

1. Software description

- 1) SYNPLUS PDA is the control software of controller for BONFIGLIOLI SYNPLUS inverter.
- 2) Operate on PDA, recommend PDA Brand: HP

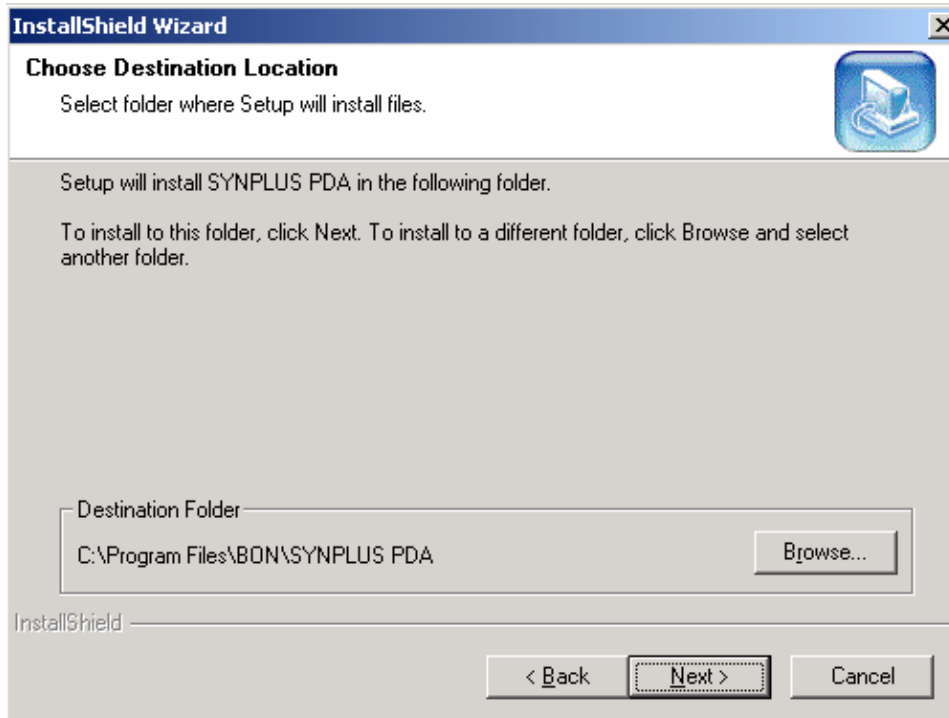
2. Installation

Install SYNPLUS PDA setup document on PC.

- 1) Double click EXE document on PC, and come up the following window:



- 2) Click 'Next', window for selection install path.



On the above window, set the destination of software. The installation software content of PDA will keep in PC. The content will be installed in PDA after connecting PDA and PC.

- 3) Click 'Next' to install software after set the install path on PDA as connecting PDA and PC. There will be a tip for successfully installed. If PDA and PC do not set to connection, installation of the software is available at the next successfully connection.
- 4.) Then, the software is successfully installed on PC and PDA.

3. Run software

Click 'Start' on PDA and select 'Programs', there will be a shortcut icon of SYNPLUS PDA Click the icon to run the software.

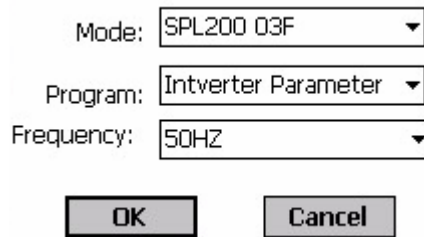
4. Function Description

4.1 Menu Function description

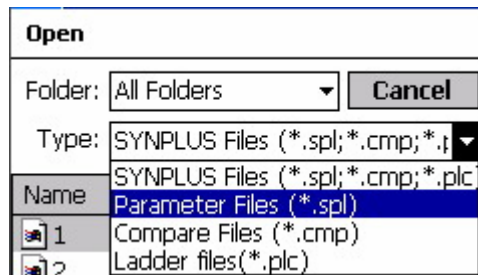
4.1.1 File menu

4.1.1.1 New...

Open 'Select Module Type' window, to create a new document according to selected INV Parameter or PLC Ladder in edit dialog box after set a certain model.



4.1.1.2 Open...



Open a dialog box to set the types of the documents:

SYNPLUS Files (*.spl;*.cmp;*.plc): to list all the SYNPLUS documents.

Parameter Files (*.spl): to list SYNPLUS 'INV Parameter' documents.

Compare Files (*.cmp): to list SYNPLUS Compared documents.

Ladder Files (*.plc): to list SYNPLUS 'Ladder' documents.

Click the listed document to open it with corresponding window. Among them, the *.cmp document can not be modified.

4.1.1.3 Compare

1、 Inverter with Default...

Compare the INV parameter value read from Online INV and default value. (Such option is unavailable in offline).

Compare Inverter with Default

Station NO.:

Select Station NO.: 1~254

OK
Cancel

Station NO. range: 1-254, click 'OK'. The different set will be listed in the table:

Description	Code	Default	Station_001	
Run Command ...	1-00	0	2	▲
Feedback Gain (%)	11-01	1.00	0.10	
.	.	.	.	
.	.	.	.	▼

The results will be listed after compared.

Station NO.

2、 File with File...

Open two INV parameter documents *.sv3 to mutually compare the parameters and the difference will be listed in the table.

Compare File with File

Select Files

...

...

OK
Cancel

Open the dialog box for existed document and browse to open it.

Display document path and name

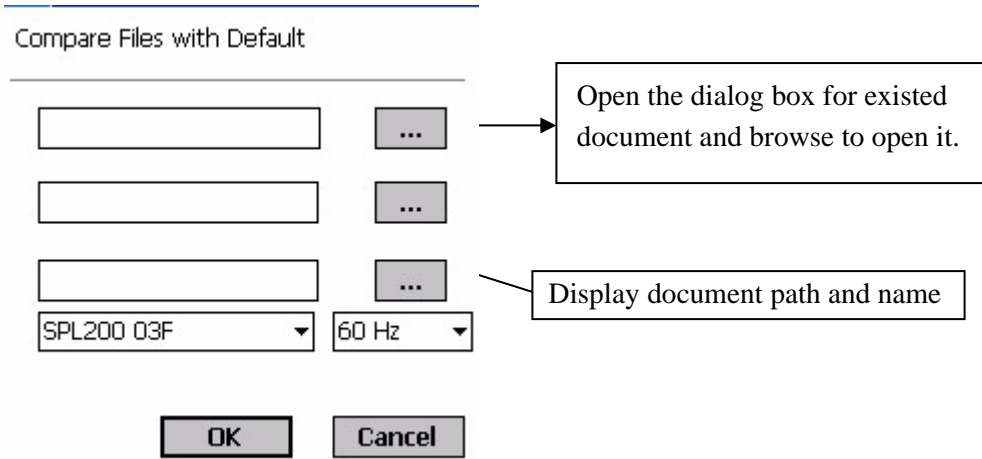
Description	Code	Test1.spl	Test2.spl	
Delay-ON Time...	2-06	0.0	4.0	▲
Lower Frequenc...	3-01	10.00	4.00	
.	.	.	.	
.	.	.	.	▼

Difference will be listed after compared.

Document name

3、Files with Default...

Open 1~3 'Parameter' documents *.sv3 to compare with default.



Click 'OK', the compared difference will be listed in the table. The place for unused documents will be displayed as None.

Description	Code	Default	None	Test1.spl	Test2.spl	▲
Delay-ON Time...	2-06	0		0.1	4.5	
Lower Frequenc...	3-01	0.00		600.00	10.00	
.	▼

Document name

4.1.1.4 Save

Save the document under editing. If the document is new one, the Save as window will be opened with a default name 'Untitled' which can be renamed.

4.1.1.5 Save As...

Open 'Save as' dialog box. The document is *.spl in editing INV Parameter while it is *.cmp in 'Compare parameter' and *.plc in editing PLC Ladder.

4.1.1.6 Exit

Exit SYNPLUS PDA program. There will be a tip window to save or quit if the active document is not saved.

4.1.2 Edit menu

4.1.2.1 INV Parameter

Switch to INV Parameter edit window.

There will be a tip box for save or quit for unsaved Ladder documents in switching.

4.1.2.2 PLC Ladder

Switch to PLC Ladder edit window.

There will be a tip box for save or quit for unsaved 'INV Parameter' or 'Compare' documents in switching.

4.1.2.3 Cut

Such function is available only under PLC Ladder edit window. Cut the selected content.

4.1.2.4 Copy

Such function is available only under PLC Ladder edit window. Copy the selected content.

4.1.2.5 Paste

Such function is available only under PLC Ladder edit window. Paste the Copied or cut content. In Pasting, the original program will be moved down. When the content exceeds the max scope after pasted there will be a tip for 'can not paste'.

4.1.2.6 Delete

Such function is available only under PLC Ladder edit window. Delete selected content. The following program lines will move up to fill blank as deleting one line.

4.1.2.7 Select All

Such function is available only under PLC Ladder edit window. Select all PLC Ladder program.

4.1.2.8 Insert a Line

Such function is available only under PLC Ladder edit window. Insert a line at the cursor. And the original program after the cursor will move down. There will be a tip for 'can not insert', if the last line is in service.

4.1.2.9 Symbol...

Symbols for the components. There will be symbols under the components in Ladder program.

Type:	Num:
<input type="text" value="I"/>	<input type="text" value="1"/>
Symbol:	
<input type="text"/>	
<input type="button" value="OK"/>	<input type="button" value="Cancel"/>

4.1.2.10 Function List...

There will be a table for function components contained in PLC Ladder program, which listed preset value, supervised status and current value.

Timer/Counter/Analog/Encoder/Run Control Preset value can be clicked to modify.

T: Timer, C: Counter, G: Analog Compare, H: Encoder Compare, F: Run Control

Type	Mode	Status	Preset	Current
T1	1	OFF	100.0 Sec	0.0 Sec
T7	7	OFF	10 Min	0 Min
			7.8 Sec	0.0 Sec
C4	4	OFF	123	0
G3	3	OFF	10.0	0.0 %
			23.0	
H2	1	OFF	0 A2	0 (A1/C)
			1 C	
F1	----	OFF	5.0 (Acc)	----
			1.0 (Dec)	----
			0.00 (Set)	----
			0.00 (Seg)	----
F4	----	OFF	1.0 (Acc)	----
			0.2 (Dec)	----
			V3	0.0
			V5	0.0

Edit Preset:

There will be a corresponding 'edit preset box' under the table as selecting one line. Input the expected value and click 'Edit' and the new data is accepted.

4.1.3 Operation menu

4.1.3.1 Link Com...

PDA will link with SYNPLUS via a certain communication port.

Com Port:

Baud Rate:

Data Format:

Data bits: Stop bits:

Parity bits:

Station:

Single:

All of the Inverter

Com Port: 1~4
 Baud Rate: 4800, 9600, 19200, 38400
 → **Default: 38400**
 Data bits: 7, 8
 → **Default: 8**
 Parity bits: None, Even, Odd
 → **Default: None**
 Stop bits: 1, 2
 → **Default: 1**

4.1.3.2 Read

Read SYNPLUS INV parameter/ PLC Ladder program in communication.

Read

Station NO:

INV Parameter
 PLC Ladder

Password:

Confirm whether there is Password for reading PLC Ladder. Password is saved in come address on the master. Read the address value and input to read the Ladder. 0 is treated as without password.

4.1.3.3 Write

Write INV parameter/ PLC Ladder program to SYNPLUS in communication.

Write

Station NO:

INV Parameter
 PLC Ladder

Password:

Confirm whether there is Password for writing PLC Ladder. Write is available when Password is input. 0 is treated as without password.

4.1.3.4 Monitor

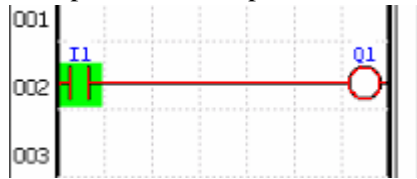
Enter or exit Monitor mode in communication.

Monitor

Station NO:

Click 'OK' to enter monitor such address equipment.

1. Under Ladder, the present status is monitored. The user can select 'reading program from slave' option. The components are ON will be labeled with red, as following:



2. Under INV Parameter mode, a monitor dialog box is as below:

a. CURRENT

STOP REV

Set freq.: Hz

Set

Output freq.: Hz
 Output volt.: V
 Output amp.: A
 Output power: W
 Output torque: %
 Bus volt.: V

CURRENT CONTROL TM2 Status

Display Inverter STOP/RUN, REV/FWD

Display present 'Set frequency'

Set 'frequency' expected

b. CONTROL

RUN **STOP**
FWD **REV**

Fun no: 0-00 ▾
 Fun data:
 Set data: 0 **Set**

CURRENT CONTROL TM2 Status

1. Click 'RUN', 'STOP', 'FWD', 'REV' to control the operation of 7300CV.
 2. Fun. no: Function select column 0-00, 0-01,...,15-06.
 3. Fun. data: Display Fun. No and select present value of Code.

c. TM2 Status

S1	S2	S3	S4	S5	S6	AIN	<input checked="" type="checkbox"/> : On <input type="checkbox"/> : Off Can click <input type="checkbox"/> Control On/Off
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
		R1		R2			
		<input type="checkbox"/>		<input checked="" type="checkbox"/>			

Error Message: ← Abnormity display

Abnormity Reset ← Reset abnormity

CURRENT CONTROL TM2 Status

4.1.3.5 Ladder Run 

Control the SYNPLUS Ladder run in communication. Such function is available under Ladder mode.

Run

Station NO:

Click 'OK' and the set address will 'RUN'.

4.1.3.6 Ladder Stop 

Control the SYNPLUS Ladder stop in communication. Such function is available under Ladder mode.

Stop

Station NO:

Click 'OK' and the set address will 'STOP'.

4.1.3.7 Password

Set SYNPLUS password

1. Set

Set SYNPLUS password(1~9999) in communication and the screen is as below:

Station NO:

Password:

New Password:

Verify Password:

When SYNPLUS has no Password, the box for New Password will be disabled.
 Password range: 1~9999. In set password, input original one. Then set new one and confirm it.

2. Clear

Clear SYNPLUS password in communication

Station NO:

Password:

Verify Password:

Input password and confirm. The password for selected address will be cleared.

4.1.3.8 Online Edit

Such function is available in INV Parameter in communication.

Enable such option, set INV parameter and it will be write to SYNPLUS in communication.

4.1.4 View Menu

4.1.4.1 Toolbar 

Display or hide toolbar.



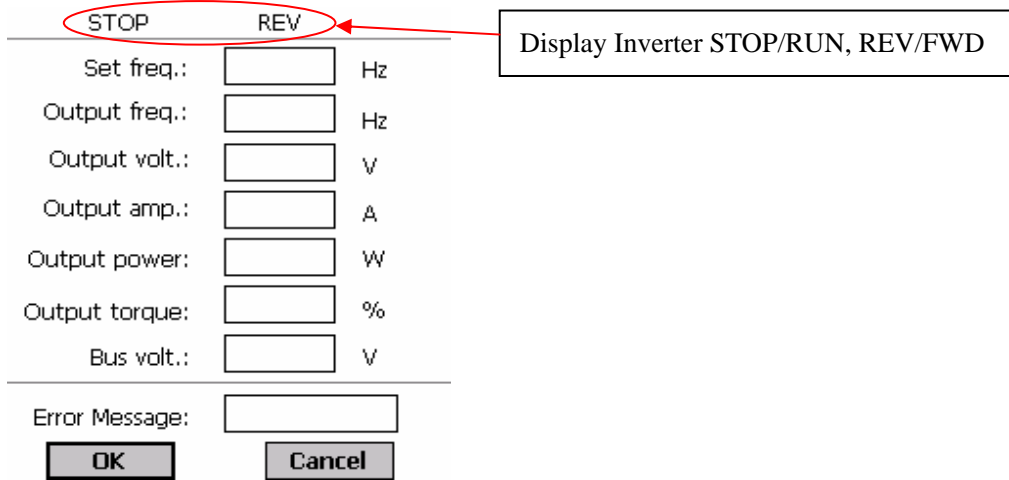
4.1.4.2 I/O Status...

Monitor I/O status. (I, Q, M), only available under Ladder mode.

I1	I2	I3	I4	I5	I6	I7	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Q1	Q2						
<input type="checkbox"/>	<input checked="" type="checkbox"/>						
M1	M2	M3	M4	M5	M6	M7	M8
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
M9	MA	MB	MC	MD	ME	MF	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

(1) : On ; : Off
 (2) I, Q status can not be set.
 (3) Click M to modify the status

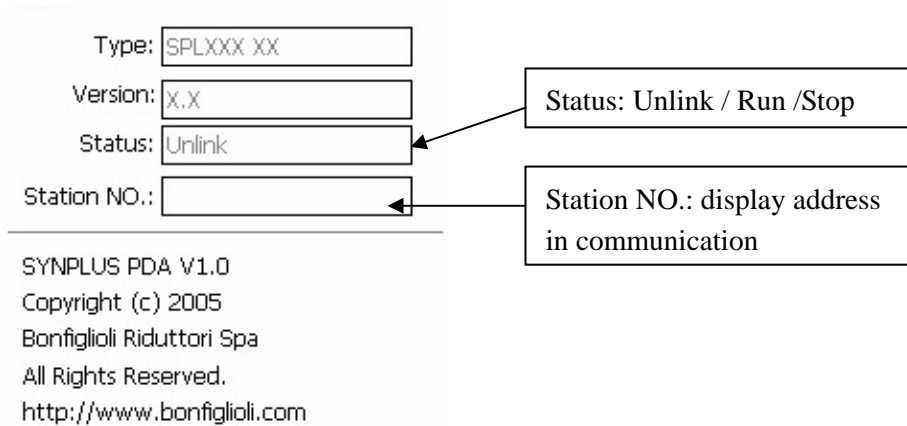
4.1.4.3 Inverter Status...



SYNPLUS parameters will be displayed in the corresponding window and updated with slave. The reason for fault will be displayed in Error Message if SYNPLUS in trouble.

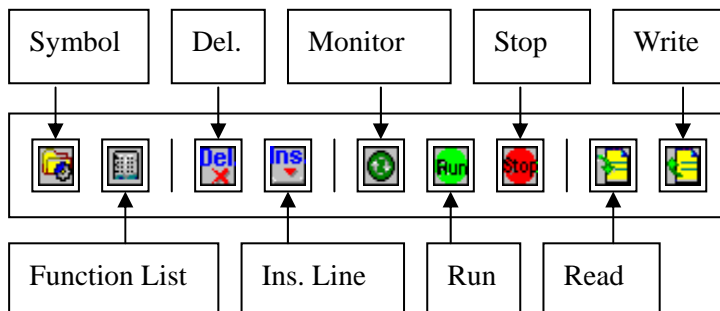
4.1.4.4 Module Status...

Monitor present communication status and version information.



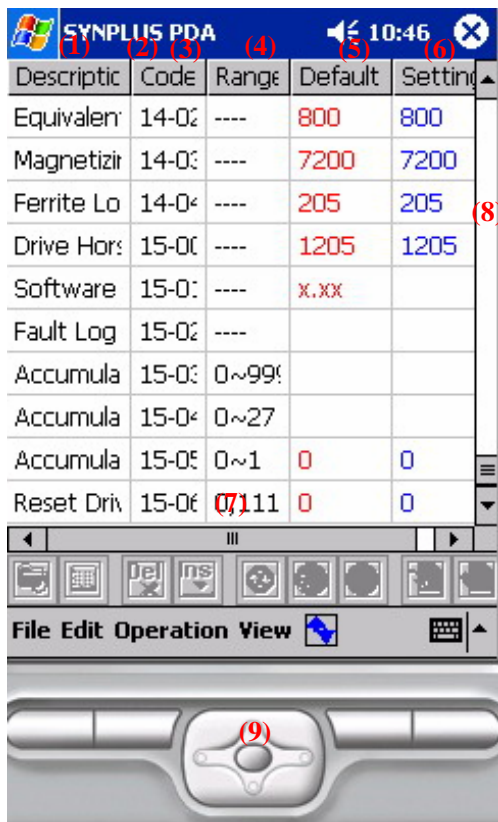
4.2 Toolbar

Display/ hide toolbar



The tool buttons associated with the functions in the menu are of convenience to operation

4.3 INV Parameter screen for operation.



(1) Description

Display location for function description.

(2) Adjust the width of the cell.

Drag the cursor at the boundary of the cells to adjust the width.

(3) Code

Function code: 0-00, 0-01, ..., 15-06 display position.

(4) Range

Display value range.

(5) Default

Default value is displayed in red.

(6) Setting

The set value can be edited is displayed in blue. Edit method:

1. Click the wanted modified cell.
2. Re-click the cell, the set value can be modified as the cursor is in blink.

3. Click other place to leave the cell and the new value is entered.
4. Under present link status, and Operation→Online Edit option is active, such value is input to SYNPLUS.

(7)Horizon scroll bar

Click and drag the bar and the screen horizontally scroll

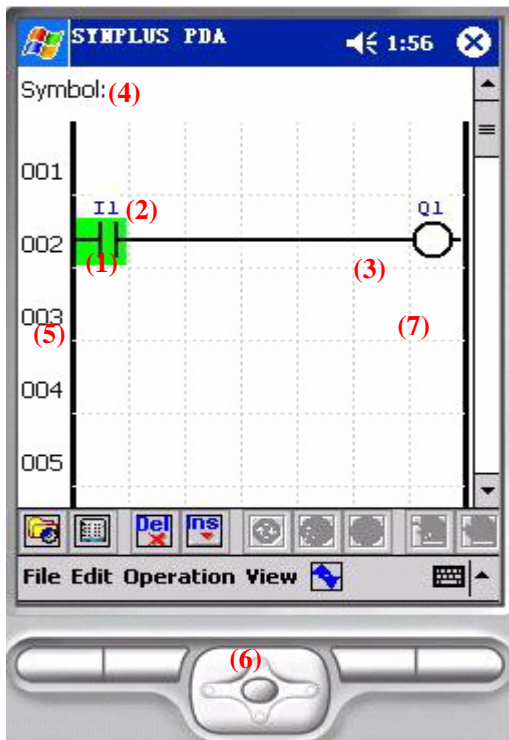
(8) Vertical scroll bar

Click and drag the bar and the screen vertically scroll

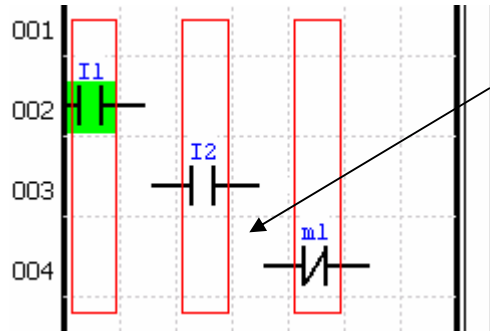
(9) Direction keys

Control the active column move up, down, left and right in INV Parameter edit window.

4.4 Ladder window operation



(1) Input components in edit zone.



IF click place is on words (see fig, I1, I2,m1), the green active cursor will move here.

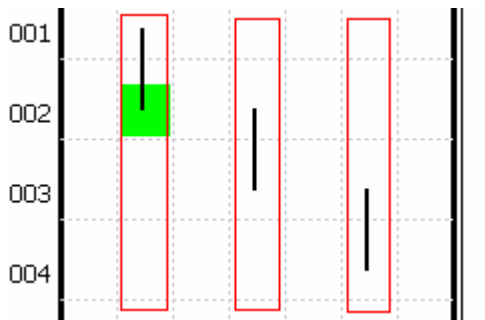
Click operation is idle under Monitor status.

Under Non-monitor zone, to click red zone can open the dialog box for input components.

Type:	Num:	Type: I / Q / M / T / C / G / H / F / D / ' ' / ' ' / ' ' / ' '
<input type="text" value="I"/>	<input type="text" value="1"/>	
<input checked="" type="radio"/> STR	<input type="radio"/> STR NOT	
<input type="button" value="OK"/>	<input type="button" value="Cancel"/>	

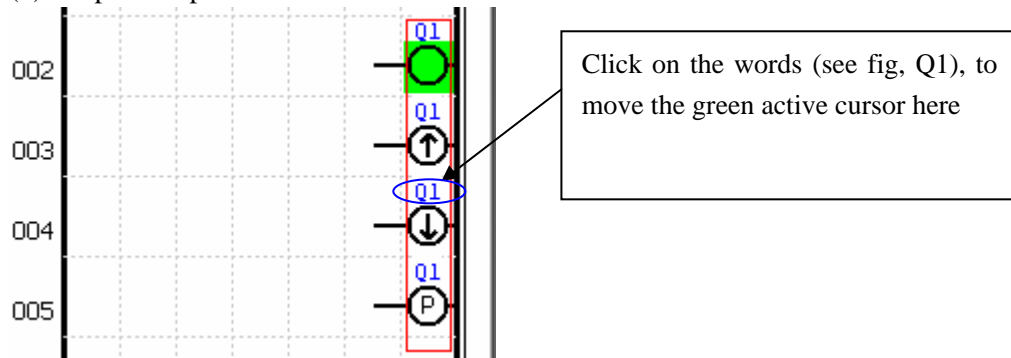
Click 'OK' to input components to corresponding location.

(2) Connection line (OR) edit zone.



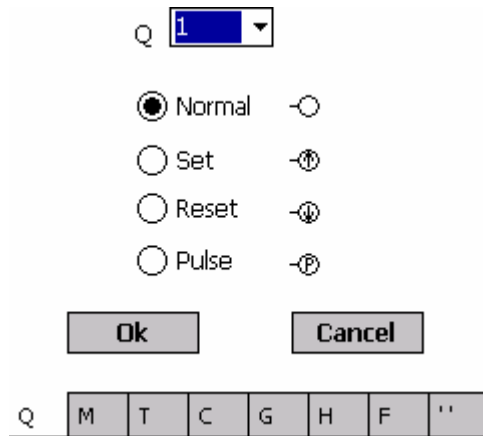
Under Monitor status, click in this zone is idle. Under non-monitor status, click in red zone to draw OR line and click one again to delete it

(3) Output components in edit zone.



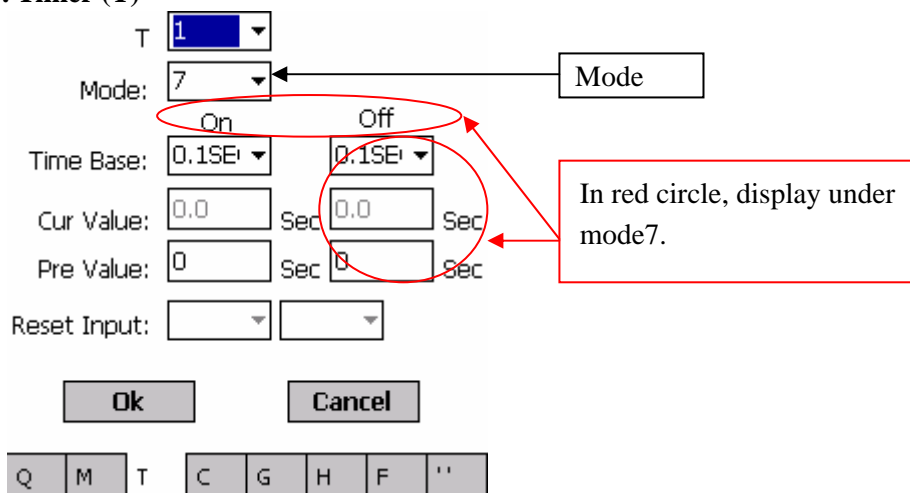
Click in red zone to open the dialog box for output components. Under Monitor status, the type and mode can not be modified, so does the current screen.

a. Q / M



Under Monitor, type and mode can not be modified.

b. Timer (T)



Under Monitor status, only the preset Value can be modified. Cur Value displays real-time present value. Click 'OK' after modify Pre Value, and input to slave.

Under non-Monitor status, to click 'OK' to setup new components

c. Counter (C)

C

Mode:

Cur Value:

Pre Value:

Dir Input:

Reset Input:

I, Q, M, T, C, G, H, F, i, q, m, t, c, g, h, f

Q M T C G H F "

Under Monitor status, only the preset Value can be modified. Cur Value displays real-time present value. Click 'OK' after modify Pre Value, and input to slave.

Under non-Monitor status, to click 'OK' to setup new components

d. Analog Compare (G)

G

Mode:

Select: --->

Cur Value: V

Pre Value: Ref Upper limit

Ref Lower limit

Select: V1~V7, when Select V3、V4、V5, list items as Volt., Amp., Freq.,

Select Mode 3, Ref Upper limit of Pre Value is available.

Q M T C G H F "

Under Monitor status, only Pre Value can be modified. Click 'OK' after modify to input it to slave. Cur Value displays real time present value.

e. Encoder Compare (H)

H

Mode:

Cur Value: A1/C

Pre Value: A2

C

Dir Input:

Reset Input:

A2 default as 0, range 0~65535

C default as 1, range 1~65535

I, Q, M, T, C, G, H, F, i, q, m, t, c, g, h, f

Q M T C G H F "

Under Monitor status, only Pre Value can be modified. Click 'OK' after modify to input it to slave. Cur Value displays real time present value.

f. Run Control (F)

Acc time / Dec time default as 0.1 Sec, range 0.1~3600.0

Set freq. / Seg freq. N, V3, V5 are all options, N: input range (0~650.00), while V3, V5: present value and transfer to Hz.

I, Q, M, T, C, G, H, F, i, q, m, t, c, g, h,

Q M T C G H F ''

g. ''

Q M T C G H F ''

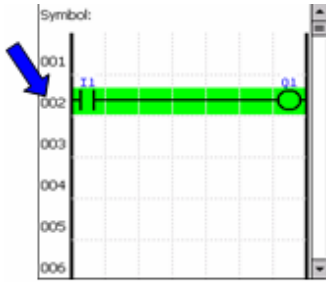
Click 'OK'. The original components will be deleted under non-Monitor status.

(4) Symbol display position.

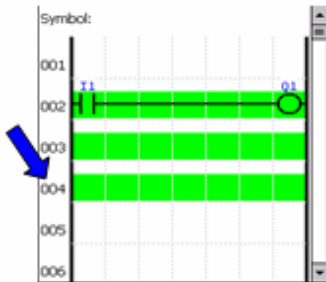
When the green active cursor stops on some component, the corresponding symbol will be displayed.

(5) Line display and range selection

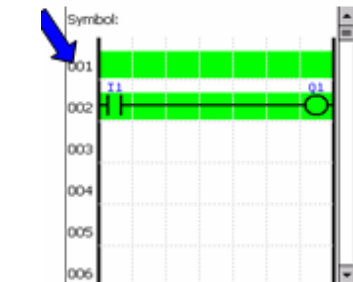
There will be a line active selected range as click in the line displays zone. Cut, Copy....are available.



See left fig. click on 002 line display position, the whole line becomes green active. On this base, click other line to expand upward / downward the active range.



See left fig. click on 002 display position, and click 004, the 002~004 line zone turns to green active. To click other line to expand active line

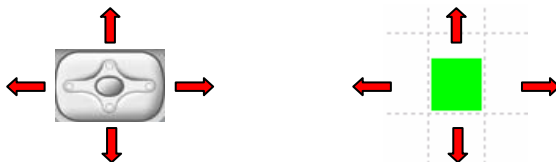


See left fig. click 001 and on base of 002, the line 001 and 002 turns to green active. Click other line to expand the range.

After selected, click in the components program region to cancel the green active scope.

(6) Direction control keys.

Control the move direction of the green cursor under PLC Ladder edit window.



(7) Scroll key

Control vertical scrolling of the window under PLC Ladder edit

5 Uninstall

Run the setup software again to uninstall it. Select Start →Settings→System→Remove Programs and select such software to uninstall it on PDA.