



The background of the entire page is a blurred image of a hand touching a tablet screen. In the center of the screen, there is a target icon consisting of three concentric circles. Several diagonal lines in various colors (purple, green, orange, grey) cross the entire image, creating a dynamic, layered effect.

# EC200 **H** Series

**Upgrading Fresh Function,**  
Excellent performance, touched the future.

# NEW



Upgraded Macro Function



Upgraded Recipe Function



Upgraded Multi-lingual Support



Brand new UI design, upgraded operation convenience



Upgraded response speed



Support Window 8/10

## Evolving New Future

EC200 **H** Series



# EC200 Series

## Whole series products



## New Upgrade, Easy to use

Satisfy various dimension needs, all product capacity upgraded.

Upgraded EC200 Series

### Series

### Simple Type

7"  
TFT



### Economic Type

4.7"  
TFT

7"  
TFT



7"  
TFT



### Standard Type

8"  
TFT



Product	S Series		A Series		00、11 Series			
Model	EC207-CT0S	EC207-CT1S	EC205-CT0A	EC207-CT0A	EC207-CT00	EC207-CT11	EC208-CT00	EC208-CT11
Image Size	7"	7"	4.7"	7"	7"	7"	8"	8"
Color	TFT 64k Color	TFT 64k Color	TFT 64k Color	TFT 64k Color	TFT 64k Color	TFT 64k Color	TFT 64k Color	TFT 64k Color
Resolution	WVGA 800*480	WVGA 800*480	WQVGA 480*272	WVGA 800*480	WVGA 800*480	WVGA 800*480	SVGA 800*600	SVGA 800*600
Power Input	DC IN	DC IN	DC IN	DC IN	DC IN	DC IN	DC IN	DC IN
Indicator Light	—	—	○	○	○	○	○	○
Battery	—	—	○	○	○	○	○	○
CPU	RISC 400MHz	RISC 400MHz	RISC 400MHz	RISC 400MHz	RISC 400MHz	RISC 400MHz	RISC 400MHz	RISC 400MHz
Memory	64MB DDR2	64MB DDR2	64MB DDR2	64MB DDR2	64MB DDR2	64MB DDR2	64MB DDR2	64MB DDR2
Recipe Capacity	2MB	2MB	2MB	2MB	2MB	2MB	2MB	2MB
USB(Slave)	○	○	○	○	○	○	○	○
USB(Host)	○	○	—	—	○	○	○	○
SD Card	—	—	—	○	○	○	○	○
COM1 Port	—	—	—	—	RS-232/422/485	RS-232/422/485	RS-232/422/485	RS-232/422/485
COM2 Port	RS-422/485	RS-422/485	RS-422/485	RS-422/485	RS-232/422/485	RS-232/422/485	RS-232/422/485	RS-232/422/485
COM3 Port	RS-232	RS-232	RS-232	RS-232	RS-232	RS-232	RS-232	RS-232
Ethernet	—	○	—	—	—	○	—	○
Audio Out	—	—	—	—	○	○	○	○
Hose Size (mm)	192*138	192*138	139*94.1	192*138	192*138	192*138	218*165	218*165
CE Certification	○	○	○	○	○	○	○	○

## Model Description

**EC2 10 – CT 1H**

(A) (B) (C) (D)

(A) EC200 Series

(B) HMI Size

05 : 4.7"

07 : 7"

08 : 8"

10 : 10.2"

(C) Display Type

CT : TFT Color Display

(D) Series

0S : Simple Type

1S : Simple Network Type

0A : Economic Type

00 : Standard Type

11 : Network Type

0H : Advanced Standard Type

1H : Advanced Network Type

Newly upgraded H Series, with more advanced efficiency.

H series

Other

256MB

800MHz

64MB

400MHz

Memory

CPU

## Advanced Standard Type

10.2"  
TFT



7"  
TFT



8"  
TFT



10.2"  
TFT



		H Series					
EC210-CT00	EC210-CT11	EC207-CT0H	EC207-CT1H	EC208-CT0H	EC208-CT1H	EC210-CT0H	EC210-CT1H
10.2"	10.2"	7"	7"	8"	8"	10.2"	10.2"
TFT 64k Color	TFT 64k Color	TFT 64k Color	TFT 64k Color	TFT 64k Color	TFT 64k Color	TFT 64k Color	TFT 64k Color
WVGA 800*480	WVGA 800*480	WVGA 800*480	WVGA 800*480	SVGA 800*600	SVGA 800*600	WVGA 800*480	WVGA 800*480
DC IN	DC IN	DC IN	DC IN	DC IN	DC IN	DC IN	DC IN
○	○	○	○	○	○	○	○
○	○	○	○	○	○	○	○
RISC 400MHz	RISC 400MHz	RISC 800MHz	RISC 800MHz	RISC 800MHz	RISC 800MHz	RISC 800MHz	RISC 800MHz
64MB DDR2	64MB DDR2	256MB DDR2	256MB DDR2	256MB DDR2	256MB DDR2	256MB DDR2	256MB DDR2
2MB	2MB	Approx. 20MB	Approx. 20MB	Approx. 20MB	Approx. 20MB	Approx. 20MB	Approx. 20MB
○	○	○	○	○	○	○	○
○	○	○	○	○	○	○	○
○	○	○	○	○	○	○	○
RS-232/422/485	RS-232/422/485	RS-232/422/485	RS-232/422/485	RS-232/422/485	RS-232/422/485	RS-232/422/485	RS-232/422/485
RS-232/422/485	RS-232/422/485	RS-232/422/485	RS-232/422/485	RS-232/422/485	RS-232/422/485	RS-232/422/485	RS-232/422/485
RS-232	RS-232	RS-232	RS-232	RS-232	RS-232	RS-232	RS-232
—	○	—	○	—	○	—	○
○	○	—	○	—	○	—	○
259*201	259*201	192*138	192*138	218*165	218*165	259*201	259*201
○	○	○	○	○	○	○	○

## EC200 Series Upgrade Hard Drive Capacity



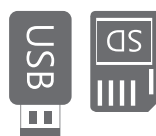
### ► Persistent Storage Memory



It supports perpetual calendar, history data storage of internal log, advanced alarm, etc.

\*EC207-CT0S/1S doesn't support power-off save function

### ► Standard USB and SD Memory Card



It's SD card and USB supportable for saving HMI files, recipe file, alarm file, parts image, etc.

\*EC205-CT0A and EC207-CT0A USB flash drives not supported  
\*EC205-CT0A、EC207-CT0A and EC207-CT0S/1S SD card not supported

### ► Multilingual Support

User can easily select the required language from the switch language function.

Traditional Chinese	Japanese	Deutsch	Norwegian	French	Turkish
Simplified Chinese	Dutch	Icelandic	Portuguese	Italian	English
Finnish	Irish	Spanish	Danish	Russian	

\*Support 17 languages now

\*Support Window TrueType font



### ► Audio Output



Connect the audio speakers to the HMI audio output. The WAV files can be imported to HMI and set to play when an alarm event is triggered.

\*EC205-CT0A、EC207-CT0A、EC207-CT0S and EC207-CT1S audio output not supported.

### ► Vertical/Horizontal Display



EC205-CT0A model add a function which is vertical / horizontal display. The designer can adjust the display direction easily by panel size or user's demand.

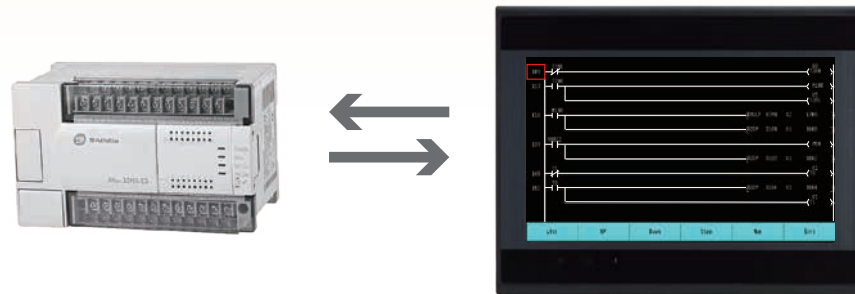


## ► Editable Command List & LAD Monitoring

Replace PLC reader, edit command directly in OS and use PLC LAD as program monitoring.

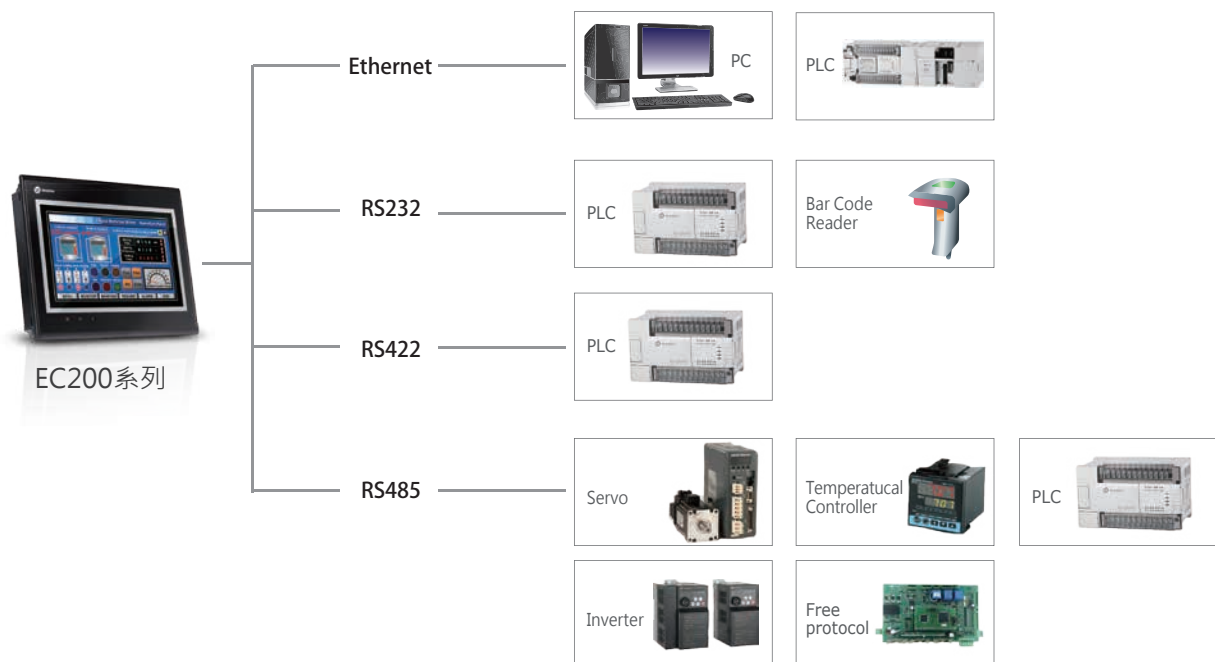
\*Support AX series PLC only

\*Doesn't support EC205-CT0A



## ► Flexible Communication

Support RS-232/RS-422/RS-485 communication interface, as well as controller communication drivers from various brands. The multifunctional model also supports an Ethernet connection. As many as 4 types of communication interfaces can be operated simultaneously. Assorted devices can be connected easily to achieve using human-machine to administer all the functions of the devices.



## ► Multiple brands of PLC Connectable

HMI can connect to all major brands of PLC, and support multiple Modbus devices.

For more details, please refer to Shihlin Electric HMI communication manuals.

# EC200 Series Software Upgrade

## ► Edit Software EU WORKS2



### Toolbar

The toolbar is not displayed as default, operator can add or subtract toolbar according to their operation habit, and toolbar within working zone can be also drag to location needed to make working environment more flexible.

### Dragging Component

Visual component can be dragged to demanded location on screen, and the component is auto aligned to grid line with snap-to-guide. It is a good tool to edit screen.

### Universal Component

When use the universal component, after a new component been added, its replicas own the same property. Modify the property of one of them will change other components property, so as to increase the efficiency for component setting.

### Large Component Icon

Large icon provides more aesthetic visual effect, also convenient to find components and easy to drag them.

### Error List Window

Error edition information will be shown in error list window. When operator select one column of error information and double left click, the error object screen will be shown and the object will be selected automatically, which greatly reduced the trouble shooting time.

### Screen List Window

The working screens are displayed in thumbnail view for operator to edit back and forth; fast browse screens and easy to manage them.

### One-key Upload

Traditional operation method is to generate file by editing screen, and then use upload key to transmit. The operator usually transmit the file while forget the compiling action, which will cause the newly edited function can not be run on HMI. Time will be wasted on trouble-shooting. We provide compile while transmission function, so the operator don't have to take care if the screen has been compiled or not.

### Multi-lingual Edit

The visual component uses comment text dynamic multi-lingual switching, bringing a more internationalized machine application. User may use the Language option on the toolbar to switch to different languages quickly. This allows the user to check the textual settings in different languages more conveniently when editing.







## Multiple Status

Operator can quickly switch between visual component with multiple status, e.g. Select Status 1 to show its corresponding icons setting for easy confirmation of different status setting. switch between max. 32 status.

## General Function Window

All non-visual component HMI functions (such as record setting, database setting, recipe setting, system setting etc.) are integrated to a single management window for operator's easy access to the setting screen.

## Modify Multiple Components' Property

It can crop select multiple component and modify their properties, if the selected components are of different kind, it can still modify the properties of the same, which significantly improve the operator's experience on property modification.

## Properties Window

Other than popup property setting window, permanent property window is also provided for operator to set properties according to their habit.

## Object Alignment

Multiple components can be centered vertically, horizontally; top, bottom, left or right aligned. Object in group also can be aligned with other object to make the edition result more prominent and aesthetic.

## Toolbar Customize

The configuration method of screen list, general function management, property window, toolbar, status bar etc. can be customized flexibly to boost efficiency and productivity.

## Project Auto Backup

Operator can set time interval for autosave to make sure the edited contents can be retrieved if unintentional accident happened. During abnormal termination of edition, the operator can retrieve previous project by the next when the editing software be started.

## Plug-and-play USB

Commonly, the USB transmission supported by HMI needs corresponding driver programmes which are not available after computer software upgrading. We provide plug-and-play USB upload and download, which is still compatible even when the computer system is a new one. Leave out the troubles caused by operation system upgrade.

## EC200 Series Software Function

## Diverse Image

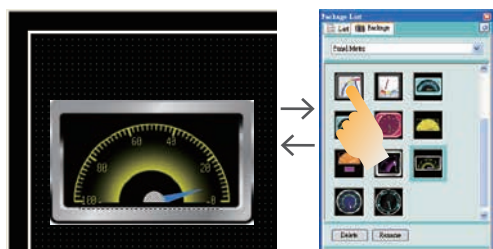
With more than 3000 images to selection, which are classified according to function and color into different galleries for operator's easy search and select. The images are in high resolution, which makes the screen undistorted and delicate.



## Component Pack Function



Designer can use current drawing component to create new customized component, such as customized keyboard or instrument component. As long as customized component saved in packing list, it can be reused. When design screen, the customized component can be drag to screen working zone front the packing list.



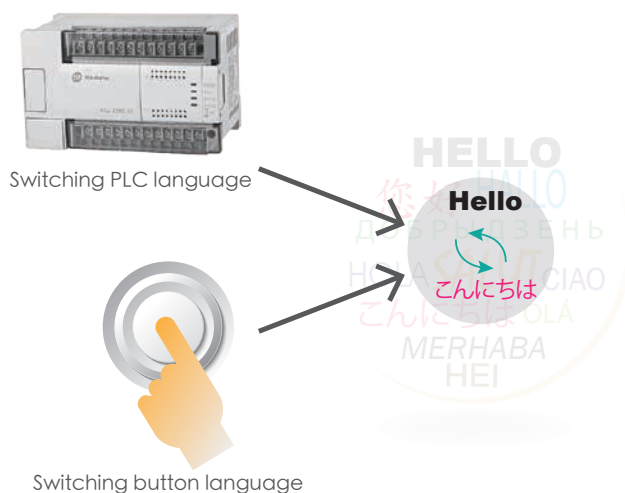
## Various Diagram

EU WORKS2 provides various diagram functions. It can increase the readability by design a wide variety of diagram according to customer's need.



## Language Switch Function

Language switch function consists of manual and auto-manual method allows to select all or current screen to switch language by press button; while auto switches all screens language by internal register HDR61 of HMI.



## History Record



### Storage Mode

#### Multiple Storage Mode

Beside save in SD card or USB flash drive, history data can be also saved to PC through HMI by FTP, increase the history data reading convenience.



Read CSV records on PC  
end via PFT



SD card storage



USB storage



### Display Mode



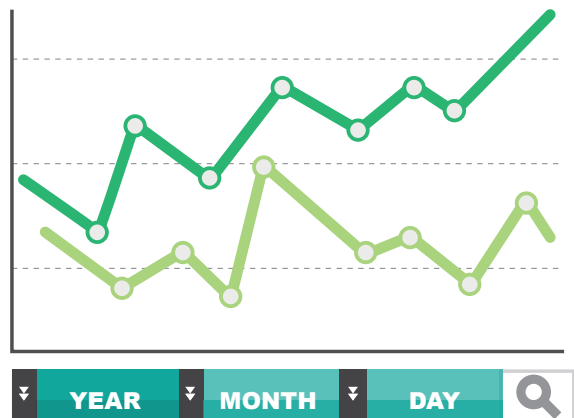
Beside display history record in graphic, history data and data update time can be also displayed in text form.

#### Display History Data

No.	Date	Time	1	2
87	2014/04/09	13:23:48	55	90
88	2014/04/09	13:23:49	25	70
89	2014/04/09	13:23:49	25	70
90	2014/04/09	13:23:50	85	20
91	2014/04/09	13:23:50	95	80

"Display History Data" component displays history data and data update time in text form.

#### History Trend Chart



Displayed in graphic form, fast browse current data trend by the trend chart. History trend chart can be reviewed by history trend chart search function.

## EC200 Series Software Function

### Remote Monitoring Function

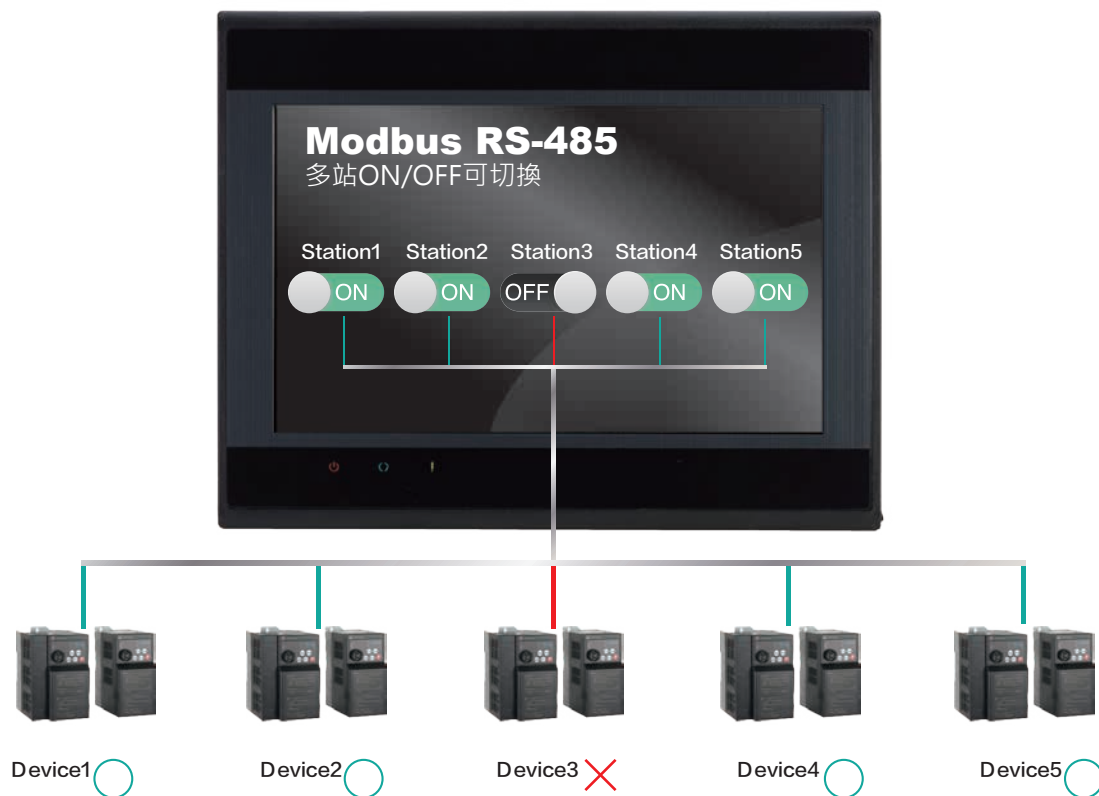
PC with the external Ethernet connections can be monitored via remote HMI screen simulation software.



### Multi-site Dynamic Switch



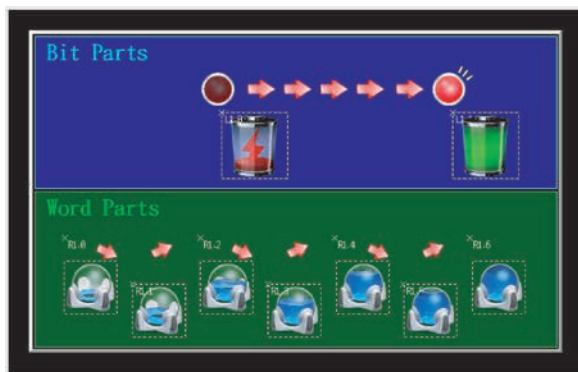
It controls the communications between each site and HMI through HMI's internal special register.



## EC200 Series Software Function

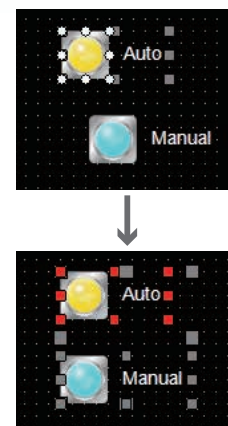
### Customized Animation Function

EU WORKS2 provides animation function. When designer need to show dynamic graphic on screen, animation function can be triggered by bit/Word component to increase the readability.



### Object Group Alignment

Objects in group can also execute object alignment.



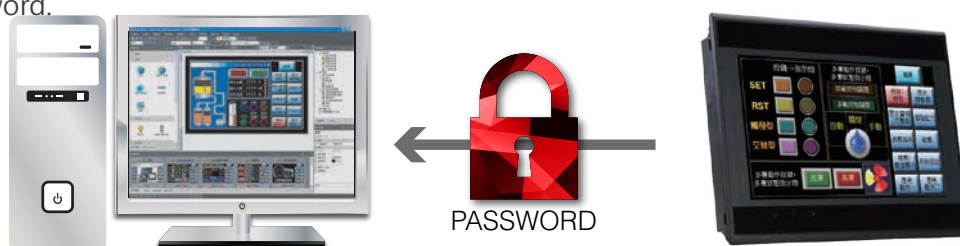
### Allow Download Gallery from HMI

Read project from HMI and save user's customized gallery.



### The Security Function

Protect security HMI programs from being uploaded or downloaded by unauthorized personnel is critical. At here, "Password" is used for device security. For the level of security, EU200/ EC200 Series offers 15 sets of password; the right to control or display units depends upon the level of the entered password.





## EC200 Series Software Function

### Turn on Backlight when Warning

When HMI in sleep status, backlight will turn on if any alarm calls to alert the operator. This function is applicable to warning history list and advanced warning device.



### Auto Standby Wake-up Setting



Users can set the screen turn on/off time from HMI system menu "Power Setup\Auto Stand by Wakeup Setting". HMI turns off screen when it goes into power save mode. The maximum number of setting items is 8.

### Graph Overlap Function

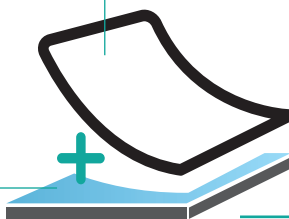


By this function, background image can be designed in order to save screen editing time. Basic screen, sub screen and keyboard screen can all use graph overlap function. The screen allows multi-layers overlapped underlying graph.

Basic screen



Background image



Overlapping the background image, it makes editing more convenient.

# EC200 Series Macro

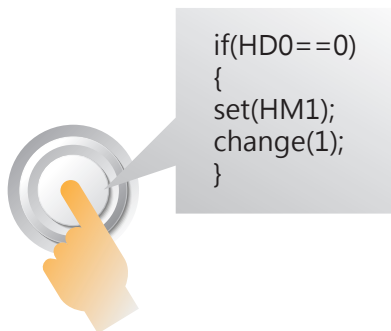
## Macro Database

Utilizes simplified gramma similar to C programming language, it only requires knowledge of transient memory register and build-in function, which significantly reduce the designer's learning time. Using macro in HMI can achieve multiplex effects, and simplify controller processing sequence. Current provided macro gramma supports process control, transient memory register and call in build-in function. Build-in function consists of 2 categories: function option and mathematical function. Use macro can increase the flexibility of customized action and perform special numerical computation.

Category	Macro Instruction
Process Control	IF、IF-else、while、for、switch
Function Option	set、rst、alt、sub、change、oWindow、cWindow、olmpos、clmpos、fmov、bmov、delay、setssystemtime
Mathematical Function	sin、cos、tan、asin、acos、atan、log、ln、exp、ldexp、pow、sqrt、absround、floor、ceil
ASCII	send、sendClr、puts、putca、puti、putf、putff、clearSendBuff、swap、clearEceiveBuff、addSum、sendBuffCkSum、xoeSum、sendregBuff、crcSum、receiveBuff、ascToHex、receiveReg、hexToAsc、buffToReg、byteToWorld、bufftoRegF、wordToByte
Database Operation	dbSearchText、dbSearchInt

## Macro Key

Key can be set as pre-execution/after-execution macro, execute macro after key has been triggered.



## TAG

Different controllers are allowed to be applied in the same macro as long as their devices has been tagged.

```

1  if(M0)
2  {
3      DO=10;
4      $COM2D100=20;
5      $COM2D100=50;
6  }
7
8
9
10

```

## Macro Comment

Additional comments can be inserted into Macros to make Macros more readable.

## "ASCII Communication" Command

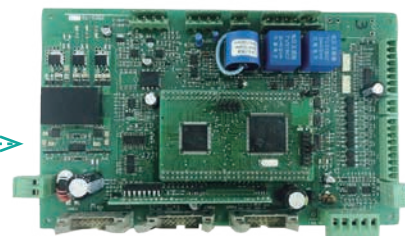
Operator can define Free Protocol by ASCII communication command.



```

sendBuffCkSum(0,6,2);
sendClr(1);
HD5000=receiveBuff(1,21,5);

```

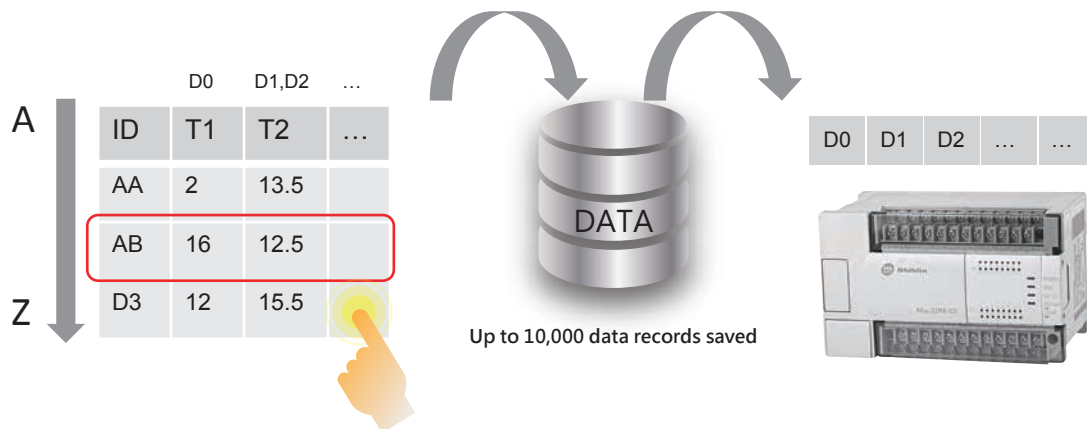


## EC200 Series Recipe

### HMI Database

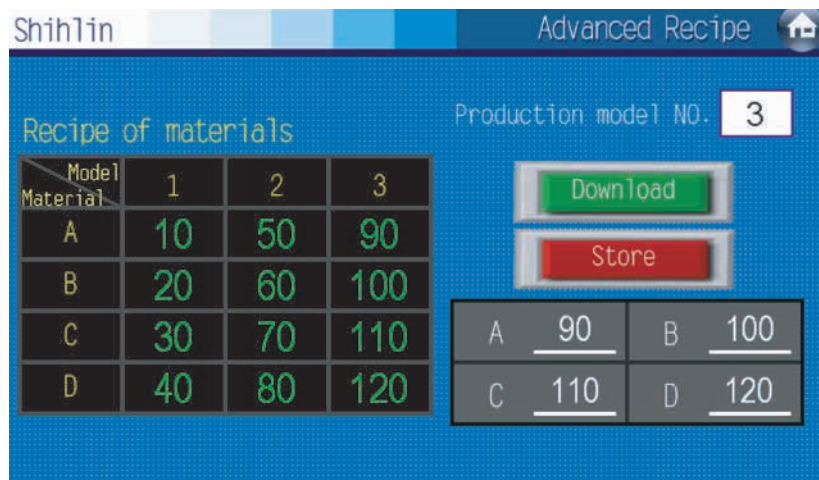


The database allows HMI storage can access database features. It enables add, modify, delete, search and sort function; the data storage can store up to thousands pieces (actual storage capacity depends on project memory ration limit). Each column is correspond to certain device register for user to plan and manage device data more easily. When applied on large-volume recipes, it is easier to manage them.



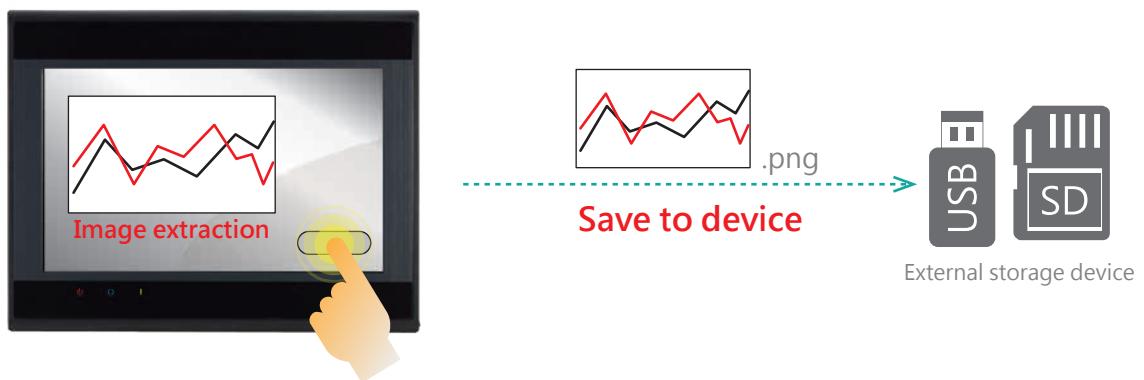
### Advanced Recipe Function

Other from recipe function, the advance recipe function can realize more customized setting except multiple data writing. It can select continuous or individual setting of register, and use register control writing record' s data number.



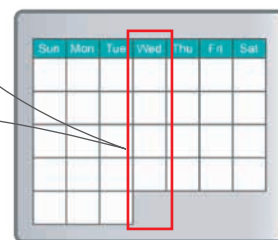
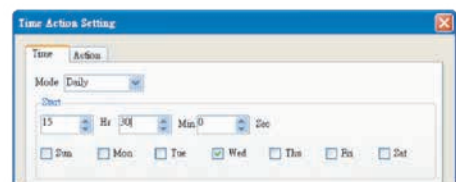
## Screen Capture Function

When real-time record of dynamic display (Ex~diagram display) needed, select button to save screen as .png to external storage device. The screen capture function is set through extend menu of key function.



## Scheduling

If action need to be execute on a regular time base, the function can be used to schedule-by set mode, time and week; it can be set on edit software as well as control register. After the schedule has been set on edit software, the operator even can furtherly modify the parameter on HMI so as to cut the editing time for go back to the edit software.



## Universal Component Function








Beside standard components, EU WORKS2 also provides several new universal components for designer to use. When the replica of a universal component has been modified, other replicas will be set at the same time. Now, 35 functions such as button, value display and input etc. support universal component (refer to the manual for more details).






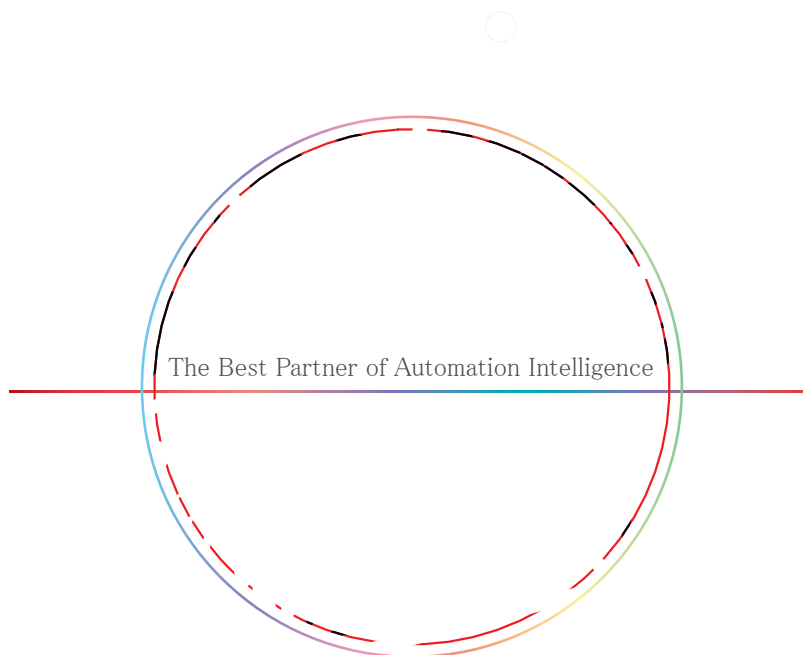
# EC200 Series

## Detail Specification

Series			S/A/00/11 Series									
Appearance					 							
Model			EC205		EC207			EC208		EC210		
			CT0A	CT0S	CT1S	CT0A	CT00	CT11	CT00	CT11	CT00	CT11
Performance												
CUP Spec.			32Bit RISC CPU 400MHz									
Display Spec.	Color Monitor		64K Color									
			Color TFT LCD									
	Image Size (inches)		4.7"	7"				8"		10.2"		
	Resolution (points)		480X272	800X480				800X600		800X480		
	View Angle (Top, Bottom, Left, Right)		60/70/70/70	50/70/70/70						45/65/65/65		
Touch Panel Spec.	LED Backlight		30,000 hours									
	Touch Panel		4-Wire Resistive Type									
	Touch Precision		More than 2mm									
	Lifespan		More than 1 million times									
	Panel Surface Hardness		4H									
Switch			312(24X13)	960(40X24)				1160(40X29)		960(40X24)		
Battery			2 years from mfg. date									
Text	Text Displayed		Support True Type Font									
	Word String		Support Unicode (ISO 8859-1)									
Communication Port	Serial Port	COM1	N/A			RS-232/422/485						
		COM2	RS-422/485			RS-232/422/485						
		COM3	RS-232									
	Ethernet		N/A	10/100MB	N/A	10/100MB	N/A	10/100MB	N/A	10/100MB		
	USB	Host	N/A	USB1.1 X 1	N/A	USB1.1 X 1						
Client		USB2.0 X 1										
Audio Interface			N/A			Yes						
Memory	Internal	Internal Image Memory (ROM)	256 Mbytes N and Flash (User 64MBytes)									
		Internal Memory (SDRAM)	64MB DDR2									
		Data Cache (SRAM)	128KB									
	External Memory Interface		N/A			SD Card (Support max. 16G)						
Operation Environment												
Power	Rated Voltage		DC 24V									
	Voltage Tolerance		DC24V ± 15%									
	Allowable Transient Power Cut-off		Within 10ms	Within 40ms	Within 10ms							
	Power Consumption		Under 10W									
Ambient	Operating Temperature		0℃~45℃ (avoid freeze)									
	Storage Temperature		-20℃~60℃ (avoid freeze)									
	Ambient Humidity		Non-condensation, 10% ~ 90%RH (0℃ ~ 40℃),10% ~ 85%RH (41℃ ~ 45℃)									
	Weather Fastness		Non-corrosion, non-conduct environment									
	Shock-proof		Conform to IEC 61131-2 · Vibration Frequency: 5~150Hz · Acceleration: 9.8m/s2(1.0G) · X/Y/Z 3-way 12 times each									
Installation Requirement	EMC		Conform to IEC 61000-6-2 :2001									
	Grounding		Under 100Ω (Category D)									
	Ingress Protection		Front cover Ip65(dust and drop proof); rear IP20									
	Cooling		Free Cooling									
	Dimension WxHxD (mm)		143x98.1x40.6	200x146x36	208x154x40.6			226x173x42.1		271x213x42.1		
	Hose Size WxH (mm)		139x94.1		192x138			218x165		259x201		
Weight (kg)			≒0.29	≒0.54	≒0.85			≒1.04		≒1.4		
Certified by			CE · FCC									



Advanced H Series <b>NEW</b>					
					
EC207		EC208		EC210	
CT0H	CT1H	CT0H	CT1H	CT0H	CT1H
32Bit RISC CPU 800MHz					
64K Color					
Color TFT LCD					
7"		8"		10.2"	
800X480		800X600		800X480	
50/70/70/70		50/70/70/70		45/65/65/65	
30,000 hours					
4-Wire Resistive Type					
More than 2mm					
More than 1 million times					
4H					
960(40X24)		1160(40X29)		960(40X24)	
2 years from mfg. date					
Support True Type Font					
Support Unicode (ISO 8859-1)					
RS-232/422/485					
RS-232/422/485					
RS-232					
N/A	10/100MB	N/A	10/100MB	N/A	10/100MB
USB2.0 X 1					
USB2.0 X 1					
N/A	Yes	N/A	Yes	N/A	Yes
256 Mbytes N and Flash (User 64MBytes)					
256MB DDR3					
128KB					
SD Card (Support max. 64G)					
DC 24V					
DC24V ± 15%					
Within 10ms					
Under 10W					
0°C~45°C (avoid freeze)					
-20°C~60°C (avoid freeze)					
Non-condensation, 10% ~ 90%RH (0°C ~ 40°C),10% ~ 85%RH (41°C ~ 45°C)					
Non-corrosion, non-conduct environment					
Conform to IEC 61131-2 · Vibration Frequency: 5~150Hz · Acceleration: 9.8m/s2(1.0G) · X/Y/Z 3-way 12 times each					
Conform to IEC 61000-6-2 :2001					
Under 100Ω (Category D)					
Front cover Ip65(dust and drop proof); rear IP20					
Free Cooling					
208x154x40.6		226x173x42.1		271x213x42.1	
192x138		218x165		259x201	
≒0.85		≒1.04		≒1.4	
CE、FCC					



#### Head Office:

16F, No. 88, Sec. 6, ChungShan N. Rd.,  
Taipei, Taiwan, 111

**TEL:** +886-2-2834-2662

**FAX:** +886-2-2836-6187

#### HsinFun Factory (Taiwan)

No.234, ChungLun, HsinFun,  
HsinChu, Taiwan, 304

**TEL:** +886-3-599-5111

**FAX:** +886-3-590-2167

#### SuZhou Factory (China)

No.22, HuoJu Rd., SuZhou Tech. District,  
JiangSu, China. 215009

**TEL:** +86-512-6843-2662

**FAX:** +86-512-6843-2669

Official website [www.seec.com.tw](http://www.seec.com.tw)  
Automation Division website [www.seecfa.com](http://www.seecfa.com)  
[automation@seec.com.tw](mailto:automation@seec.com.tw)