

# **XC** Series Edit Tool XCP Pro

**User Manual** 

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# 1、Use explanation

This chapter focuses on XC XCP Pro PC software installation system requirements, installation and unloading steps.

- 1-1 . Install system requirements
- 1-2. Install steps
- 1-3. Uninstall steps

### 1-1. System requirements :

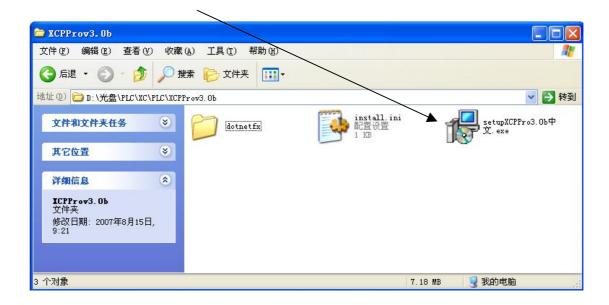
This software suit for running on the platforms as Windows 2000, Windows NT, Windows XP and other above.

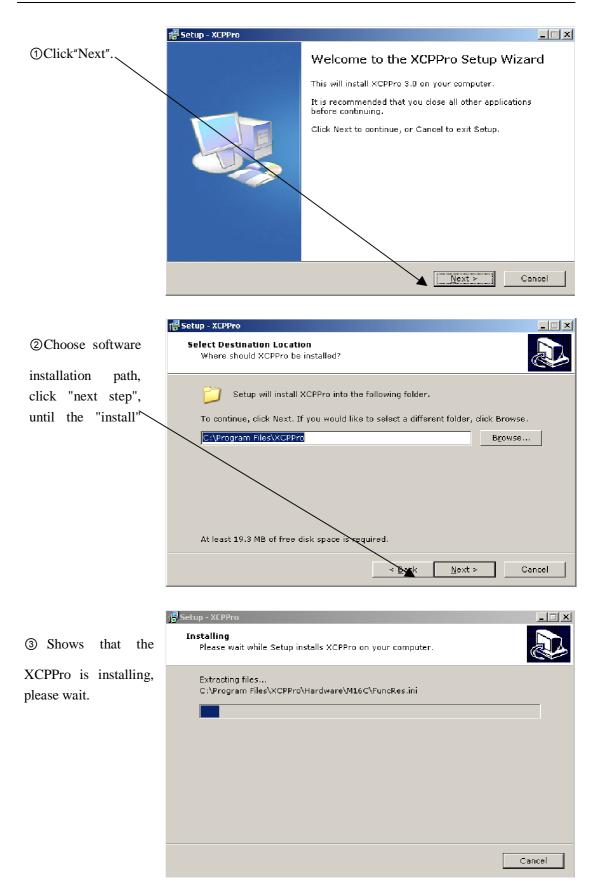
### **1-2. Install steps**

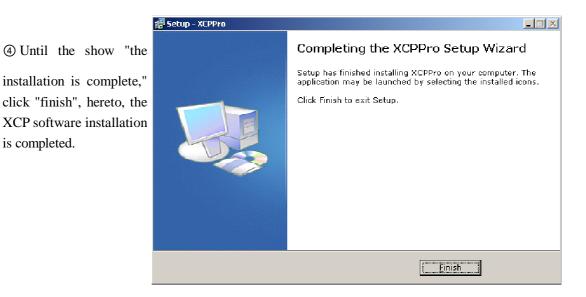
1. If your operation system have not installed the Framework2.0 library before, you should run the installation process "dotnetfx.exe" first, which is in the subfolder "dotnetfx" of the installation folder;

🖻 dotnetfx	
文件 (2) 编辑 (2) 查看 (Y) 收藏 (A) 工具 (2) 帮助 (A)	AT
○ 后退 ▼ ○ - 方 / / 按索 ○ 文件夹     ○ 注理▼	
地址 @) 🗀 D: \光盘\PLC\XC\PLC\XCPProv3. Ob\dotnetfx	🔽 🄁 转到
文件和文件夹任务 🍣 🎽 dotnetfx. exe LExpress Setup Microsoft Corpor Microsoft Corpor	
其它位置	
详细信息  SCC 文件 Update Package Microsoft Corpor	
dotnetfx.exe 应用程序 属性:只读 修改日期:2005年9月23 日,23:55 大小:22.4 MB	
描述: IExpress Setup 公司: Microsoft Corporation 文件版本: 2.0.50727.42 创建日期: 2007 22.4 (	MB 🚽 我的电脑 🔅

2, Double-click to operate the installation file"setup.exe";





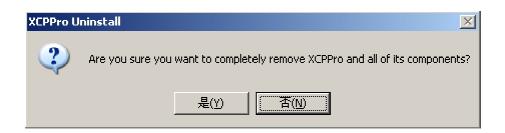


### 1-3. Uninstall steps

- 1, Choose "Start"  $\rightarrow$  "Setting"  $\rightarrow$  "Control panel"
- 2、 Double-click "Add/Delete XCP edit tool"
- 3、Pitch on "XCPPro3.0" in the list, press "Delete" in the lower right corner



4, Click [Yes] in the "Add or Remove Programs" screen



5、Uninstalling XCPPro

XCPPro Uninstall	×
Uninstall Status Please wait while XCPPro is removed from your computer.	18
Uninstalling XCPPro	
Ca	ncel

6. Prompt the uninstallation is successful.

# **2**, Basic operation

This chapter focuses on the most basic operations in XCP Pro, including open and close software, create and open the project, add and delete PLC type in the same project.

2-1 . Open and close the XCP Pro

 $2\mathchar`-2$  . Create and open the project

2-3 . Add and delete PLC type

### 2-1. Open and close the XCP Pro

- 1, Open the XCP Pro
- (1) Choose "Start"  $\rightarrow$  "All procedures"  $\rightarrow$  "XCP Pro"  $\rightarrow$  "XCPPro.exe".

		$\backslash$
	uterDr	
所有程序 (만) 👂	🛅 XCPPro	🕨 👘 uninstall
	m Thinget	XCPPro
	🛅 UltraEdit	•
🦺 开始 🔰 🙆 🍕	🛅 ZineMaker 2006	🖡 🦳 🛅 XCPProv3. C

(2) When the XCP Pro has just started, the screen display as shown below:

FE XCPP														
						<u>∿</u> nde.v								
	ē	6 9	B		66	24								
Ro-	40,32 C		<b>3</b> 75			No 5:	slect PL/							.d

**Note:** You can also double-click the shortcut icon " on the desktop to open the procedure.

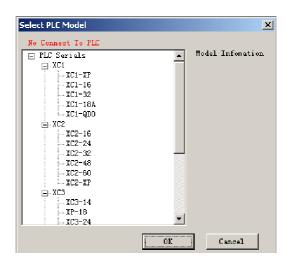
2, Close the XCP Pro

Choose "File" $\rightarrow$ "Exit", or directly click the button "

### 2-2. Create and open the project

### 1. Create a new project

(1) Choose "File"→"New project Ctrl+N ", or click icon "□", the PLC model selection windows will pop up. If PLC has connected currently, the software will automatically detect the model, as the default, as follows:



(2) Select the PLC model in the "Select PLC Model" windows, then click "OK", the

establishment of a new project is completed. As shown

below:

1 MORPH		<u>= 0 ×</u>
The Tell Swidt Also ReCipitals Refering Con-	n Alanse en	
📄 😅 🗑 👗 🖻 🛍 🍛 👪 🗟	😑 중 🚳 😃 습 🖸 🚨 🍰 🗟 🖼 🛒 💁 🗮	
中国語 米田 隆小 中 マーデー・マーベン 受 training the store オード also store オード	"梁禄市茶,为四加四百日。 🔁 🖬 😫	
fixibit • >	FUCI -Lodden	4.2.3
📴 Project		
Average     A	* fire in           * fire in           * fire in           * fire in           * fire in	3 L
📲 sha a des 🥵 a 🖉		
ES (3)	Authorsed Comprision Comprision 1	
第日報 ● 日本 ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ●	- Yexali Jon 、 💿 Ar 文字-For Jon ム 、 👔 白山雅 JU- 初刊論 、 🗁 市山- A	🗄 🖸 💈 📲 × 🙆 🕹 🐙 1843

### 2、Open project

Choose "File" $\rightarrow$ "Open project", or click icon " $\square$ ", then select \*. xcp type of file in the "Open PLC project file" dialog box, click the "open", it's completed.

Open PLC Projec	t File	? ×
查找范围(I):	😪 共享 在 mww (Mww)上 🔽 🕓 🤣 📂 🖽 •	
Cont Recent 原面 教的文档 戦的电脑 网上邻居	■페PLC与变频器通讯.xcp ■페PULSEO出错改正(14、60点V0Y1互相影响).xcp ■페海狮手动OK.xcp ■페宏兴220T(0309).xcp ■페目由通讯与台达变频器CRC.xcp	
		F
	文件名 @): 打: 打:	甲(0)
	文件类型 ①): PLC Project (*. xcp) 🔽	则

**Note:** Usually, when you open a XCP project, the system backup the original file automatically, file named \*. rak for reunification. When the need to use the file, change the suffix to be ". xcp", then open it in XCP Pro.

### 2-3. Add and delete the PLC mode

When project new created, it is defaulted for PLC1. When user needs to edit a number of PLCs, they can add multi-object to a interface.

1、 Add PLC

Method 1 : Click "File"  $\rightarrow$  "Add PLC".

Method 2 : In project column which is on the left side, right-click "PLC1" $\rightarrow$ "Add PLC", as

follows:

When PLC is added successfully, it will be named "PLC2" acquiescently, and the project column in the left side will change also, as shown below:

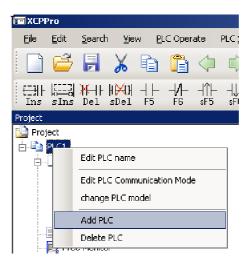


When edit different PLCs, only need to click the plc simply. What's more, users can also modify appropriate name, edit communication mode, change models or delete operation on the corresponding PLC.

2, Delete models

Method 1: Right-click the PLC to delete directly, select "Delete PLC".

Method 2: First select the PLC to delete, and then to "File" $\rightarrow$ "Delete PLC".



After the operation, system will hint whether or not to delete, as follows:

Hint		×
? Delete	PPLC2	
确定	取消	

To confirm the deletion, click "OK", otherwise, click "Cancel."

**Note:** The code between different PLC editor objects can copy each other, the code between different projects can also copy and paste.

# 3, Basic introduction of edit environment

This chapter focuses on basic structure of XCP Pro software, the main function of the Toolbar, the menu bar, the project bar, and shortcut key in common use.

3-1 . The basic form of interface

3-2 . Conventional Toolbar

3-3 . PLCToolbar

3-4 . Ladder input Toolbar

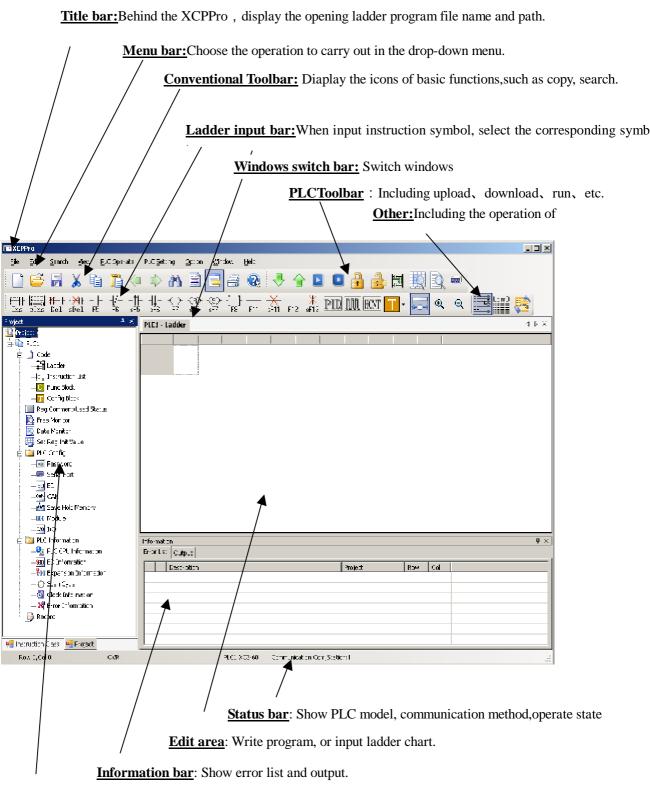
3-5 . Else

3-6 . Menu bar

3-7 . Project bar

3-8 . Shortcut key introduction

### 3-1. The basic form of interface



**Project bar/Instruction bar**: Show project catalog and instruction list. The object in project bar is for user's convenient operation, these functions are included in menu bar also.

Note: Each window can adjust place and size at will.

# **3-2.** Conventional Toolbar

	New	New Create a Ladder program
2	Open	Open an edited (saved) file
	Save	Save the modified or new created file
X	Cut	Cut in the specified scope
È	Сору	Copy within the scope of instruction
	Paste	Paste the cutted and copied contents to a designated location
	Go back	Go back to the region of previous cursor
	Go forward	Go forward to the region of next cursor
	Search	Search the statement or string
	Note	Show node comment
E	Instruction tooltip	Instruction tooltip open/close
	Printer	Print the current file
	Help	See related XC instructions for use

# 3-3. PLC Toolbar

<b>-</b>	Download	Download the editing program or data into PLC EMS memory
	Upload	Read the program or data in PLC memory out
	Run	Run PLC
	Stop	Stop PLC
-	Lock	Lock program

C C	Unlock	Unlock program
蕸	Lad monitor	Monitor the operation process of ladder chart program
Q	Data monitor	Monitor and set state, data of all PLC soft elements
Ē,	Free monitor	Monitor and set state, data of specified PLC soft elements
<b>(111)</b>	Software serial port config	Config software serial port

# 3-4. Ladder Chart Input Bar

<del>[]</del>  ⊦ Ins	Insert a node	-(S)- sF7	Set
sIns	Insert a row	{_} F8	Instruction frame
¥⊷   Del	Delete a Node	F11	Horizontal Line
∦₩} sDel	Delete a Row	¥- \$F11	Delete Horizontal Line
	Normally Open Node	 F12	Vertical Line
	Normally Closed Node	¥ ₅F12	Delete Vertical Line
_ ↑ - ₅F5	Rising Edge Pulse	PID	PID Instruction Parameter Config
-    - sF6	Falling Edge Pulse	M	Pulse Instruction Parameter Config
-< >- F7	Out	HCNT	High-speed Count 24-section Config
-(R)- sF8	Reset	Τ	G-BOX SMS Config

# 3-5. Other

	Auto-adapt Col Width	Auto-adjust col width to a appropriate length
Ð	Zoom In	Zoom in ladder chart
Q	Zoom Out	Zoom out ladder chart
	To Ladder	Convert instruction list into ladder chart
Ld m0	To Instruction List	Convert ladder chart into instruction list
	Grammer Check	Check user procedure on grammer

### 3-6. Menu Bar Introduction

### 3-6-1. "File"

Eile	Edit Search View F	
	New project Ctrl+N	— Creat a new project
6	Open project	— Open a created project
	Close Project	— Close the current project
	Save Project Ctrl+S	— Save the current project
	Save Project As	_ Save the current project with a new file name
	Add PLC	— Add a new PLC edit object
	Delete PLC	— Delete the selected PLC edit object
	Change PLC Model	— Change the selected PLC model
	Import Download File	Import/export as download file (no source file),
	Export Download File	— used for production in procedure secrecy circumstance
<b>S</b>	Print Set Ctrl+P	— Set print option
	Print	— Start print
	Recent Projects	— Can op <i>e</i> n recent edited project
	E <u>x</u> it	Exit

## 3-6-2. "Edit"

Edit	: <u>S</u> earch	<u>V</u> iew <u>P</u> LO	і Оре	
	Undo	Ctrl+Z		
	Redo	Ctrl+Y		Resume last withdrawed operation (Repeat 20 times)
X	Cut	Ctrl+X		
È	Сору	Ctrl+C		———— Copy instructions, ladder chart
Ē	Paste	Ctrl+V		Paste the copied/cutted instructions/ladder chart in specified place
	Select All	Ctrl+A		Pitch on all current instructions/ladder chart
	Delete	Delete		Delete the chosen instructions, ladder chart
	Insert Row	Shift+Ins		Insert a row in specified place
	Delete Row	Shift+Del		· ·
*	Delete Vertio	al Line		Delete the current vertical line
태	Insert Node	Ins		Insert a node in specified place
₩	Delete Node			Delete the current node
	Edit Node Co	omment		Comment about the node
	Lad Instructi	ion	▶	———— Ladder icons, usage see "Ladder input bar"

# 3-6-3. "Search/Replace"

<u>S</u> ea	rch <u>V</u> iew	PLC Operate	F
<b>#</b>	Search Reg	Ctrl+F	Search specified soft element
	Search Step	Ctrl+T	———— Search specified step ID
	Replace	Ctrl+R	
	Go Back	Alt+Left	Go back to the region of last cursor
	Go Forward	Alt+Right	Go forward to the region of next cursor (Relative to go back operation)

### 3-6-4. "View"

Viev	w <u>P</u> LC Operate PLC <u>S</u> etting	
	Data Monitor Window	– Show data monitor window
	Free Monitor Window	– Show free monitor window
	Project Window	– Show project window
	Instruction Help Window	- Show instruction help window
	Message Window	– Show message window
	Tool Bar 🛛 🕨 🚽	— Show Toolbar
	Status Bar	— Show status bar
€	Zoom In	– Zoom in the ladder to display
Q	Zoom Out	– Zoom out the ladder to display
FII	Show Lad	— Show ladder chart
ld	Show Instruction List	- Show instruction list
	Show Node Comment	– Show node comment in ladder chart
	Used Reg List	— Show the used soft element list
	Node Comment List	— Show the node comment list

### 3-6-5. "PLCOperate"

In the basic operation of PLC, there are several items, listed as below, need attention:

Ø The usage of secret download

Please be sure to attention, in order to protect users' intellectual property, after the use of secret download, the program or data in PLC will never be able to upload, and the program is unable to decipher.

Ø Stop PLC when PLC reboot

When user program error, bring on as run will not be able to communicate, use "Stop PLC when PLC reboot", make PLC stop as soon as reboot, then can re-download user program.

Ø Lock/Unlock program

When using the function, first set the user program password, then download, password and program will be download into PLC together. When user want to upload, they need to input password to unlock the PLC at first, then can upload.

When PLC with password, it can re-download user program also, cover with the old program. The password is used to protect user program.

Note: Specific PLC information see P29.

## 3-6-6. "PLCSetting"

PLC	<u>Setting</u> Option <u>W</u> indow	
PLC Serial Port Setting		PLC serial port parament setting
	Password Setting	PLC encrypt password setting
	BD Setting	PLC expansion BD board specified setting
	CAN Setting	——————————————————————————————————————
	Module Setting	Expansion module basic setting
	PLC Init Value Setting	PLC initialization value setting
	Hold Mem Setting	——— Power-off hold mem setting
	PLC Initializtion	Initialize PLC to factory state

## 3-6-7. "Option"

Option <u>W</u> indow <u>H</u> elp		
	Communication Mode Config	PLC communication mode config
	TBOX Device Config ————	TBOX device config
	Func Block Config	Function block config
( <b>111</b> )	Software Serial Port Config	Software serial port parament config
	Default Unlock Psw Config	Default unlock password config
	Instruction Tooltip	Open/close instruction tooltip function

### 3-6-8. "Window"

Win	ndow <u>H</u> elp	
	Dock MDI	Window can stop at interface border arbitrarily
	<u>S</u> ystem MDI ► -	Windows traditional style, the window stop is restricted
	Previous	Previous
	Next	Next
~	<u>1</u> PLC1 - Ladder	The name of current enabled window

Help	울 XC Series PLC Help(v2.5)	
Help( <u>H</u> ) F1		
About( <u>A</u> )	中国地区       中国地区	Preface The programming of XC series prog Support two kinds o In XC series PLC, t screen And, these tw Rich basic functions Based on the theory o series PLC can support application instruction and shift of data etc. compare instruction
<b>3-7. Project bar</b> The left column includs "Project bar" and "Instruction class bar". Project bar: Most operation in project bar have related to in menu bar and tool bar, it will not go into details here. Instruction class bar:	Thinget :	×

## 3-6-9. "Help"

accordance with the different funcyions, then users can search directly, as follows:

Classify instructions in

Instruction Class	<b>4</b> ×			
Search:				
🖃 🗐 Instruction Class				
🖬 🤠 🗐 Input Instruction				
📴 ᡚ Output Instruction				
🗄 ᡚ Flow Control Instruction				
🛓 ᡚ Data Move Instruction				
🗓 🤨 Data Operation				
📄 🤨 Data Shift				
🔁 😳 Data Convert				
🗓 😳 Floating Point				
🗄 🗐 Clock Operation				
🖪 ⊡ 😳 Special Function				
🗄 🗐 Label Instruction				
🗄 🗐 Communication Instruction				
⊡-@] Motion Control				

### **3-8. Shortcut key instruction**

Ctrl+N	Creat a new project	Shift+ F6	Falling edge pulse
Ctrl+S	Save project	F7	Output
Ctrl+P	Print config	Shift+ F8	Reset
Ctrl+Z	Undo	Shift+ F7	Set
Ctrl+Y	Redo	F8	Other
Ctrl+C	Сору	F11	Horizontal line
Ctrl+V	Paste	Shift+F11	Delete horizontal line
Ctrl+X	Cut	F12	Vertical line
Ctrl+A	Select all	Shift+F12	Delete vertical line
Delete	Delete	Ctrl+F	Search soft element
Shift+Insert	Insert a raw	Ctrl+T	Sear step ID
Shift+Delete	Delete a raw	Ctrl+R	Replace
Ins	Insert a node	Alt+Left	Go back
F5	Commonly open node	Alt+Right	Go forward
F6	Commonly close node	Ctrl+G	Grammer check
Shift+ F5	Rising edge pulse	F1	Help

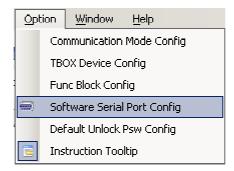
# 4. Simple function realization

This chapter focuses on realization of PLC basic functions, including online, upload/download program, run/stop PLC, upload/download data, specified information search, PLC initialization, lock/unlock program, print, etc.

- 4-1 . Online
- 4-2 . Upload/download program, and PLC status control
- 4-3 . Set PLC initialize value, upload/download data
- 4-4 . PLC and module information enquire
- 4-5 . PLC initialization
- 4-6 . Lock/Unlock program
- 4-7 . Print

### 4-1. Online

1. Click menu bar, "option" $\rightarrow$ "software serial port config", or click icon "".



- In "Config Software ComPort" window, choose correct serial port, baudrate, parity, or click "Check", software will check and set correct serial port, baudrate, parity automatically.
- 3, When red word "Connect PLC Succeeded" showing in the left bottom of "Config Software

ComPort" window, online success, connect succeed, check "OK", continueother operations.

Co	onfig Software	ComPort		×
	-Serial Port(		Baudrate (B)	<u> </u>
		<ul> <li>С сом5</li> <li>С сом6</li> </ul>	<ul> <li>4800BPS</li> <li>9600BPS</li> </ul>	
	COM3	O COM7	Parity(P)	
	O COM4	© COM8	O None O	Odd 💿 Even
	—Other set —			
	Databits:8	Stopbits:1		
	Connect PLC Su	cceeded	Check OK	Cancel

4, When online unsucceeded, "Communication Error" will show in red word in the left bottom of

"Config Software Comport" window, please check computer comport, communication cable and PLC communication port.

Co	onfig Software	ComPort	×				
	-Serial Port(	<u>c</u> )	-Baudrate(B)				
	O COM1	O COM5	O 4800BPS O 19200BPS				
	🔘 COM2	🔘 COM6	© 9600BPS © 38400BPS				
	⊙ COM3	O COM7	-Parity(P)				
	O COM4	O COM8	🔿 None 🔿 Odd 💿 Even				
	—Other set —						
	Databits:8	Stopbits:1					
	Communication Error Check OK Cancel						

## 4-2. Download/Upload program, PLC state control

1, When online succeeded, click "PLC operation" in menu bar $\rightarrow$  "upload program&data ", or click

or

"💼" ice	on, can upload the PLC program. Click "project" in menu bar $\rightarrow$	"save p	roject",
" <b>[]]</b> " ico	on, can save program.		
		×	
	Upload Succeeded		
	Cancel		

2、When online succeeded, click "PLC operate" in menu bar→"Download Program & Data", or

click is running, the "stop running PLC" window will pop up.

Downloading Progra	m	×
Compiling	Download PLC Code	
	PLC Code running, continue?	
	<b>備定</b> 取消	

Choose "OK", PLC stop run, download new program. While downloading, the guage pop up.

	Downloading Program	×
	Downloading	
	Cancel	
After do	ownload program, click <b>D</b> button to run PLC.	
State con	ıtrol	
After or	nline, click 🔟 button to run PLC; click 回 button to stop PLC.	

3、

### 4-3. Set PLC initial value, upload/download data

### **4-3-1.** Initial value settings

Click "Set Reg Init Value" in project bar, the "Init Reg Value" window will pop up.

PLC1 - Ladder PLC1 - Init Reg Value										
Add Edit	Add Edit Del									
	Begin	End	Point	Comment						
Þ										
Dec Bin	Hex No Sign ASCII Upload	Download Default:								
	+0 +1	+2 +3 +4	+5 +6 +7	+8 +9						

- Ø "Upload":Upload the data of PLC soft element; "Download": download the set value into PLC.
- Ø The numerical value can switch between "decimal", "binary", "hexadecimal", "no

symbol", "ASCII".

Ø Add soft element: Click "add" button, "Add Reg Init Value Range" window pop up, choose register model 'D' or 'FD', then set begin and end address.

Add Reg Init Value Range 🛛 🗙								
Type	Begin: End:	<b>D</b>	Num :	0				
		OK		ancel				

The below chart is the initial value settings of adding two registers, double-click address ID, modify numerical value.

PLC1 - Ladder PLC1 - Init Reg Value									4 Þ ×	
Add Edit Del										
		Begin		End			Point		Comment	
► I		DO		D10			11			
	D100			D120			21			
Dec Bin	Hex No Sign	ASCII   Up	load Downloa	ad Default:						
	+0	+1	+2	+3	+4	+5	+6	+7	+8	+9
▶ D0	0	0	O	0	0	0	0	0	0	0
D10	0									

### 4-3-2. Upload/Download data

Method 1: If the operation object is a part of address, set initial value at first, then click "upload",

### "download" button.

Method 2: If operation object is the whole address, click "PLC operate" in menu bar $\rightarrow$ "Upload data", "Download data".

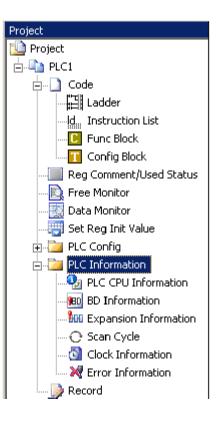
#### 4-4. PLCand module information enquiry

### Method1:

- ① Click "Project column"→"PLC information", a catalog will appear;
- ② Click "PLC main unit information","BD board information", "expansion module information", "scan cycle", "error information" on the respective, then you can see corresponding information.

Method 2:

Click correlative items in the left side, "Project culumn" $\rightarrow$  "PLC information", to view directly, shown as right.



### 4-4-1. PLC main unit information

Show PLC series, model, slave version and befitting master version.

PLC Information		×
🖃 📴 PLC Information		
📲 💁 PLC CPV Informatio	Serial: XC3	
	Model: XC3-32	
	PLC HW Version:	V3.1c
🔤 🏹 Error Information	Suitable Software Version:	V3. 0
		OK

### 4-4-2. BD board information

Show BD input/output points, input/output bytes, primary/secondary version, and BD board name.

🗆 🍙 PLC信息			
- 🕗 PLC本体信息	输入点数目	: 0	
· · · · · · · · · · · · · · · · · · ·	输出点数目	: 0	
- ○ 扫描周期	输入字节数	: 0	
	输出字节数	: 0	
	模块存储空	间的地址长度: 0	
	主版本号:	0	
	次版本号:	0	
	描述信息:		
			确定

### 4-4-3. Expansion module information

Show module information (content as BD board).

PLC Information			×
PLC Information PLC CPU Information BD Information Expansion Informat Scen Cycle Clock Information Error Information	#1 No Module #2 No Module #3 No Module #4 No Module #5 No Module #6 No Module #7 No Module	Input Points Num: Output Points Num: Input Bytes Num: Output Bytes Num: Module Mem Address Length: Main Version: Sub Version: Comment:	
			OK

### 4-4-4. Scan cycle

Show current cycle, Min/Max cycle of ladder chart program.

PLC Information				×
🖃 📴 PLC Information				
- 🎭 PLC CPU Informatio	Current Cycle:	1	ms	
BD Information	Min Cycle:	0	ms	
	-			
	Max Cycle:	2	MS	
K Error Information				
				ÖK

### 4-4-5. Clock information

Show current clock date information.

PLC Information		×
PLC Information     PLC CPU Information     PLC CPU Information     BD Information     CE Expansion Informat     C Scan Cycle     Clock Information     X Error Information	2000-0-0 0:0:0 Sunday	
۲ <u> </u>		OK

### 4-4-6. Error information

Show compilation error information.

PLC Information		×
😑 🚞 PLC Information	Error Item	Connent
-Q PLC CPV Informatio	Module Communication Error	
- BD Information	Operation Error	
Expansion Informat	Scan Over Time:	
	Ho User Program Error	
Clock Information	User Program Error	
💥 Error Information	🗖 Ram Error	
	Offset Overflow Error	
	Offset Overflow Bit	
-	FOR-NEXT Overflow Error	
	🔲 Hardware Bog Run	
	SSFD Check Error	
	CAN Selfcheck Error Flag	
	CAN Config Check Error Flag	
		OK

### 4-5. PLC Initialization

Choose "PLC setting" in menu bar $\rightarrow$ "PLC Initialization", PLC will be initialized to leave factory settings.



#### 4-6. Lock/Unlock program

When password setted, the PLC program cannot be read out in lock state, in order to protect program. If repeatedly enter password error, PLC will blockade password automatically. Here, PLC need a re-electrify, then can open password and upload.

#### 4-6-1. Password settings

Click "PLC setting" in project bar  $\rightarrow$  "Password", or "PLC config" in menu bar $\rightarrow$  "password", the password can be set and modified. Password is make up of 6 letters/numerals. The system default for six zero, that is no password.

PLC1 - Password Set		×
PLC Config Password Pass	Input Password: ****** Input Password again: ******	
	OK Cancel	

### 4-6-2. Lock/Unlock

When password set succeeded, click icon to lock the current PLC. So in the process of upload the PLC program, only enter corret password, the program can upload successfully; click icon to unlock the current PLC, the program can upload in normal.

### 4-6-3. The default password decryption settings

To menu bar"Option" $\rightarrow$  "Default Unlock Psw Config", set unlock password.

Config Hide Password	×
123456	123456
	Add
	Edit
	Del
	Close

In the process of using secreted PLC, if need to upload procedure frequently, or enter different passwords to different secreted PLCs, users can set default decryption password. As shown above, users can set a number of decryption password. Then in the upload process, no need to enter password repeatedly.

### 4-7. Print

Click "File" $\rightarrow$ "Print", the print config window will pop up, the program can be printed in ladder chart or instruction mode.

打印机 名称(M):	Generic Colour PostScript	<b>v</b>	属性 (2)
状态: 类型: 位置:	) 准备就绪 AdobePS GenericColourPostScri LPT1:		Mali (2)
备注:			11印到文件 (L)
打印范围 ① 全部 (4)	)	份数 份数 (C):	1
○页码范	, 围侵)从便): 0到①): 0 围(3)		23 回自动分页 (0

Print object:

① Ladder chart, command, note;

② Print all or part (separated with cursor), all is allowed.

Print settings:

Γ

- ① Choose printer
- 2 Print range
- ③ Print amount

# 5、 Programme operation

This chapter focuses on the introduction in the XCP Pro programme environment, including method, configure and idiographic operation process, which may be involved in a wide variety of programme.

5-1 . Programme mode
5-2 . Instruction sign input
5-3 . Ladder chart edit

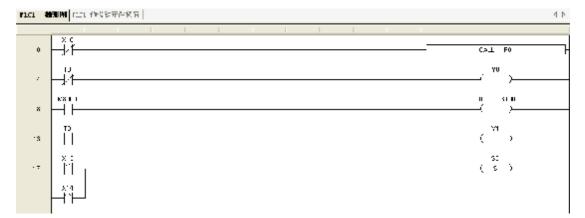
5-4 . Correlative configure

5-5 . Sofe element monitor

### 5-1. Programme mode

XCPPro can program in two methods: ladder chart programme or repertoire programme.

**ladder chart programme:** intuitionistic and convenient, is chosen by the majority of PLC programme and maintenance personnel.



**Repertoire programme:** suit for the personnel who is familiar with PLC and experienced in logic programme.

PLC1 -	<mark>命令语</mark> I	PLC1-预设部	吹元件初值					
0 2 4 6 8	LDI	X10						
2	CALL	PO						
4	LDI	TO						
6	OUT	YO						
	LD	M8000						
10	OUT	TO	K100					
13	LD	то						
15	OUT	Y1						
17	LDP	X13						
19	ORP	X14						
21	SET	SO						
23	LDP	X12						
25	RST	T1 TO						
27 29	RST	ТО SO						
29 31	STL LDI	30 T1						
33	OUT	Y2						
35 35	LD	M8000						
37 37	OUT	T1	K50					
40	RST	Ϋ́	N30					
2	LD	T1						
4	OUT	Y3						
6	STLE	10						
7	FEND							
8	PO							
50	LD	M8000						
52	OUT	Y3						
54	LDP	X12						
6	RST	Y3						
58	SRET							
59	LD	M8000						
51	PLSR	DO	D2	D4	YO			
56	OUT	C600	D10	D100				

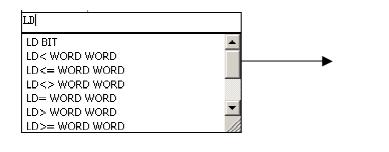
### **5-2. Input instruction**

#### **5-2-1. Instruction prompt**

When users write instructions in ladder chart mode, they can open instruction prompt function via click "<sup>[]</sup>" icon. In manual input state, the system will automatically list correlative instructions for users to choose, and put up choice tips on operand, to help users quickly and correctly complete the instruction input.

For those not familiar with the directive of the user's operation.

Shown as the left figure, when input "LD", the system will pop up instructions start with "LD", convenient for users' operation who is not faniliar with the instrutions.



# LD BIT

Input Instruction:Initial logic operation contact type NO (Normally Open)

#### Operand 1

Bit Operator
 Operator Type:Object,Object With Offset,Bit of Word Object,Bit of Word Object With Offset
 Bit Operator:X,Y,M,S,T,C,M8000
 Word Operator:D,FD,TD,CD,D8000,FD8000



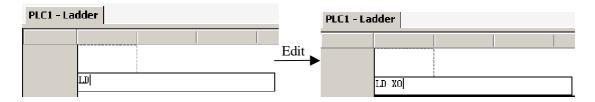
After instruction comfirmed, the system will put up correlative prompt on operand, such as operand attribute, available address type, etc.

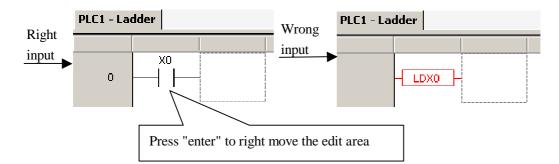
## 5-2-2. Input node

Icon	Function	Shortcut key
-   - F5	Commonly open node	F5
	Commonly close node	F6
_ ↑ - ₅F5	Rising edge	Shift+F5
- ↓ - sF6	Falling edge	Shift+F6

Take example to explain the instructiom input:

Mouse left bond click a certain node in ladder chart, the display area in dotted line box denote the chosen node; first click " $\overset{\neg}{}_{F5}$ " icon (or press F5 key), the figure will show a dialog box (LD M0), it can edit instruction and loop in dialog box. When edit finished, press "Enter" button, if input error, then the node will show in red. Double-click the node, user can afresh input operation.





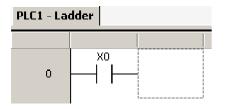
# 5-2-3. Input loop

Icon	Function	Shortcut key
-< .≻ F7	Output loop, timer and counter	F7
-(S)- sF7	Set loop	Shift+F7
- <r>- sF8</r>	Reset loop	Shift+F8
{}}	Edit instruction	F8

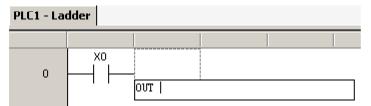
Next take example to explain the instruction input:

# Ex1: Loop output

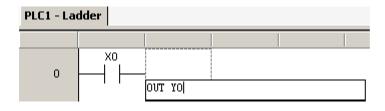
① After the ladder's first node X0 input, the dotted line box right move a lattice;



(2) Click "[F7]" icon (or press F7 key), the instruction dialog window pop up (OUT);



③ Input Y0 in the cursor place;



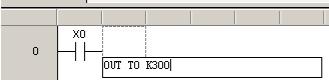
④ Press "Enter" key, if input correct, then dotted line box move to the next row; if not, the node will show in red, double-click the node to modify.

PLC1 - Ladder					4 Þ ×
				( )	

#### EX2: Timer and cunter input

① The input method of timer: OUT+Timer number+blank+timing hour

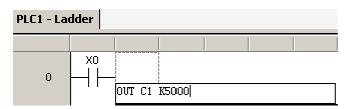
#### PLC1 - Ladder



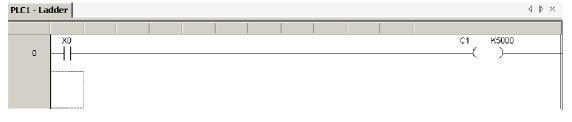
Aftere input correct, press enter, then dotted line box line wrap.



② Counter input mode: OUT+blank+counter number+blank+count value



After input correct, press enter, then dotted line box line wrap.



### Ex3: Other instruction input

1 Click "<sup>[F8]</sup>" icon (or press F8 key), left side column show instruction list; douvle-click the

Instruction Class PLCL - Ladder  $\leq k \times k$ Search: E 🗓 instition das ¢ --0 FТ SET BIT -510 7040 703 -id=4 Conirol Instruction Ocen the assigned No+1, disseline current No+1 Operano ( 1 Et Operator 2 Operator TyseeObject 3 Et. Operator S एस आ २ज Æ SREI Diferencia ज ~ ញ៍ ភ. ញិ ភ.£ Encilist Durbut Eescrip: or Fige Sec. Deta Viewe Instruction 3-0

input instruction, the instruction is activated in appointed area, input parameter.

 Users who are familiar with instructions can double-click input area, manually input instructions and parameters;

Double-click the activated area:

∃-EÍ Data Operation. ⊐ I die Her

PLC1 - Ladder									
o	мо 								

Input instruction and operand in dialog box.

③ Aftere input correct, press enter, then input area line wrap.



Notice:

- Ø Instruction input mode: instruction + blank + operand.
- Ø The red node means it's error.
- Ø Pay attention to connection, make sure it's integrated.

#### 5-2-4. Special instruction

The several instructions mentioned below, can lead user to complete correlative instruction set through icon in dialog box rormat at a glance, the parameter settings is more clear.

#### 1、 PID instruction

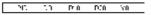
Ø Parameter settings and instruction transfer

Put the cursor in instruction input point, then click "DD" icon in instruction bar, the parameter set dialog box pop up, the setting item include address, PID parameter in common use, mode settings, overshoot, direction, etc. As follows:

PID Instruction Parameter Config	<u>×</u>
Target Value (SV) D0 Measure Value (PV)	D10 Parameter: D4000 Output: TO
Parameter Config © Manual O Auto	-Mode Config © Common Mode © Advanced Mode
Sampling Time : 0 📩 ms	Input Filter Constant (a):
Proportion Gain (XP): 0 × %	Differential Increase (KD): 50 😴 % Output Upper Limit Value: 4095 😴
Integration Time (TI): 0 * *100ms Differential Time (TD): 0 * *10ms	Output Lower Limit Value:
PID Computation Scope : 0	Direction Config
PID Control Death Region: 0	Negative Movement C Positive Movement Negative Movement: Along with the increase of the measures definite value PV, outputvalue MV will also reduce. It's usually used in heat up control.
-Overshoot Config	Positive Movement: Along with the
<ul> <li>⑦ Enable Overshoot</li> <li>⑦ Disable Overshoot</li> <li>Bach time adjust the increase: 100</li></ul>	increase of the measures definite value PV, outputvalue MV will also increase. It's usually used in cool control.
Current target value resident Count: 15 😴	Hold Mem Register:Can't Read Paramter Range:D4000 - D4043
Read From	m PLC Write To PLC OK Cancel

After the set of parameter, click "OK", the instruction appear in the ladder chart window, as follows:

57



#### Ø Parameter modification

To edit parameters, double-click the instruction to modify address, other parameters canbe modified through free monitor manually, can also click on

To edit parameters, double-click on the directive to address changes to other parameters can be modified through free monitor manually, can also click on the instructions, then click on """, to modify parameters.

- 2, Pulse output instructions
- Ø Parameter settings and instruction calling

Posit cursor to instruction input point, then click "IIII" icon in instruction bar, parameter

setting dialog box poop up, the set items include instruction kinds, bit, segment, frequency, accelerate and decelerate time, config, adress, etc. As shown below:

Pulse Instruction Parameter Config	×
Puls: Instruction International Content of Description (ISA and V	
G 16 bit □ 22 bit     Single □ 24 Segment	
Frequency: IC Fulse Barber: 12 Accelerate and Iscelerate Time 104 Output Palse 7 Man 20	
Sunfig Value	7
Accelerate And Decelerate Time: 0	
l Grequency: C 21 Sulse Ban 0 2	
Lead From FLC Mrite Do FLC CX Daniel	

When parameter settings completed, click "OK", instruction will present to the ladder chart area, shown as follows:

·						
ΪL	PLER	DC	12	D4	- 70	
						_

#### Ø Parameter modification

When modify parameter, double-click the instruction to modify address, other parameter can be modifed in free monitor manually. It can also single-click the instruction, then click "<sup>[IIII]</sup>" to

modify parameter..

#### 3、High speed conter 24-segment instruction

#### Ø Set parameter and call instruction

Make the cursor position to input point, then click "<sup>[M]</sup>" icon in instruction bar, parameter config box pop up. The config items include high speed count, campare value, 24-segment config value, etc. As shown below:

High Speed Count 24 Section Config
High Speed Count : C600 Compare Value: D10 Interrupt Address: D100
Config Value
Compare Value: 1 😴 Section Num: 1
1 Count Num: 0
Read From PLC Write To PLC OK Cancel

After parameter setted, click OK, instruction appear in ladder chart appointed area, sa shown below:

2600 P.C. P.OC 5 2 Ø Parameter modification

When modify parameter, double-click the instruction to modify address. You can modify other parameter via free monitor manually, and also can click the instruction first, then click "<sup>IMI</sup>" to modify parameter.

# 4、The G-BOX SMS configuration

When XCP Pro connect with G-BOX successfully, you can do SMS config.

Ø Parameter config and instruction call

Click "I" icon in instruction bar, dialog box pop up, the config parameter include instruction name, COM port, phone number, first address, SMS content, as shown below:

MSG Instruction Co	nfig		×
Instruction Name	:	O COM	11 🖲 COM2
Phone Num:		First Address:	
MSG Content:			
120			V
D0-D10		OK	Cancel

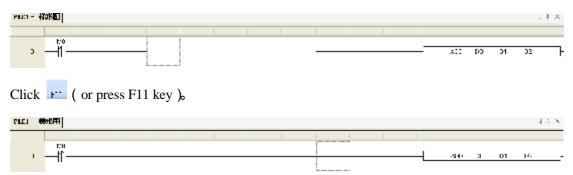
# 5-3. Ladder chart edit

Icon	Functions	Shortcut key		
F11	Insert horizontal line	F11		
 F12	Insert vertical line	F12		
	Delete horizontal line	Shift+F11		
¥ ₅F12	Delete vertical line	Shift+F12		

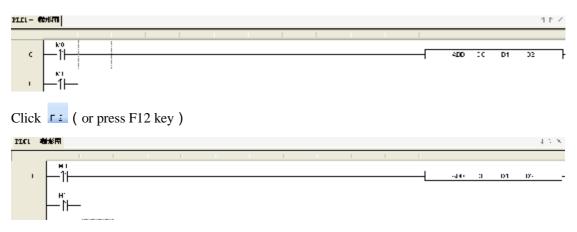
# 5-3-1. Horizontal line and vertical line operation

### Ø Insert horizontal line and vertical line

# ① Move the dotted line box to input place



<sup>(2)</sup>Move the dotted line box to upper right of the input place



## Ø Delete horizontal line and vertical line

(1) Delete horizontal line: Move the dotted line box to delete place, click  $\frac{1}{sF11}$  ( or press

Shift+F11 key ) .

(2) Delete vertical line: Move the dotted line box to upper right of the delete place, click  $s_{F12}$  ( or press Shift+F12 key ).

# 5-3-2. Node and row operation

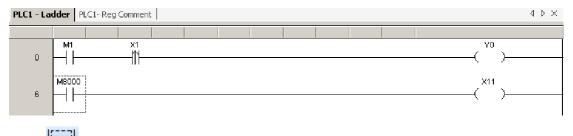
Icon	Function	Shortcut key		
EH Ins	Insert node	Ins		
sIns	Insert row	Shift+Ins		
₩ Del	Delete node	Del		
비戶네 sDel	Delete row	Shift+Del		

Ø Insert node: move the dotted line box to input place.

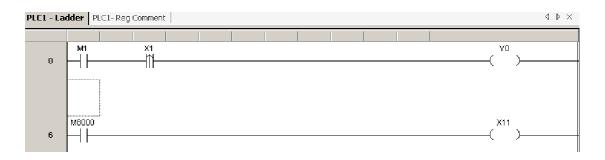


	and Lince words				
O		×1 			( ``)

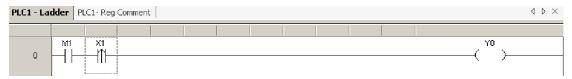
## Ø Insert row: move the dotted line box to input place.



Click **SINS** ( or press Ins key ), ladder chart down move a row, a blank row appear in dotted line box.



#### Ø Delete node: move the dotted line box to input place.

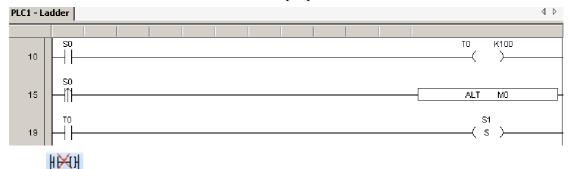


# ¥H

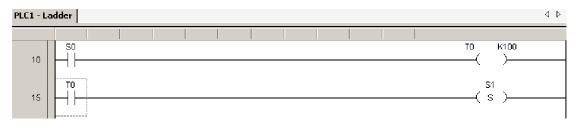
Delete **Del** (or press Del key), dotted line box right move a line, a blank line appearance.



Ø Delete row: move the dotted line box to input place.



Click **sDel** (or press Shift+Del key), the row of dotted line box is deleted, the next row up move a row automatically.



### 5-3-3. Edit comment

Click "view" in menu bar $\rightarrow$ "show node comment", then you can do operation of display and close ladder chart node comment.

- 1, Add soft element comment
- ① Move the dotted line box to comment soft element, right click, then menu pop up.

PLC1 - Laddo	PLC1 - Ladder PLC1- Reg Comment								4 Þ ×	
	M1		_						YO	
0 —		Modify Reg Comment							( )	
	-	Show Node Comment								
	Х	Cut								
	È	Сору								
	Ē	Paste								
	<b>#</b> \$	Search								
		Replace								

② Click "Modify Reg Comment " icon, the edit comment box pop up;

Ec	lit Reg Con	iment				×
	M1 :					
				OK	Cancel	

③ Add and modify words in dialog box;

Ec	lit Reg Com	ment				×
	M1 :	startup				
				OK	Cancel	

④ Click "OK", then complete note. In the condition of show node comment, all the comment information will show in the bottom of the element.

PLC1 - Ladder PLC1-	PLC1 - Ladder PLC1- Reg Comment							$\triangleleft$ $\triangleright$ $\times$		
o H1 startup									-( )	

Ø In the mode of ladder chart don't show comment, move the mouse to soft element, then a information box will emerge to show soft element comment information.

PLC1 - La	PLC1 - Ladder PLC1- Reg Comment						
O	M1 Instruction Name: LD M1 M1: startup	(``)					

Ø Click "Reg Comment" in the left project bar, or click "View" in menu bar→ "Node Comment List", PLC soft element comment table pop up, you can view, modify, add all soft element comment in the table. The display mode can be classify display, can also be whole display.

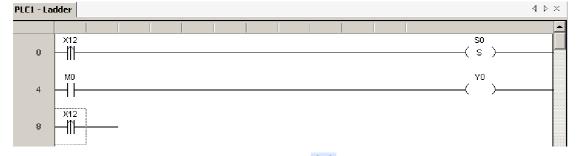
PLC1 - Ladder	PLC1- Reg Comment
Search:	▼   Undo Redo   Used   All   X   Y M   S   T   C   D   FD   M8000   D8000   FD8000   ID   QD
	Comment
MO	
▶ M1	start

## 5-3-4. Ladder chart copy and cut

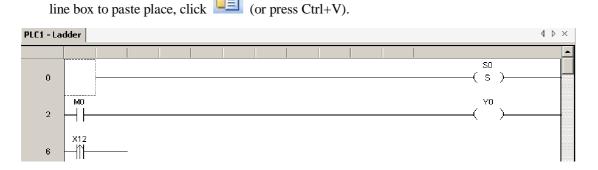
Ø Copy: mov the dotted line box to input place, press and drag the mouse, the selected area

will show in an	ti-color, cl	lick 💷	(or press	s Ctrl+C	2);		
PLC1 - Ladder							$\triangleleft \triangleright \times$
							<b></b>
0						(s)	

Then move the dotted line box to paste place, click (or press Ctrl+V)



Ø Cut: drag mouse and select the cut area, press 💑 (or press Ctrl+X), then move the dotted

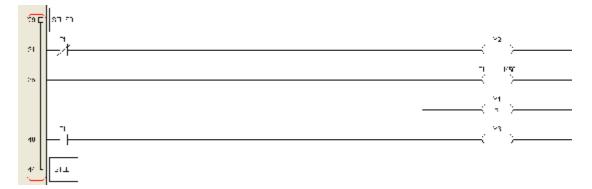


Note: You can press Ctrl to select multi-node for cutting or pasting.

## 5-3-5. Ladder chart instruction management

1, The fold and unfold of sentence

When user procedure is too long, effective instruction management can help user with clear thinking, then they can complete program favoringly.



The previous figure is a segment flow sentence, the left side in hoariness marked with relevant row number of sentence. From the begining to end flow, there's a brace start with " $\square$ ". Click " $\square$ ", it will turn to " $\square$ ", and the relevant sentence are folded, as shown below:



Usually, the sentence fold only apply for flow, circle and other sentence. After folded, the program is much more concise, to help users better grasp the overall program situation.

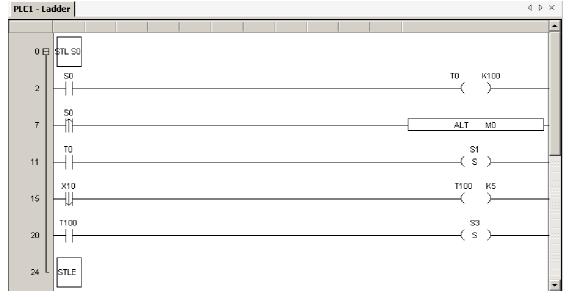
Fold and expand can carry out by the right-mouse menu, as follows:



#### 2, GROUP/GROUPE

Though fold, expand function don't suit for normal sentence, but with the help of "GROUP/GROUPE" to organize sentence into groups, fold/expand are also suitable.

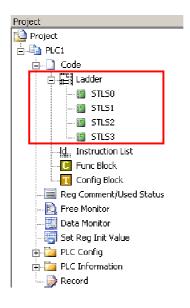
"GROUP" and "GROUPE" instructions don't have practical significance, only dispose the program on formal. Usually, a GROUP start with "GROUP", end with "GROUPE", the middle part is effective user program. The GROUP rely on different functions of sentence, or others. The following is an example of GROUP, only need to input directly.



If fold all sentence, it will be the effect as follows. When you want to descry a certain section program, only need to click " $\blacksquare$ ".



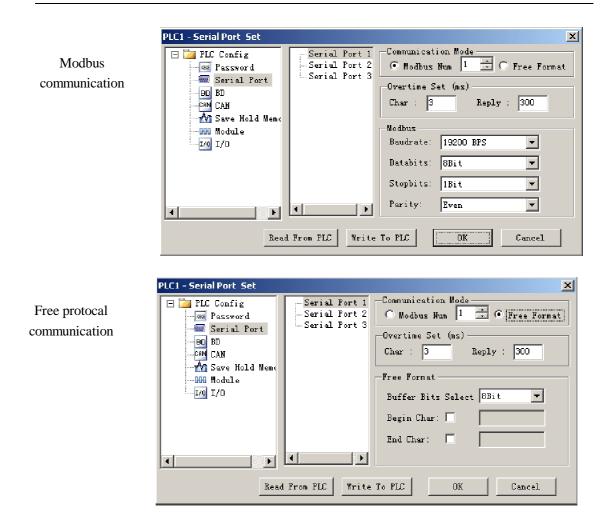
At the same time, convenient for management, users also can descry in the nearside project bar, as shown below, all folden item are noted in "ladder", double-click to expand.



# 5-4. Relevant config

## 5-4-1. PLCserial port settings

- 1. Click "PLC config" in project bar $\rightarrow$ "serial port", serial port set box pop up.
- 2、 Click "serial port 1", "serial port 2", "serial port 3" to set different serial ports.
- 3, There are two optional communication modes, "Modbus" and "Free protocal".
- 4、 Click "Read From PLC" to get PLC default parameter.
- 5、 Click "Write Into PLC" to write current parameter into PLC, PLC re-power.



#### 5-4-2. Password settings

Click "PLC Config" in project bar $\rightarrow$ "Password", password set box pop up for password setting and modification, work toghter with lock/unlock functions.

PLC1 - Password Set		×
FLC Config Password Serial Port BD CAN M Save Hold Memo Module TO I/O	Input Password: <b>******</b> Input Password again: <b>*****</b>	
	OK Cancel	

## **5-4-3. BD board settings**

Click "PLC Config" in project bar $\rightarrow$  "BD", BD set box pop up.

- Ø In "BD Config", you can choose "No config", "BD serial port", "Other BD board".
- Ø Click "Read from PLC" to get default BD config parameter.
- Ø After modified with BD board parameter, click "Write to PLC" to write set value into PLC.
- EX: take "2AD2PT-P" type BD config as example, first choose "other BD" in "BD Config", then choose relevant BD board type in the below dialog box.

PLC1 - BD Set				×
🗆 📴 PLC Config	BD Config	l.		
- Rassword - Resial Port	• No Config			
BD BD	🔘 BD Serial Port			
- 🚮 Save Hold Memo	🔘 Other BD			
1/0 I/0	BD-2AD2PT-P			
	BD-2AD2PT1DA-F			
	BD-2TC-P			
	BD-4AD-P			
• •				
	Read From PLC	Write To PLC	OK	Cancel

Click the little box before "BD-2AD2PT-P", hook it, then "BD-2AD2PT-P config" box appear in the right. Click drop-doen menu to modify its configuration, after modify finished, click "Write To PLC".

PLC1 - BD Set			X
🖃 📴 PLC Config	-BD Config	-BD-2AD2PT-P Config-	_
- 🔤 Password - 📾 Serial Port	🔿 No Config	AD Channel 1 Voltage: 0-10V	
	C BD Serial Port	AD Channel 2 Voltage: 0-10V	
- A Save Hold Mema	• Other BD	AD Channel 1 Filter: 1/2Filter	
I/O	BD-2AD2PT-P	AD Channel 2 Filter: 1/2Filter	
	BD-2AD2PT1DA-P BD-2TC-P		
	BD-4AD-P	PT Channel 1 Filter: 1/2Filter	
		PT Channel 1 Filter: 1/2Filter	
	Read From PLC	Write To PLC OK Cancel	

# 5-4-4. Can-bus comunication config

Click "PLC config" in project bar→"CAN", CAN config settings dialog box pop up.

PLC1 - EAN Set	<u>×</u>
E 놀 FLC Config - 🚾 Password - 🗮 Serial Port	CAM Baudrate 🐹 💌 Seni Fraçins): 🛛 🗍 (AM Scation Hunt L 🚊 Vester Station Hunt L 🚎
- cc 80 - cH 5ch - cH 5ch - cH 7ch - cH 7ch - cH 7ch I/O	Add     Delste     remote Hode ID     remote Sode Address     local Dbject Address     num       - NC_DAF ford Bask liter Hon     - NC_DAF ford filter Liter Hon     - NC_DAF ford filter Liter Hon     - NC_DAF ford filter Liter Hon
	Read From P.J. Frite Vo PUD UA Unnee.

 $\emptyset$  Add: first select the configure item, then click "add" button to add address;

PLE1 - CAN Set				×
E Config - Massword - Serial Cort	CAM Saudrate SX 💌 Saud Preg(ms):	CAB Station Humo	1 - Vaster Static	. Rur: 1
- EC BI - Gran Casa - 🔐 Save Hold Pany	Delete rerote S	ode ID remote Hode Adiress	Local Object Address	nur D
- 100 ¶ciule - 00 I/C	Lon: config - 20_24F Vi. Best Lee Bur - 20_24F word Best Date Run - 20_24F word Best Date Nun			
	L-IC_CAF Yori Aritten Iter Bor			
I I				
		Bead Fron FLD	e Jo FLJ CI	Cancel

Ø Delete: select "configed", click "delete" button.

PLE1 - EAN Set					×
E D PLC Config - R Passeu I - R Serial Cort	CAH Boudrote SX 💌 Son	d Jecç(ms): D	CAH Statica Rus:	1 📑 Waster Station	. Ru : 1 📑
- EC BI - Com Cast	Add Dilete	perste Vode ID	memorie Mode Adárese	local Object Midness	ntar
- to Save Hild Fan - to The bule - to The to the - to The to the - to The t	I Configed Configed I Configed I	:0	20	)	3
			Read Fron FLD Arit	.« Jo FL) CI	Cancel

Note: the add and delete of item can also first select operation item, right-click, choose operation in the pop-up menu.

PLC1 - EAN Set					×
E De PLC Condig - M Password - M Password - M Punt	CAR Baudrete 🔂 💌 Sec	ti Freq(hs): 0	CAM Station Munt	L 🗄 Mastar Statio	c. ffan: 📘 🚍
- BC BU - GH DAR	Add Delste	remote Hode ID	remote Sode Addrees	local Object Aidrese	Burn
- 📶 Sava Kolić Vena	🕀 IC_DAF Bit Bead Iten Sun	U C	20	0	ε
- 🖽 Wod_le - 64 I/O	- 6:20				
	- 30_3AFtur				
	- 30_04730n				
	4				
			Read From PLC Arit	e T: PLC CZ	Cancel

# 5-4-5. Power-off retentive save memory settings

Click "PLC Setting" in project bar→"Hold Mem Setting", save hold memory set box pop

up.

Ø The value show in the right box of each soft element, is the power-off retentive area original address. The "Input Value Range" in the lower left side, show the soft element effective range.

PLC1 - Save Hold Memory	Set	×
Figure PLC Config Figure Password Figure Password Figu	D: 4000	
<	Input Value Range: DO-D7999 Read From PLC Write To PLC OK Cancel	

## 5-4-6. Expansion module settings

Click "PLC config"  $\rightarrow$  "expansion module", expansion module setting box pop up.

- Ø Click "Read From PLC" to get default configure parameter of expansion module.
- Ø After the settings of expansion module parameter, click "Write To PLC" to write set value into PLC.

PLC1 - Module Set			×
FLC Config     Password     Serial Fort     BD     CAN     V Save Hold Memo     Tro I/O	#1 BD XC-8TC-P : 8 chan #2 BD XC-4DA : 4 channe #3 no module #4 no module #5 no module #6 no module #7 no module	Select Module: XC-4DA XC-4DA DA Channel 1: Volta V 0-10V V DA Channel 2: Volta V 0-10V V DA Channel 3: Volta V 0-10V V DA Channel 4: Volta V 0-10V V	Cancel Module
	Re	ad From PLC Write To PLC OK	Cancel

#### 5-4-7. I/O settings

Click "PLC config" in project bar→"I/O settings", I/O setting box pop up.

Ø I/O point mapping: refer to the relevant actual input, output definition of internal soft element number. Such as, set value to be 0 in X0,X1position, then when input terminal is ON, soft element X0,X1 all set ON; if the set value in Y0,Y1 position all are 0, then only while soft element Y1 is ON, output terminal Y0 has export.

PLC1 - I/O Set									×
E De PLC Config	Filter 3	(ime(ms):	10						
- 🛲 Serial Port	In Port	Map Out	Port Map	In Port	Property	1			
BD BD CRN CAN		+0	+1	+2	+3	+4	+5	+6	+7
Save Hold Memo	XO	0	1	2	3	4	5	6	7
DON Module	X10	10	11	12	13	14	15	16	17
<u>1/0</u> I/0	X20	20	21	22	23	24	25	26	27
	► X30	30	In P: -	32	33	34	35	36	37
	X40	40	41	42	43	44	45	46	47
	X50	50	/ 51	52	53	54	55	56	57
	X60	60 /	61	62	63	64	65	66	67
	X70	77	71	72	73	74	75	76	77
			Read From	PLC 4	rite To P	u _	OK	Ca	ncel
In Port:0 In Port:1 In Port:2 In Port:3 In Port:4 In Port:5 In Port:6 In Port:7			X31, n opti						

Ø In port property: when it's "+", the input and output state is positive logic; when it's "-", the input and output state is negative logic.

PLC1 - I/O Set								)	<u> </u>
E Dr Config Bassword	Filter Time(m	:): 10	-						
🛲 Serial Port	In Port Map 0	ut Port Map	In Port	Property					
BD BD CAN	+0	+1	+2	+3	+4	+5	+6	+7	
🚮 Save Hold Memo	X0 +	+	+	+	+	+	+	+	In in port
- 000 Module	▶ X10 🖥	- +	+	+	+	+	+	+	property, 0,1
1/0 I/O	X20 +	+	+	+	+	+	+	+	are correspond
	X30 +	+	+	+	+	+	+	+	
	X40 +	+	+	+	+	+	+	+	with positive
	X50 +	+	+	+	+	+	+	+	and negative
	X60 +	+	+	+	+	+	+	+	logic.
	X70 +	+	+	+	+	+	+	+	
									1
		Read From	PLC W	rite To P	u 🗌	OK	Ca	ncel	

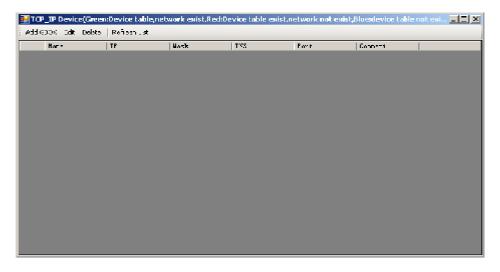
56

5-4-8. Comunication mode settings

Select Communication Mod	de 🔀
Serial Port	+
Communication Mode -	
💿 Serial Port	
C UDP	
network type	
💿 inner network	
C outer network	
	Cancel

Communication mode settings is usually used to set communication mode of computer and connection device(include main unit PLC, net module).

The default communication mode is serial port, when click "+", it will open TCP/IP device(viz.TCP/IP settings) window, as shown below:



Click "Add GOX" button, users can add communication device here, window pop up as follows:

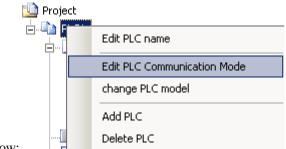
Edit GBOX Device	×
Login in Name: 12345678	Remote Login in Server IP: 182,168,0,40 Port: 502
P sw: 00-00-00-00-00-00-00	Server 2 Name:
Name Phone A	Serial Port Baudrate: 19200 BPS Databits: 6Bit Stopbits: 1Bit Parity: Even Send Delay(ms): 3
Read Fro	m GBOX Write To GBOX OK Cancel

Set relevant parameter in the window, concrete parameter set, please see from <<Wireless data transmission module G-BOX user manual>>, no repeat here.

After add successfully, communication mode setting interface have changed, item UDP is activated, network type is activated also. Usually G-BOX use inner network type, while T-BOX use outer network type, as shown below:

Select Communication Me	ode 🔀
UDP-inner network Communication Mode O Serial Port IMP network type Inner network O outer network	+ 🔁 GBOX Defaulted
	OK Cancel

Comunication mode settings can also via click relevant PLC name in project bar, right click, select "Edit PLC Communication Mode" in pop-up menu, as shown



below:

### 5-4-9. TCP/IP settings

Set window is the same as "TCP/IP device", it can only activate UDP communication after TCP/IP device configured

## 5-4-10. Function block list

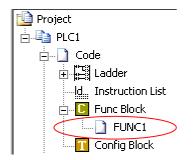
The window is use to show used C language function block and relevant information.

Func Block Name	Version	Author	Update Date	Comment
FUNC1	1.0.0		2008-6-18 1	
FUNC2	1.0.0		2008-6-18 1	

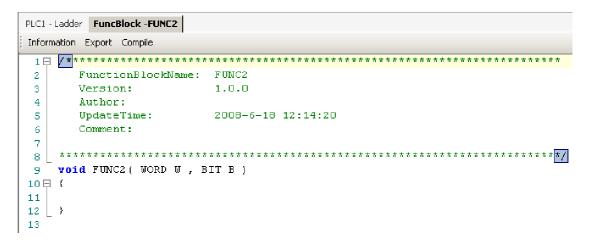
Function block directly compile in software, it can save and export after completed, and can be directly transfered in ladder chart, shown as below:

Project	<b>₽</b> ×	PLC1 - Lac
Project	<b>_</b>	
⊨ la PLC1		
Code ⊡⊡⊡∰Ladde		24 曱
u u u u u u u u u u u u u u u u u u u		
🕀 🖸 🔁 🗐	Add New Func Block	
		a Diek
Rea Con		II DISK
Func Block Info Edit		x
Func Block Name	PUNCI	Version: 1.0.0
Description:		<u> </u>
Author:		Date: 2008年 6月18日 🔻
	I	
		OK Cancel

After confirm the input function block basic information, you will find a "FUN1" added in the project bar, as shown below:



Click "FUN1", the following interface appear in main window, users edit program here. If still need to use after exit project, you can educe and save it, as shown below:



## 5-5. Soft element monitor

#### 5-5-1. Soft element comment

Click "Reg comment" in project bar, soft element comment window pop up, you can see whole or part soft element comment, double-click comment bar can edit the comment.

PLC1 - Ladder	PLC1- Reg Comment	×
Search:	▼   Undo Redo   Used   All   X   Y   M   S   T   C   D   FD   M8000   D8000   FD8000   ID   QD	Ŧ
	Comment	
M8000	Run normally ON loop.	
_ØM8001	Run normally OFF loop.	
M8002		
M8003		

Click "used" in window, the used soft element window pop up, the used element number list respectively.

PLC1 - Ladder	PLC1- Reg Comment	х
Search:	-   Undo Redo   Used   All 🛛 X   Y   M   S   T   C   D   FD   M8000   D8000   FD8000   ID   QD	Ŧ
	Comment	
XO	Start	
X1	Control	1
J∕ X2	Left limite bit	

## 5-5-2. Free monitor

Click "free monitor" in project bar, the free monitor window pop up.

PLC1- Free M	onitor			<b>4</b> ×				
Monitor Add Edit Del Upward Downward								
Reg	Monitor value	Word length	Num Format	Comment				
M10		Bit	-					

Click "Add", "monitor node input" window pop up: input the monitor soft element capital address in "Monitor Reg" bar, set the continuous monitoring soft elements number in "Num", select soft element monitor method in "Monitor Mode" bar, select soft element show mode in "Show Mode" bar.

Data Monitor		×
Monitor Reg: M10	1	Tum : 1
-Monitor Mode	-Show Mode -	
💿 bit 🔿 Float	💿 Dec	🔿 Unsigned
🔿 Word	🔿 Bin	🔿 ASCII
🔘 DWord	O Hex	
	ОК	Cancel

After addedsuccessfully, serial number, value, word length, number format and comment of relevant element list in monitor window, double-click relevant place can edit its attribute.

PLC1- Free Monitor									
Monitor Add Edit Del Upward Downward									
Reg	Monitor value	Word length	Num Format	Comment					
M10	OFF	Bit	-						
FD8220	1	Word	Dec						

# 5-5-3. Data monitor

Click "data monitor" in project bar, data monitor window pop up. Data monitor monitor loop state, data register value in list, it can also modify register value or loop state directly.

PLC1- Reg	Monitor							l	<b>4</b> ×
Monitor	Search: X0	-   >	( ү   м	S   T	⊂	D   FD	M8000   D8	000	Ţ
	+0	+1	+2	+3	+4	+5	+6	+7	
► xo	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	
X10	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	
X20	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	
X30	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	-

- Ø Mouse double-click loop, then state negation; double-click register, then activate value modification, press enter to affirm input.
- Ø Input relevant soft element number in search bar, press enter, monitor table will automatically

jump to relevant place.

Ø When loop state is OFF, it's blue-background black word; when is ON, it's green-background white word, shown as below:

F	LC1- Reg Moni	tor								${\bf \bar{\mu}}  \times $
	Monitor Sea	arch: YO	•   ×	:   Ү   М	S   T	C   D	FD   M80	00   D8	000	÷
		+0	+1	+2	+3	+4	+5	+6	+7	
I	▶ YO	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	
	Y10	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	

#### 5-5-4. Ladder chart monitor

When PLC connect successfully, and in the run state, user can predominate run state via ladder chart monitoring, and especially usefully for program debugging.

Click "III" icon in toolbar, open ladder chart monitor, soft element state of program all show, loop in green-background white-word is ON state, real-time data in timer, register show also in ladder chart, shown as follows:

PLEL - La	der		< Þ
-		50 -(F	
8	n 	य -( ⊱	<u>}</u>
12		S1 - F	j

For convenient debugging, users can right-click soft element, change the current state, look around the revised operating results

PLCL - La	dder						
2	282 /						
		Se: 5 t Peg X12 ON					
8		Se: Dt Reg X12 OF1				≊	
,		Hodility Rep Comment				-	-
· 2	L)	Show Node Comment				( F	
	- <b>X</b>	Cut				3	-
· 6		Cop <sub>2</sub>				; s	
		Pasta					
30	28 🚬	Search				ء + `	
		Pepace					•
34 E	STL	Excand A					
		Collabes A					

#### 5-5-5. Information bar

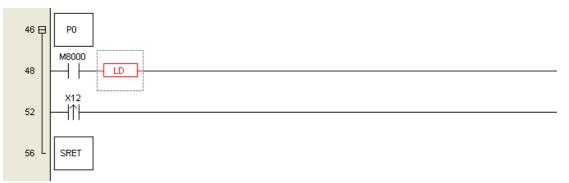
Information bar contains "Error information" and "Output".

**Error information:** for showing syntax and run error, generally speaking, when users edit ladder chart, if sentence error, press enter, it will show in red, and show error in error information list. Shown as follows:

Infor						₽×
Erro	<sup>,</sup> List	Output				
		Description	Project	Row	Col	
0	1	Device's No. beyonds its spec. list bound	PLC1 - Ladder	9	11	
-						
Ŀ						
			1			

If only check on sentence, you can click "PLC operate" $\rightarrow$ "Grammar check".

Double-click error information, then cursor will position to error place automatically, shown as below:



**Output:** Usually when PLC run error, relevant information writen into output bar, clue on operation error. As shown below:

Information	<b>₽</b> ×
Error List Output	
1. Model, Serial Num is not same as PLC Program	A

The display of information, data monitor and free monitor can switch via button in below of window, shown as below:

幅 Information	🖷 PLC1- Reg Monitor	🖷 PLC1- Free Monitor

# 5-5-6. Status bar

The status bar not only shows the relevant information of the current enabled PLC, users can double-click the status display information, to quickly open the modify attributes window, as shown below:

PLC1:XC3-24	Communication:Com,Station:1	
Double-click	Extent DLC Model	
	Selvct PLC Model         No Connect To PLC         □ PLC Serials         □ XC1         XC1-XP         XC1-16         XC1-32         XC1-18A         XC1-QDO         □ XC2         XC2-16         XC2-24         XC2-32         XC2-48         XC2-XP         □ XC3         XC3-14         XP-18	PLC Model In Program:XC3-24         Model Infomation
		OK Cancel