | CPU Side              |                      |                    |                |              |  |    |
|---|---|--------------------------------|------------------------------|------------------------|-------------------------------|---------------------|-----------------------|----------------------|--------------------|----------------|--------------|--|----|
| Device Name   | Points                                    | Start                          | End                          |                        | Toport                        | 2011                | -                     |                      |                    | -              |              |  |    |
| RX  | 64  | 00000                          | 0003F                        | +                      | Specify Devi                  | ~ X                 | ~                     | 64                   | 100                | 177            |              |  |    |
| RY  | 64  | 00000                          | 0003F                        | +                      | Specify Devi                  | ~ Y                 | ~                     | 64                   | 100                | 177            |              |  |    |
| RVr   | 32  | 00000                          | 0001F                        | +                      | Specify Devi                  | ~ D                 | ~                     | 32                   | 500                | 531            |              |  |    |
| RVv   | 32  | 00000                          | 0001F                        | -                      | Specify Dorri                 | V D                 | ~                     | 22                   | 600                | 631            |              |  |    |
|   |   |                                |                              |                        | Specify Devi                  |                     |                       | 56                   |                    |                |              |  |    |
| xplanation  |   |                                |                              |                        | Specify Devi                  |                     |                       | 52                   |                    |                |              |  |    |
| xplanation<br>et the Refres<br>he setting is<br>le register,<br>o set the CC- | h.<br>: necessar<br>and refr<br>Link IE F | y to tr<br>esh dat<br>'ield Ne | ansfer<br>a regis<br>twork B | data<br>ter).<br>asic, | automatically<br>it is requir | between<br>ed to se | the link of the Netwo | device (<br>prk Cond | RX/RY/R<br>igurati | ¥r/R¥<br>on Se | v) s<br>ttir | nd CPU device (user device<br>s and Refresh Setting. | θ, |

4.5 PLC的连接测试

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点击在线,连接到PLC,选择直连,选择本电脑的网卡,点击连接测试。



4.6诊断通讯状态

完成参数配置后,将工程下载到PLC后可通过在线诊断检测通讯状态,菜单栏中选择"诊断"CC-Link IE Field Basic诊断窗口中查看从站IO模块的状态,如图所示。

|  | ink <b>IE</b>   | F ield<br>Basic   | Change   | IP Address Display  | Monitor St                                 | atus                 | 1  | 6                                 |
|--|---|---|--|---|--|----------------------|--|-----------------------------------|
|  |   | Dasic   | • DE   | C OHEX  |  | Monitoring           | Start Monitoring   | Stop Monitoring                   |
| Specify<br>CPU   | Target Module   | e<br>lule   |  |   |  |                      |  |                                   |
| Master S   | Station Statu   | IS  |  |   |  |                      |  |                                   |
| (Paramet<br>Total Slav   | er)<br>ve Stations  | 1 IP A  | ddress 192.168.0.  | 10 Error Co   | No Error                                   |                      |  | Error Details                     |
| Networ   | k Status  |   |  |   |  |                      |  |                                   |
| - Rough  | Diagnostics -   |   |  |   |  |                      |  |                                   |
| Link Sca   | an Time/Error   | Stations  |  |   |  |                      |  |                                   |
| Gro  | pup No.1  | Present Present   | 3 ms 4aximum<br>ms 4aximum   | 4 ms  | Minimum<br>Minimum                         | 1 ms                 | Error Stns: 0 Un   | fixed Stns: 0<br>                 |
| Gro  | oup No.3  | Present   | ms Maximum   | ms  | Minimum                                    | ms                   |  |                                   |
| 6  | aun No 4  |   |  |   | _  |                      |  |                                   |
| Gro  | 50p 190.4   | Present   | - ms 4aximum   | ms  | Minimum                                    | ms                   |  |                                   |
| – Detailed<br>Diagnosti  | d Diagnostics -<br>ics Target Gro   | Present<br>oup Group No.1   | IP Address   | Transmission Sta  | Disconnections                             | Time-out Co          | The Latest Frror   | Error Details                     |
| Gro<br>– Detailec<br>Diagnosti<br>Station<br>1   | d Diagnostics -<br>ics Target Gro   | Present<br>oup Group No.1<br>Reserved Station<br>No Setting                             | IP Address<br>192.168.0.3  | Transmission Sta<br>Transmitting  | Minimum<br>Disconnections<br>0             | Time-out Co          | The Latest Error<br>No Error                             | Error Details                     |
| Gro<br>— Detaileo<br>Diagnosti<br>Station<br>1   | d Diagnostics -<br>ics Target Gro<br>Occpd Stns<br>1  | Present<br>Group No.1<br>Reserved Station<br>No Setting                                 | IP Address<br>192.168.0.3  | Transmission Sta<br>Transmitting  | Minimum<br>Disconnections<br>0             | Time-out Co<br>0     | The Latest Error<br>No Error                             | Error Details                     |
| Gro<br>— Detaileo<br>Diagnosti<br>Station<br>1<br>   | d Diagnostics   | Present<br>up Group No.1<br>Reserved Station<br>No Setting<br>                          | IP Address<br>192.168.0.3  | Transmission Sta<br>Transmitting  | Minimum<br>Disconnections<br>0<br>         | Time-out Co<br>0<br> | The Latest Error<br>No Error                             | Error Details                     |
| Gro<br>— Detaileo<br>Diagnosti<br>Station<br>1<br><br>   | d Diagnostics<br>ics Target Gro<br>. Occpd Stns<br>1<br><br>  | Reserved Station<br>No Setting  | IP Address           192.168.0.3   | Transmission Sta<br>Transmitting  | Minimum<br>Disconnections<br>0<br><br>     | Time-out Co<br>0<br> | The Latest Error<br>No Error<br>                         | Error Details<br>Error Detail     |
| Gro<br>– Detailer<br>Diagnosti<br>Station<br>1<br>   | d Diagnostics<br>ics Target Gro<br>. Occpd Stns<br>1<br><br>  | Present Group No.1 Reserved Station No Setting  | IP Address<br>192.168.0.3  | Transmission Sta<br>Transmitting  | Minimum<br>Disconnections<br>0<br><br><br> | ms                   | The Latest Error<br>No Error<br><br>                     | Error Details /<br>Error Detail   |
| Gro<br>– Detailer<br>Diagnosti<br>Station<br>1<br><br><br><br>   | d Diagnostics<br>ics Target Gro<br>. Occpd Stns<br>1<br><br><br>  | Present<br>up Group No.1<br>Reserved Station<br>No Setting<br>                          | IP Address<br>192.168.0.3  | Transmission Sta<br>Transmitting  | Minimum<br>Disconnections<br>0<br><br><br> | ms                   | The Latest Error<br>No Error                             | Error Details /<br>Error Detail   |
| Gru<br>— Detailer<br>Diagnost<br>Station<br>1<br><br><br><br><br>  | d Diagnostics<br>ics Target Gro<br>. Occpd Stns<br>1<br><br><br><br>  | Present   | IP Address     192.168.0.3   | Transmission Sta<br>Transmitting  | Minimum<br>Disconnections<br>0<br><br><br> | ms                   | The Latest Error<br>No Error<br><br><br>                 | Error Details Error Detail        |
| Gro<br>Detailer<br>Diagnost<br>Station<br>1<br><br><br><br><br><br><br><br>  | d Diagnostics<br>ics Target Gro<br>Occpd Stns<br>1<br><br><br><br>  | Present   | IP Address           192.168.0.3   | Transmission Sta<br>Transmitting  | Minimum Disconnections 0                   | ms                   | The Latest Error<br>No Error<br><br><br><br><br><br><br> | Error Details                     |
| Gro<br>— Detaileo<br>Diagnost<br>Station<br>1<br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br>  | d Diagnostics<br>ics Target Gro<br>Coccpd Stns<br>1<br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br> | Present   | IP Address           192.168.0.3   | Transmission Sta Transmitting   | Minimum Disconnections 0                   | ms                   | The Latest Error<br>No Error<br><br><br><br><br><br><br> | Error Details                     |
| Gru<br>— Detailer<br>Diagnost<br>Station<br>1<br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br>  | d Diagnostics   | Present   | IP Address           192.168.0.3   | Transmission Sta Transmitting Transmittin | Minimum Disconnections 0                   | ms                   | The Latest Error<br>No Error<br><br><br><br><br><br><br> | Error Details<br>Error Detail<br> |
| Grit<br>— Detailer<br>Diagnost<br>Station<br>1<br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br> | d Diagnostics   | Present           up         Group No.1           Reserved Station           No Setting | IP Address           192.168.0.3 <tr< td=""><td>Transmission Sta<br/>Transmitting</td><td>Minimum Disconnections 0</td><td> ms</td><td>The Latest Error<br/>No Error<br/><br/><br/><br/><br/><br/><br/></td><td>Error Details</td></tr<> | Transmission Sta<br>Transmitting  | Minimum Disconnections 0                   | ms                   | The Latest Error<br>No Error<br><br><br><br><br><br><br> | Error Details                     |

# 5. 打开调试助手软件

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选择合适的串口,设置通讯速率为9600bps;设8个数据位,无校验,1个停止位;

\_\_\_\_\_

| Serial Port Utility   |      | $\times$ |
|---|------|----------|
| File Edit View Tools Help                                   |      |          |
| 👝 🍋 🔚 🚥 🕂 — 🕨 🚺 🖬 🍾 ∓ 🌣                                     |      |          |
| Serial Port Setting   |      |          |
| Port USB Se (COM12) 🔻                                       |      |          |
| Baudrate 9600 -   |      |          |
| Data Bits 8 🔹   |      |          |
| Parity None -   |      |          |
| Stop Bits 1   |      |          |
| Flow Type None  |      |          |
| Receive Setting   |      |          |
| ◯ Text  |      |          |
| Auto Feed Line  |      |          |
| ☑ Display Send  | <br> |          |
| Display Time  |      |          |
| Send Setting  | Sei  | nd       |
| ◯ Text  |      |          |
| Loop 1000 🗭 ms FFFFFFFFFFFFFFFFFFF                          |      | •        |
| COM12 OPENED. 9600. 8. NONE. 1. OFF Rx: 0 Bytes Tx: 0 Bytes |      |          |

# 6.监控表

| ● 软元         | :件名(N) D500   | v Serial Port Utility -  | ) X          |
|--------------|---|--|--------------|
| ○痒油          | 方 <b>徒哭(m</b> ) 知能措性  | File Edit View Tools Help  |              |
| 0 50/14      | "子間級(M) 自形秩気<br>号(U)  |  |              |
| 軟元件名<br>D500 | F         E         D         C         B         A         9         8         7         6         5         4         3         2         1         0           1         | EXE Serial Fort Setting 13:52:08:49354 41 00 00 00 00 00 00 00 54 41 00 00 00 00 00 54   | 41 00 ~      |
| D501<br>D502 |   | Port USE Se (COM12)<br>54 41 00 00 00 00 00 00 00 00 00 00 00 00 00  | 00 00        |
| D503<br>D504 |   | Baudrate 9600  Baudrate 9600 Baudrate 9600 Baudrate 9600 Baudrate 9600 Baudrate 9600 Baudrate 96000 Baudrate 96 | 41 00        |
| D505         |   | Data Eits 8 • 54 41 88 88 88 88 88 88 88 88 88 88 88 88 88   | 00 00        |
| D508         |   | Parity None - 13:52:12:69954 41 80 80 80 80 80 80 80 80 54 41 80 80 80 80 80 80 80 80 80 80 80 80 80   | 41 00        |
| D510<br>D511 |   | Stop Bits 1 - 54 41 00 00 00 00 00 00 00 00 54 41 00 00 00 00 00 00 00 00 55 41 00 00 00 00 00 00 00 00 00 00 00 00 00   |              |
| D512<br>D513 |   | Flow Type None   Flow Type None Flow Type None Flow Typ | 00 00        |
| D514<br>D515 |   | Receive Setting 13:52:16:90454 41 00 00 00 00 00 00 00 00 00 00 00 00 00   | 41 00        |
| D516<br>D517 | 0         0 | 00 00 00 00 00 00 00 00 00 54 41 00 00 00 00 00 54 41 00 00 00 00 00 54 41 00 00 00 00 00 00 00 00 00 00 00 00 00  | 0000<br>FFFF |
| D518<br>D519 | 0         | FF FF FF<br>13:52:18:99954 41 00 00 00 00 00 00 00 54 41 00 00 00 00 00 54 41 00 00 00 00 00 00 54   | 41 00        |
| D620<br>D621 |   | OB 00 00 00 00 00 00 00 00 00 00 00 00 00  | 00 00 🗸      |
| D522<br>D523 |   | Display Time FFFFFFFFFFF   |              |
| D525         |   | Send Setting   | Send         |
| D527         |   | ○ Text ● Hex   |              |
| D529<br>D530 |   | Loop 1000 RS FFFFFFFFFFFFFFFF  | -            |
| D531         | 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0   | COM12 OPENED, 9600, 8, NONE, 1, OFF Rx: 15,810 Bytes Tx: 70 Bytes  |              |

### 

| 3 [ 钦元件/缓冲存储器批 × 零 2 [ 钦元件/缓冲存储器批 零 3 [ 钦元   | 🖞 📴 Serial Port Utility  | - 0   | ×              |
|--|--|---|----------------|
| ● 软元件名(N) D500 √ 打开  | File Edit View Tools Help  |   |                |
| ○ 缓冲存储器(II) 智能模块 (16进制)  |  |   |                |
| Field C         Field C <t< td=""><td>Serial Fort Setting       Port USE Set(COM12) *       Baudrate 9000 *       Data Bits 8 *       Parity None *       Stop Bits 1 *       Flow Type None *       Receive Setting       O Text       Text</td><td><math display="block">\begin{array}{cccccccccccccccccccccccccccccccccccc</math></td><td>00 00<br/>00 00</td></t<> | Serial Fort Setting       Port USE Set(COM12) *       Baudrate 9000 *       Data Bits 8 *       Parity None *       Stop Bits 1 *       Flow Type None *       Receive Setting       O Text       Text | $\begin{array}{cccccccccccccccccccccccccccccccccccc$  | 00 00<br>00 00 |
| Colin         O <tho< th="">         O         <tho< th=""> <tho< th=""></tho<></tho<></tho<>  | Auto Feed Line Display Send Display Time   | 8899888999899989999                                   |                |
| DS2         D <thd< th="">         D         <thd< th=""> <thd< th=""></thd<></thd<></thd<>  | Send Setting   | St  | ənd            |
| D684         G   | COM12 OPENED, 9600, 8, NONE, 1, O  | 00000000000000000000<br>FF Rx: 100 Bytes Tx: 10 Bytes | •              |

#### 

| ◎软元   | :件名(N)  | D600                      | Serial Port Utility             | - 🗆 X  |
|-------|---------|---------------------------|---------------------------------|--|
| 0     |         |                           | File Edit View Tools Help       |  |
|       |         |                           | File Edit view Tools Help       |  |
| ○缓冲   | 存储器(Ⅲ)  | 智能模块<br>号(U)              | 1 🔤 1                           |  |
| 软元件名  | FEDC    | B A 9 8 7 6 5 4 3 2 1 0   | Quill Burt Cattley              |  |
| D600  | 1 1 1 1 | 1 1 1 1 1 1 1 1 1 1 1 1   | Serial Fort Setting             |  |
| D601  | 1 1 1 1 | 1 1 1 1 1 1 1 1 1 1 1 1   |                                 |  |
| D602  | 1 1 1 1 | 1 1 1 1 1 1 1 1 1 1 1 1   | Port USB Se (COM12) •           | FF               |
| D603  | 1 1 1 1 | 1 1 1 1 1 1 1 1 1 1 1 1   | D 1 . 0000                      | FF               |
| D604  | 1 1 1 1 | 1 1 1 1 1 1 1 1 1 1 1     | Baudrate 9600                   | FF               |
| D/605 | 0 0 0 0 | 0 0 0 0 0 0 0 0 0 0 0     | Data Dita D                     | FF               |
| D606  | 0 0 0 0 | 0 0 0 0 0 0 0 0 0 0 0     | Data Bits 8                     | FF               |
| D607  | 0 0 0 0 | 0 0 0 0 0 0 0 0 0 0 0 0   | Devides News                    | FF               |
| D608  | 0 0 0 0 | 0 0 0 0 0 0 0 0 0 0 0     | Farity None •                   | FF               |
| D609  | 0 0 0 0 | 0 0 0 0 0 0 0 0 0 0 0 0 0 | Cause Diase 1                   |  |
| D610  | 0 0 0 0 | 0 0 0 0 0 0 0 0 0 0 0 0   | Stop bits 1                     |  |
| D611  | 0 0 0 0 | 0 0 0 0 0 0 0 0 0 0 0 0   | Flue Tress Name                 |  |
| D612  | 0 0 0 0 | 0 0 0 0 0 0 0 0 0 0 0     | Flow Type None *                | FF               |
| D613  | 0 0 0 0 | 0 0 0 0 0 0 0 0 0 0 0 0   |                                 | 14:07:34:023FF FF   |
| D614  | 0 0 0 0 | 0 0 0 0 0 0 0 0 0 0 0 0   | Receive Setting                 | 14:07:34:585FF FF   |
| D615  | 0 0 0 0 | 0 0 0 0 0 0 0 0 0 0 0 0   | Ketter betting                  | 14:07:35:192FF FF   |
| 0010  | 0 0 0 0 |                           | O Text   Hex                    | 14:87:35:784FF FF   |
| 0017  | 0 0 0 0 |                           | 0.000                           | 14-87-36-302EF FF F |
| 0618  | 0 0 0 0 |                           | - Auto Feed Line                |  |
| 0019  | 0 0 0 0 |                           |                                 |  |
| 0620  | 0 0 0 0 |                           | 🚽 🗹 Display Send                | 14:07:37:591FF FF   |
| 0.621 | 0 0 0 0 |                           |                                 |  |
| 0.622 | 0 0 0 0 |                           | 🔄 🗹 Display Time                |  |
| 0.023 | 0 0 0 0 |                           |                                 |  |
| 0.625 | 0 0 0 0 |                           | Sond Sotting                    | Send   |
| Depe  | 0 0 0 0 |                           | Jenu Jetting                    |  |
| D827  | 0.0.0   |                           | O Text 🔘 Hex                    |  |
| Deze  | 0 0 0 0 |                           |                                 | <u>b</u>   |
| D629  | 0 0 0 0 | 0 0 0 0 0 0 0 0 0 0 0 0   |                                 | 00000000000000000 +                                  |
| 0630  | 0 0 0 0 |                           |                                 |  |
| D631  | 0 0 0 0 | 0 0 0 0 0 0 0 0 0 0 0 0   | COM12 OPENED, 9600, 8, NONE, 1, | OFF Rx: 40.600 Bytes Tx: 0 Bytes                     |
| 0.000 |         |                           |                                 |  |

### 

| ● 软元   | 件名(N) D600  | V Serial Port Utility -  | ×   |
|--|---|--|---|
| ○缓冲  | 存储器(M) 智能模块<br>号(U)   | File Edit View Tools Help  |   |
| F7:59:40           0400           0401           0402           0403           0404           0405           0405           0406           0407           0408           0409 | $ \left[ \begin{array}{c c c c c c c c c c c c c c c c c c c $  | Serial Port Setting       00 00 0F FF FF FF 00 00 00 00 0F FF FF F   | 90<br>300<br>300<br>3FF<br>300<br>300<br>300<br>300<br>300<br>300<br>30 |
| D622<br>D623<br>D624<br>D625<br>D625<br>D625<br>D627<br>D628<br>D629<br>D629<br>D629<br>D630<br>D631   | 0         0 | Display Time         Send Setting           O Text         Hex           Loop 1000         ms           COM12 OPENED, 9600, 8, NONE, 1, OFF         Rx: 85,990 Bytes | lend  |







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