



EC 200
Series
HMI



EC200 **H** Series

Upgrading Fresh Function, Ev
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

Evolutionary 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

Economic Type

Standard Type

7"
TFT

4.7"
TFT

7"
TFT

7"
TFT

8"
TFT



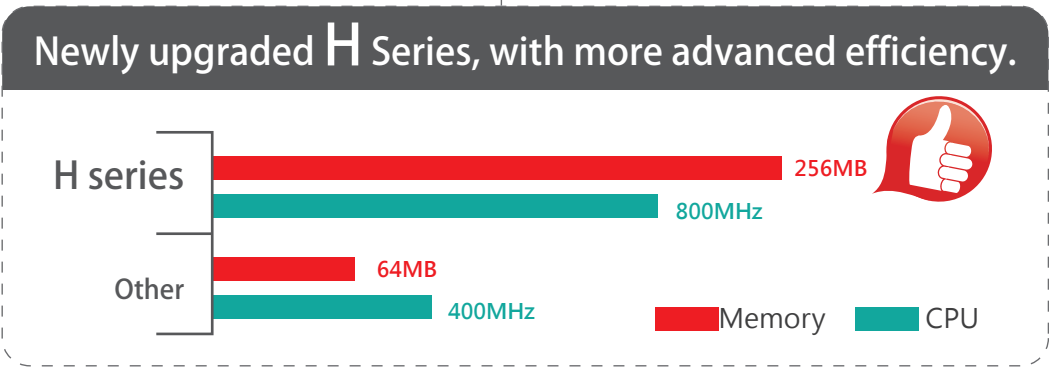
Product	S Series		A Series		00、11 Series			
Model	EC207-CT0S	EC207-CT1S	EC204-CT0A	EC207-CT0A	EC207-CT00	EC207-CT11	EC208-CT00	EC208-CT11
Image Size	7"	7"	4.3"	7"	7"	7"	8"	8"
Color	TFT 64k Color	TFT 64k Color	TFT 64k Color	TFT 64k Color	TFT 64k Color	TFT 64k Color	TFT 64k Color	TFT 64k Color
Resolution	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



Advanced Standard Type

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-CT05/1S 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.

*EC204-CT0A and EC207-CT0A USB flash drives not supported
*EC204-CT0A · EC207-CT0A and EC207-CT05/1S 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.

*EC204-CT0A · EC207-CT0A · EC207-CT05 and EC207-CT1S audio output not supported.

► Vertical/Horizontal Display

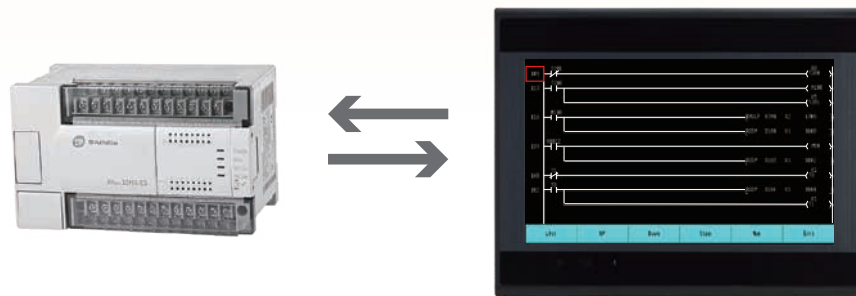


EC204-CT0A model add a function which is vertical / horizontal display. The designer can adjust the display direction easily by panel size or user's demand.

▶ Editable Command List & Ladder Monitoring

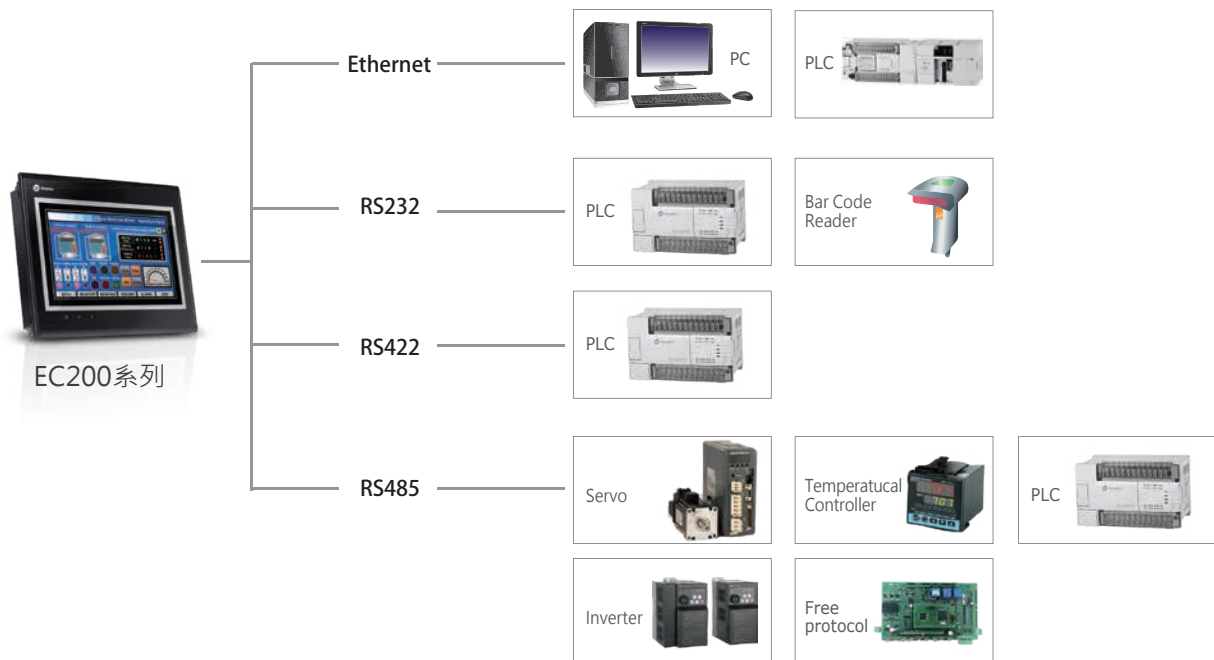
Replace PLC reader, edit command directly in OS and use PLC Ladder as program monitoring.

*Support AX series PLC only
*Doesn't support EC204-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.

Global Unit

When use the global unit, 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.

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



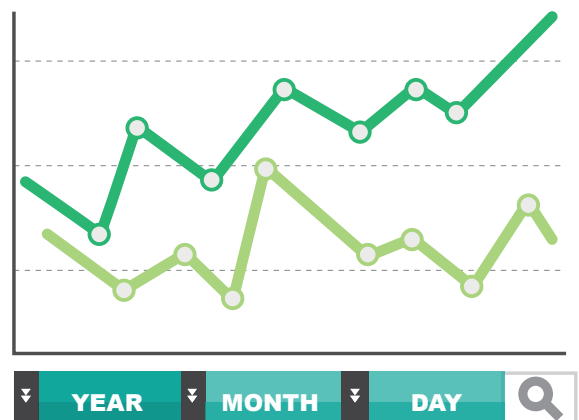
Beside display history record in graphic, history data and data update time can be also displayed in text form.

History Data Display

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

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

Historical Trend Chart



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

EC200 Series Software Function

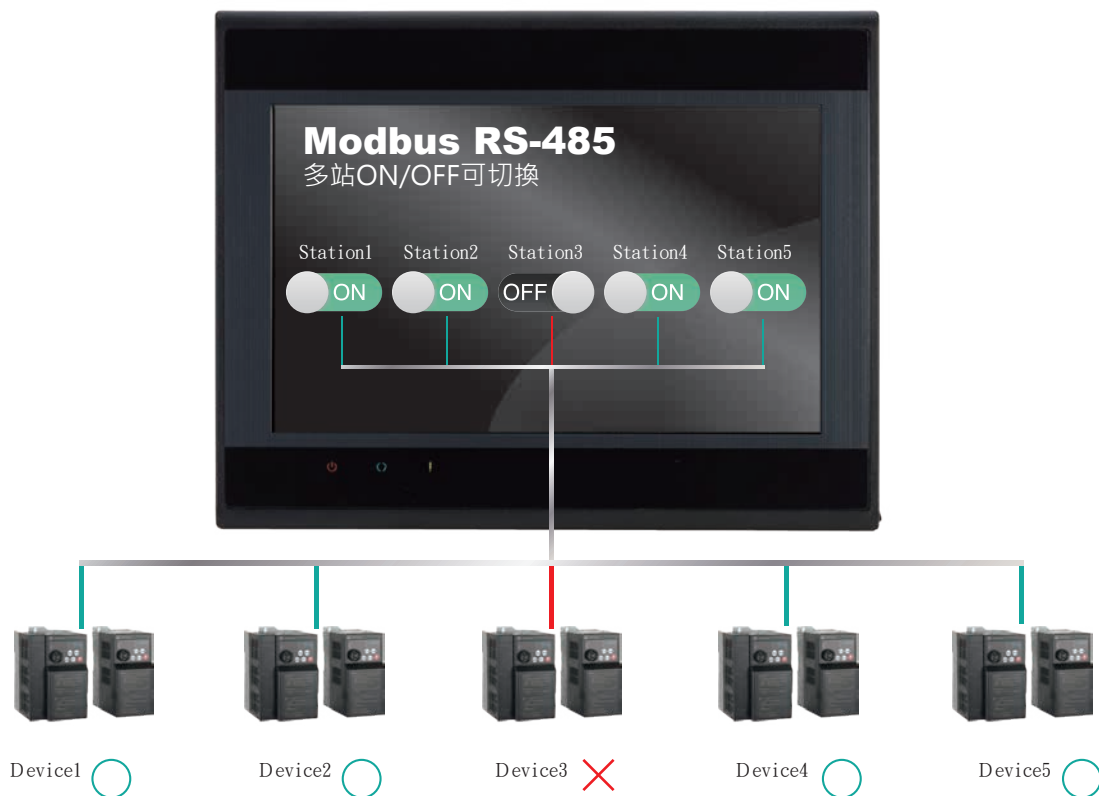
Remote Monitoring Function

HMI screen can be monitored by HMI simulator on PC via an Ethernet connection.



Station Dynamic Switch

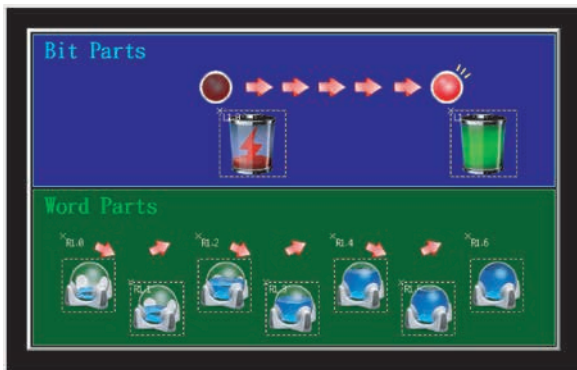
It controls the communications between each station and HMI through HMI's internal special register.



EC200 Series Software Function

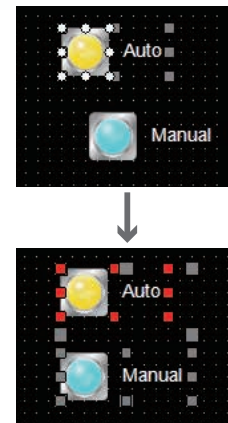
Customized Animation Function

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 an alarm occurs

When HMI in power save mode, backlight will turn on if any alarm calls to alert the operator. This function is applicable to Alarm History and Advanced Alarm.



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

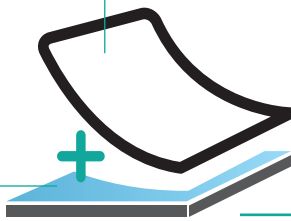


By this function, background image can be designed in order to save screen editing time. Basic screen, sub screen and keyboard screen can all use graph overlap function. The screen allows multi-layers overlapped underlying graph.

Basic screen



Background image



Overlapping the background image, it makes editing more convenient.

EC200 Series Macro

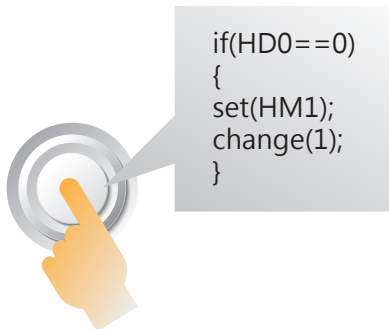
Macro Library

Utilizes simplified c-like syntax, it only requires PLC devices and built-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 syntax supports control statement, device expression. Built-in function consists of 4 categories: Function, Math Function, ASCII Communication, Database Operation. Use macro can increase the flexibility of customized action and perform special numerical computation.

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

Macro Triggered by Switch

Switch 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 (MO)
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" Macro Function

Users can customize their ASCII communication commands by using "ASCII Communication" Functions.



```

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

```

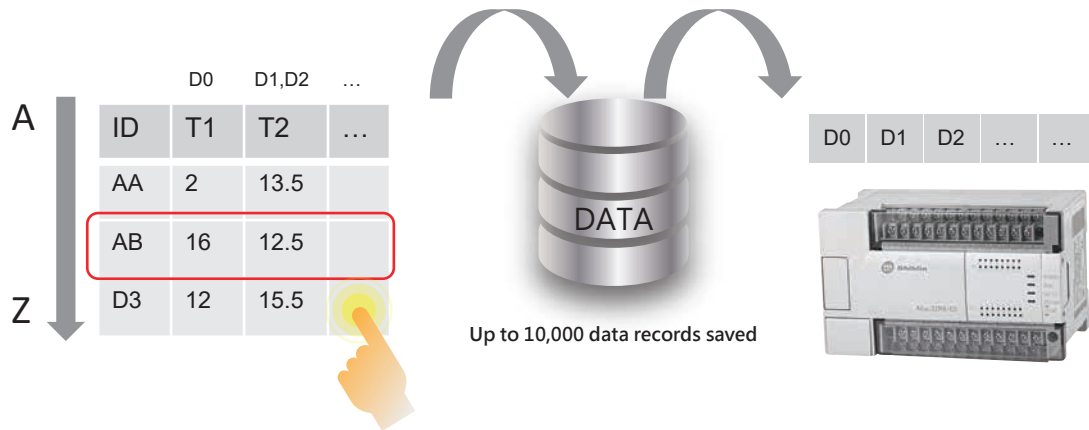


EC200 Series Recipe

HMI Database

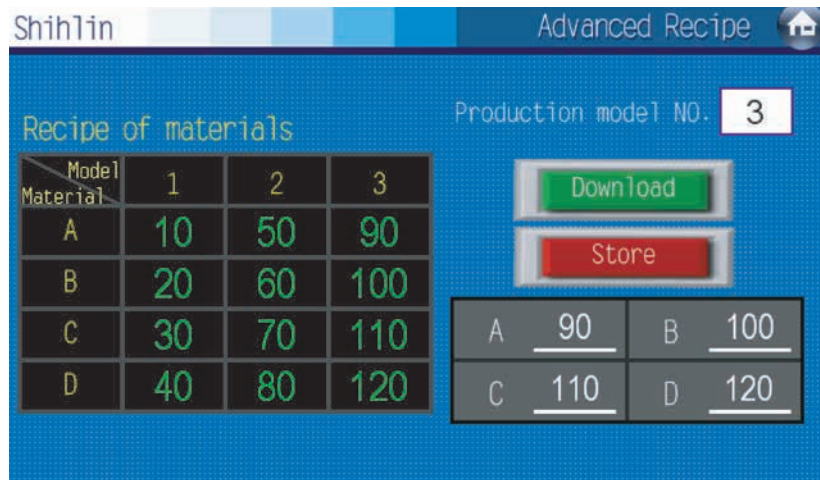


The database allows HMI storage can access database features. It enables insert, update, delete, search and sort function: the data storage can store up to thousands pieces (actual storage capacity depends on project memory ration limit). Each column is correspond to the PLC device for user to plan and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



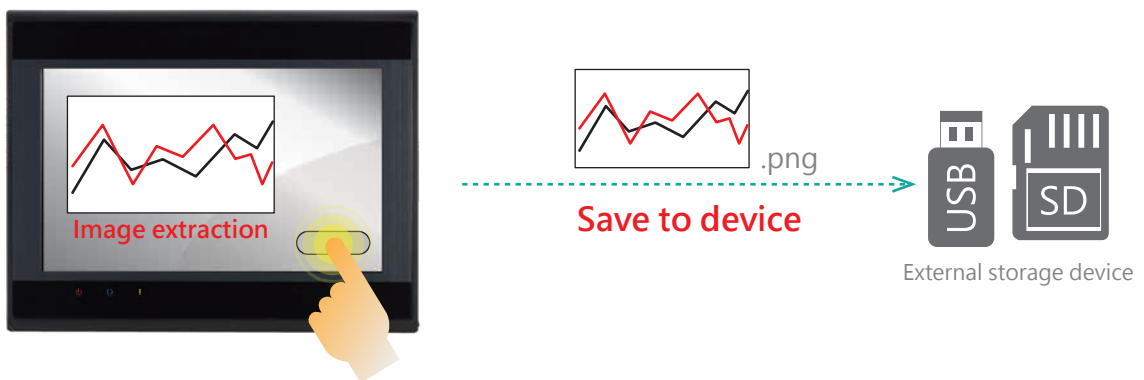
Advanced Recipe Function

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 devices, and use devices control writing record' s data number.



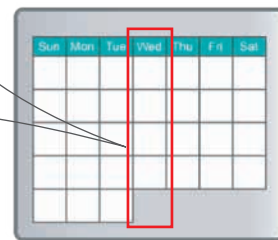
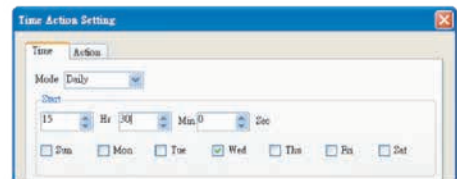
Screen Capture Function

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.



Global Units



Beside standard components, EU WORKS2 also provides several new global units 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		EC204		EC207			EC208		EC210		
		CT0A	CT0S	CT1S	CT0A	CT00	CT11	CT00	CT11	CT00	CT11
Performance		32Bit RISC CPU 400MHz									
CUP Spec.		64K Color									
		Color TFT LCD									
Display Spec.	Color	64K Color									
	Monitor	Color TFT LCD									
	Image Size (inches)	4.3"		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		
LED Backlight		30,000 hours									
Touch Panel Spec.	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°C~45°C (avoid freeze)									
	Storage Temperature	-20°C~60°C (avoid freeze)									
	Ambient Humidity	Non-condensation, 10% ~ 90%RH (0°C ~ 40°C), 10% ~ 85%RH (41°C ~ 45°C)									
	Weather Fastness	Non-corrosion, non-conduct environment									
	Shock-proof	Conform to IEC 61131-2 · Vibration Frequency: 5~150Hz · Acceleration: 9.8m/s ² (1.0G) · X/Y/Z 3-way 12 times each									
EMC		Conform to IEC 61000-6-2 :2001									
Installation Requirement	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 **NEW**



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

208x154x40.6

192x138

≒0.85

Free Cooling

226x173x42.1

218x165

≒1.04

CE、FCC

271x213x42.1

259x201

≒1.4



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