

# Programming Manual

---Programmable Text Monitor

## Contents

<b>1. Overview of 30A.....</b>	<b>3</b>
<b>1.1 Part name .....</b>	<b>3</b>
<b>1.2 Function keys.....</b>	<b>3</b>
<b>1.2.1 30A value enter.....</b>	<b>5</b>
<b>2. Project and screen image.....</b>	<b>5</b>
<b>2.1 User flow.....</b>	<b>6</b>
<b>2.2 Installation.....</b>	<b>6</b>
<b>3. Edit User Screen.....</b>	<b>9</b>
<b>3.1 Create a project.....</b>	<b>9</b>
<b>3.2 Function introduction of all buttons in toolbar.....</b>	<b>10</b>
<b>3.3 Parameters setting.....</b>	<b>12</b>

## Preface

Coolymay programming software for text monitor include 30A, 40A and 50A, they have abundant functions.

- 1) Convenient for editing, support withdraw, repetition, drag an area by mouse, copy and paste cross projects.
  - 2) Support font selection, various fonts can be selected freely for digits of registers and displayed Chinese character.
  - 3) Mass information can be displayed, the font size and typeface are selectable.
  - 4) Indicator ON/OFF image can be arbitrarily changed.
  - 5) Support files with various formats. Dynamic image function can achieve the switch among 16 pictures.
  - 6) Support the input and display of straight line , rectangle and circle
  - 7) Support layered display for images. Overlapped images will not interfere each other.
- ◆ LCD: 30A 128x64 pixels; 40A 192x64 pixels; 50A 240x128 pixels; LCD life can reach 20000 hours. Regularly blue screen, gray and kelly screen optional.
  - ◆ Storage capacity: 256KB flash ROM
  - ◆ 18 function keys (40A and 50A have 19 functions, a CLR button more than 30A), functions can be freely designated.

This manual explains the software taken example of 30A.

## 1. Overview of 30A

### 1.1 Part name



30A has 18 function buttons and can be defined with specific function.

Such as Bit setting、Bit reset、Screen skip、Return to the superior screen image, Screen jumpbetween the former and the latter.

### 1.2 Function keys

Buttons	Basic Function
[ESC]	Press this button, enter into the system screen. The system screen can RUN/STOP PLC and display I/O parameters of PLC
[ALM]	Once press this button, the screen will automatically switch to the alarm screen. If the alarm list hasn't been defined yet, this button can be defined and used as function key.

[←]	Can be defined and used as specific function key.
[→]	Can be defined and used as specific function key.
[↑]	Turn the screen to the former page, the former screen no. is designated by users in “screen property”(default value=current screen no.-1), if set status in data, the modified digital bits need to plus one.
[↓]	Turn the screen to the former page, the former screen no. is designated by users in “screen property”(default value=current screen no.+1), if set status in data, the modified digital bits need to minus one.
[SET]	<p>Press this button to modify the register value. Frame of register which is being modified currently will flicker. A null operation will be executed if no registers are being set.</p> <p>Repress [SET] before pressing [ENT], the current modification is canceled and the next register data register will continuously be modified.</p> <p>Note: registers designated by [SET] have the highest priority and cannot be shielded by defined function key.</p>
[ENT]	In the occasion that password protection being adopted, press this button to open password setting screen. In the state of register setting, write the modified data in the register and continuously modify the next register. After

	the last register in the current screen being modified, the state of register setting will be quit.
[CLR]	The contents of registers can be cleared by using this button( only 40A and 50A have CLR button)

### 1.2.1 30A Value Enter

(1) Numerical Key: e.g. Enter 8988, directly enter the four numbers 8 9 8 8.

(2) : Press up/down button to plus/minus to get the needed value.

Note: when enter numerical values,  cannot move the cursor to the needed digit position.

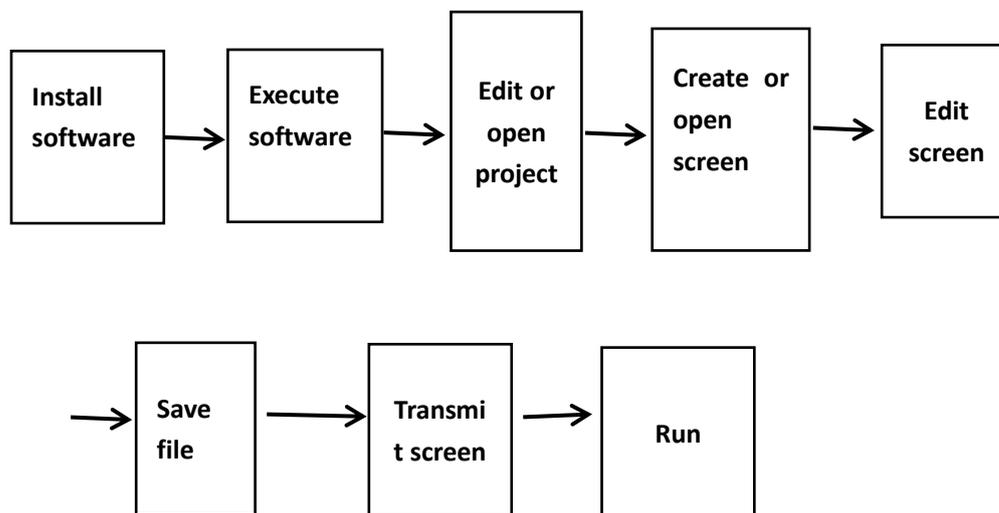
## 2. Project and screen image

Screen images that users specifically made according to a project are saved in a file. The basic elements of a project file are screen images. Every screen image can accomplish certain functions. Different screen images can arbitrarily jump through design. The collection composed by all the screen images is an application project file that designers developed.

## 2.1 Use Flow

When a project file is opened, users can recreate or open a screen image. Every screen can place letters、 Chinese characters、 Indicators、 Switch、 setting window of data display, jump key and other objects. Arbitrary jump can be achieved among screen images so that operators can complete data monitoring, parameters setting, switch controlling, alarm list monitoring and etc.

Basic use flow of COOLMAY-30A is as below:

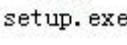


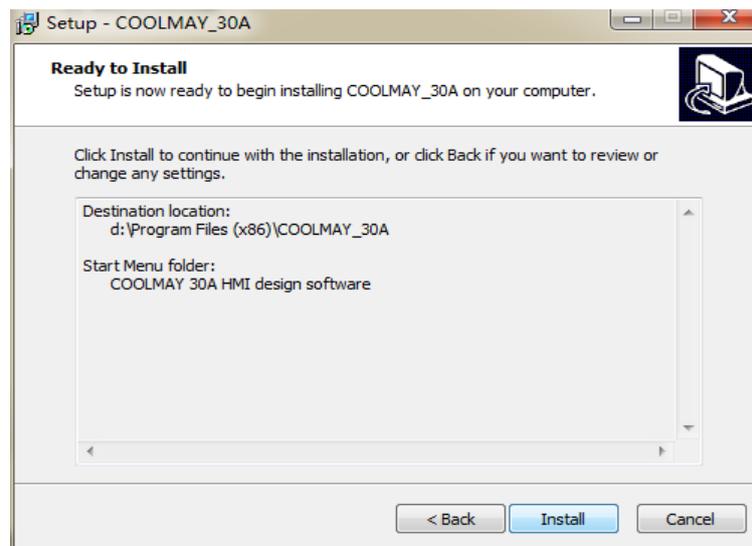
## 2.2 Installation

COOLMAY-30A software is a configuration executive for EX2N-30A, which can be used in the system of Win8/Win 7/Windows Vista/WinXP. This software is easily understood and convenient to use, which can enter both Chinese and English characters of various fonts. This software adopts registry installation, thus before using it, make sure that the software is correctly installed in PC.

## Installation:



(1) Find the file “setup.exe”  in the installation folder, double click the icon to open the installation dialog box, the installation interface is as below figure:



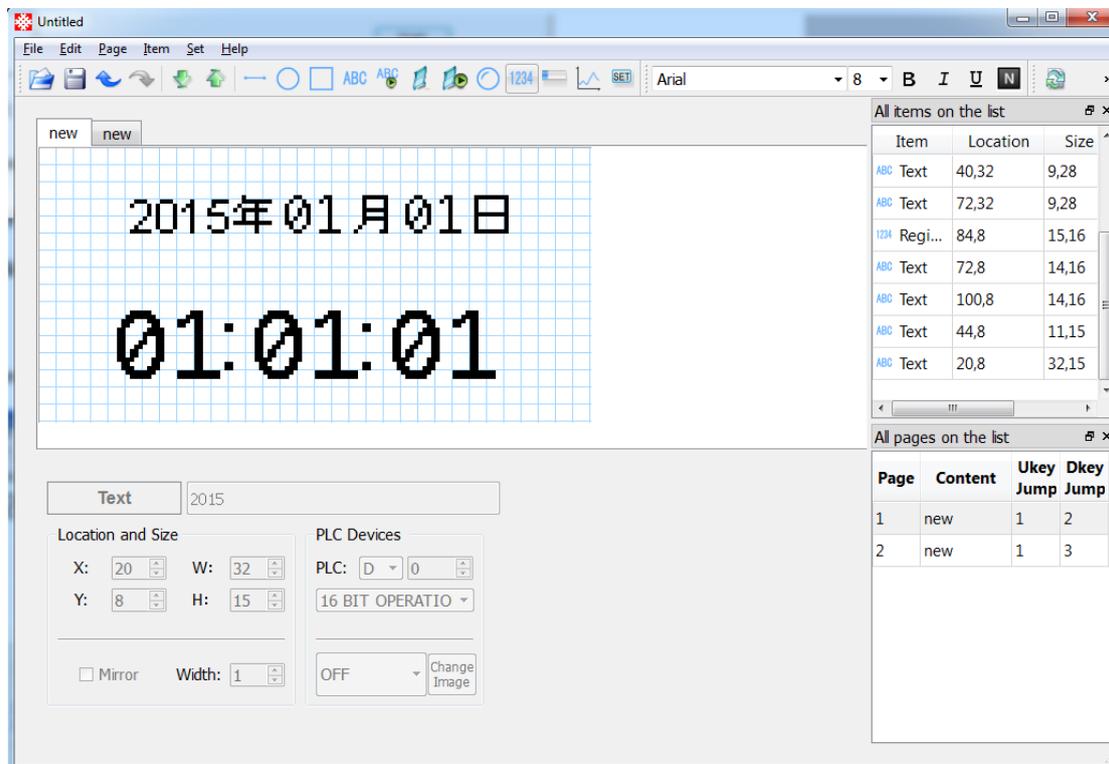
(2) Click [next], prompt interface of installation completed will pop up, namely the software has been installed successfully. Thus, the software can be used to edit screen already.



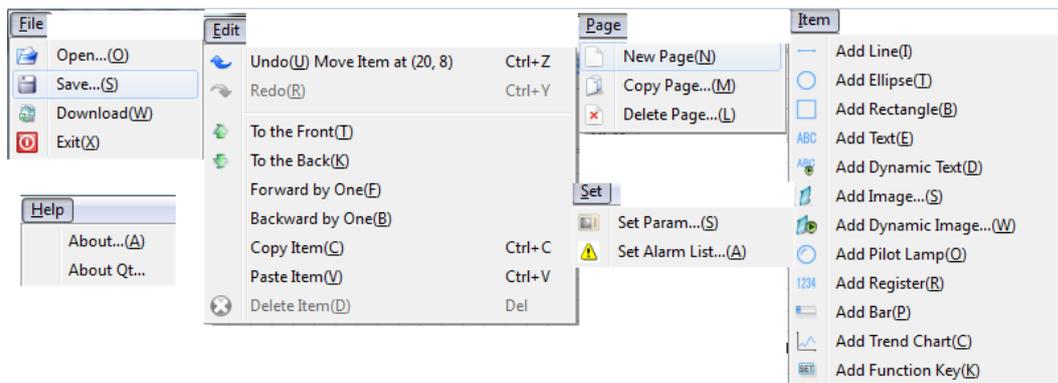
## Unload:

Window>> start menu>>COOLMAY-30A, double click the icon. If there are project files already, you can also click the projects to run COOLMAY-30A.

## Software interface introduction:



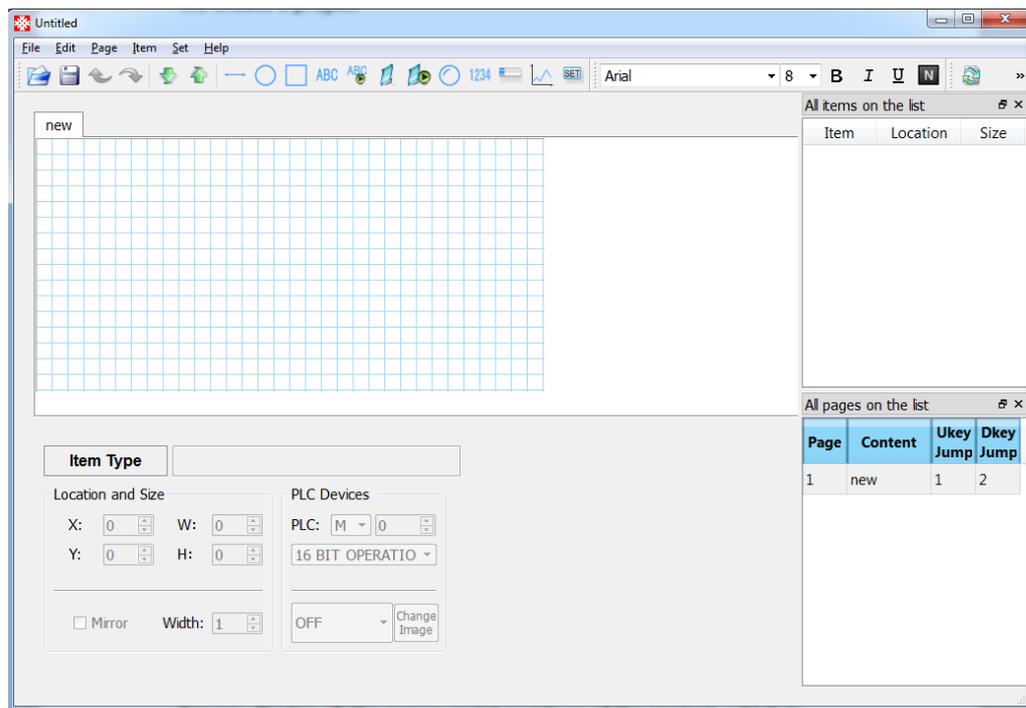
## Menu:



### 3. Edit user screen

#### 3.1 Create a project

Run COOLMAY\_30A and create a new project, then the screen editor will displayed:



The top is menu and toolbar; the top half of the left sheet is screen object attribute (object type, location, size), the bottom half of the left sheet is screen No. and screen description and screen jump attribute.

Screen: display all the screen serial numbers of the project, which is helpful to quick positioning.

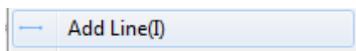
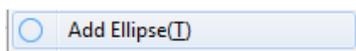
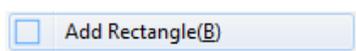
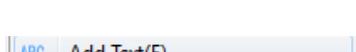
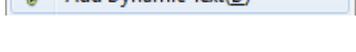
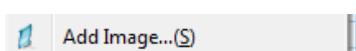
Description: brief description of screen function.

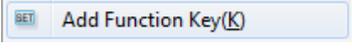
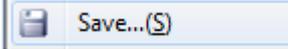
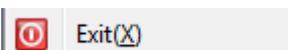
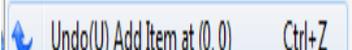
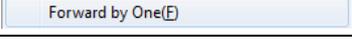
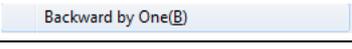
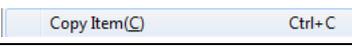
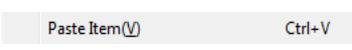
Screen jump attribute: set the switching page of the screens displayed when press up/down button through the page of the jumping screens.

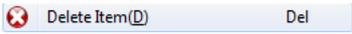
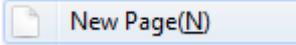
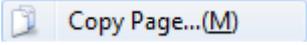
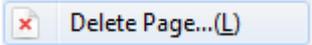
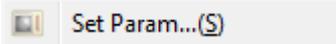
The center is the screen editing area. There are full of blue grids in the

editing area. Designers place and move objects according to the location of the grids nearby in order to align objects. When designers drag an object by mouse, the object will move one or multiple grids. Directly adjust the X/Y coordinate value of objects can get the point of arbitrary position.

### 3.2 Function introduction of all buttons in toolbar and function menu

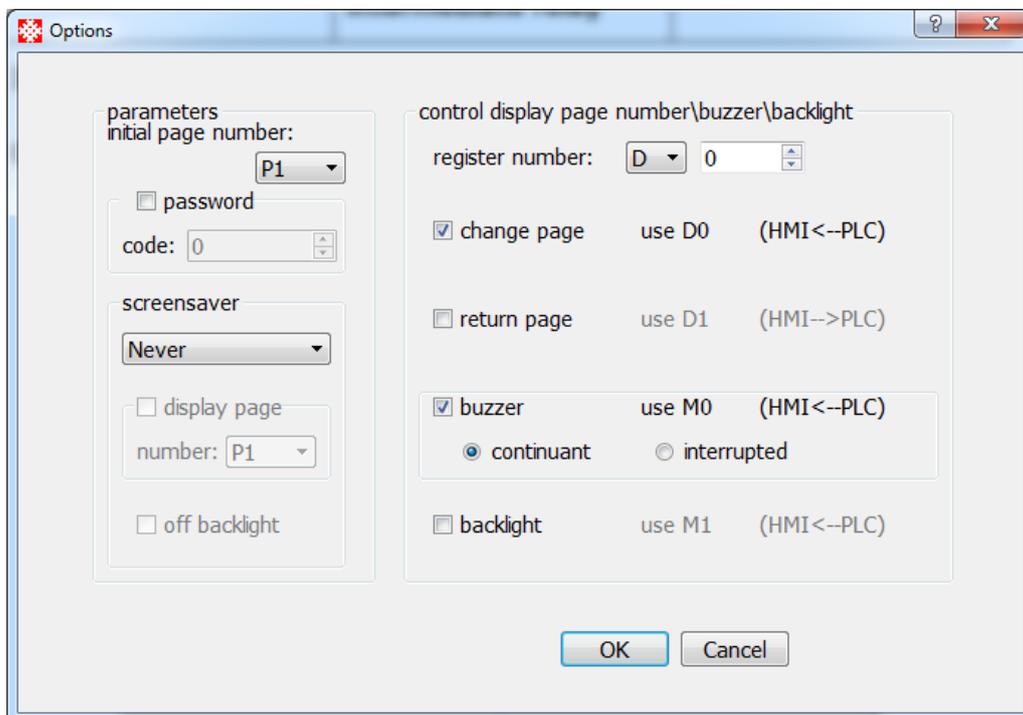
Item	Main function	Hotkey
	Place a line	
	Place a circle	
	Place a rectangle	
	Enter characters, including Chinese characters and letters, any font optional	
	Place variable text, display current state of text monitor through variable text, any font optional	
	Insert image files with various format, images can be display, which is easily to understood	
	Place variable images, can achieve the effect of animations guide the operator	
	Place a indicator, display the switch state of M\X\Y\S\T\C, ON/OFF icon can be seen.	
	Place a data monitoring window or a data setting window, display or set the	

	value of D/C/T	
	Place a bar chart, used to directly display values of D/C/T, usually used to display analog	
	Place a tendency chart, used to display the changing process of D/C/T value in certain period	
	Place a function key, the function including jumping or turning back the former screen and switch control	
	Open a saved project	
	Save the editing project	
	Download the finished project to text monitor through RS232	
	Exit the software	
	Withdraw the former editing operation	Ctrl+Z
	Revert the undo operation	Ctrl+Y
	Move the image to the top layer	
	Move the image to the lowest layer	
	Move up the image one layer	
	Move down the image one layer	
	Copy one or multiply selected images to the pasteboard	Ctrl+C
	Paste the images in the pasteboard to the editing screen, can be pasted to another project	Ctrl+V

	<b>Delete one or multiply selected images</b>	<b>Del</b>
	<b>Create a new image</b>	
Copy 	<b>Copy one screen image to another screen, screen No. can be designated.</b>	
	<b>Delete the current screen</b>	
	<b>Set initial screen, password, screen saver, screen No. Register, backlight, buzzer and etc.</b>	
	<b>Broadcast alarm list message, every alarm message corresponding to a intermediate relay</b>	

### 3.3 Parameters Setting

Click **【Display Setting】** in Set Menu, the below figure will appear.



**Initial screen No.:** the first screen image displayed by 30A after power

**off. Usually this screen is set as the main menu screen or the most commonly used screen. Press [ESC] can directly jump to this screen.**

**Password: all the screens in a project share a same password. When the password attribute of “Data setting window”、 “function key” and other objects is effective, and only when the password is passed that the above objects can execute operations. Screen hidden and data encryption can be achieved by using this function. Specific operation of password, please see below.**

**Note: the password is effective only when the objects with encryption are selected by all screen images in the project. The password can be arbitrary integer among 0-9999.**

**Screen saver: the defaulted hold time of back light is 3mins, can be defined freely. When set “never”, the back light will remain on.**

**Note: it is invalid to operate through buttons while screen jumping as screen saver. Press any button will arouse screen saver to turn back to the original screen. Only texts or images are allowed for saver.**

**Therefore registers, bar chart and other dynamic displayed objects cannot be used as screen saver.**

**30A display state control: In general, screen switch is completed by buttons. Besides, PLC can also switch screens through editing registers.**

**If the attribute is valid, write value n into the control register D300 during the run time, 30A will auto switch the displayed screen to the**

nth image. The value of the control register D300 will be auto cleared subsequently, thus PLC can obtain the state of the displayer.

**30A peripheral equipment: real-time clock module (for customized products) is attached to 30A. Users can select clock module, data of the clock will be transmitted to the control register defined by users.**

- **If the actual value of register exceeds the digit users set, the data will be cut from the end. This may result in error. Therefore while compile, users must set the most probable biggest digits according to register type. Even though some large values cannot be achieved in projects, enough length shall be required to prevent truncated data from being regarded as legal.**
- **It is invalid to operate through buttons while screen jumping as screen saver. Press any button will arouse screen saver to turn back to the original screen.**
- **In the upper and lower limits setting of registers、 bar charts and tendency charts, if the lower limits surpass the upper limits, program will auto check and give an alarm message while download. Configuration is unable to download before correction.**
- **When setting a new value for register, zero clearing the current value by CLR button, and then you can continuously press numeric keys to boost the speed of entering figures.**

- **In the occasion that communication is reliable, try to adopt higher baud rate, which can greatly improve the refresh speed of screens and shorten response time controlled by buttons.**



**Precaution: Blank screen may appear if communication interrupts while downloading program. In this occasion, please long press ESC until the initial screen appears, then you can download again. After text software and PLC software being downloaded, long press ESC button for 3 seconds to run PLC software, PLC run/stop dialog box will appear, press 0 to run PLC, press 1 to stop PLC**