

# Human Machine Interface

## EC200 Series



## EU200 Series





## Model Description

**EC2 10 – CT 11**  
 (A) (B) (C) (D)

(A) EC200 Series Abbreviations

(B) Dimensions of the Human-machine Interface

10 : 10.2"

07 : 7"

(C) Screen Formats

CT:TFT Color Model

(D) Series Types

00: The Basic Model

11: With Ethernet Model



## EC200 Series

Optimal solution for Various HMI Requirement



**A** DC 24V power connector

**B** COM port

COM1	COM2	COM3
RS-232	RS-232	RS-232
RS-422	RS-422	
RS-485	RS-485	

**C** SD cart slot

**D** Audio output

**E** Ethernet port

**F** Battery holder

**G** Reset button

**H** USB port  
Host\*1  
Slave\*1



10.4"



**EU210 - CT11**  
**EU210 - CT00**

AC  
Power Input

TFT65536  
Colors

LED Backlight  
Sources

SVGA  
800\*600

8 External  
Button Sets

CE  
Certified

Wide Viewing  
Angle

USB  
Port x 2

COM1 Serial  
Communication

COM1 Serial  
Communication

Ethernet  
10/100M

SD Memory  
Card Supported

8"



**EU208-CT11**  
**EU208-CT00**

AC  
Power Input

TFT65536  
Colors

LED Backlight  
Sources

SVGA  
800\*600

7 External  
Button Sets

CE  
Certified

USB  
Port x 2

COM1 Serial  
Communication

COM1 Serial  
Communication

Ethernet  
10/100M

SD Memory  
Card Supported

5.7"



**EU206-CT11**  
**EU206-CT00**

DC  
Power Input

TFT65536  
Colors

LED Backlight  
Sources

QVGA  
320\*240

6 External  
Button Sets

CE  
Certified

USB  
Port x 2

COM1 Serial  
Communication

COM1 Serial  
Communication

Ethernet  
10/100M

SD Memory  
Card Supported

5.7"



**EU206-GS11**  
**EU206-GS00**

DC  
Power Input

Mono-STN  
16 Grayscale

LED Backlight  
Sources

QVGA  
320\*240

CE  
Certified

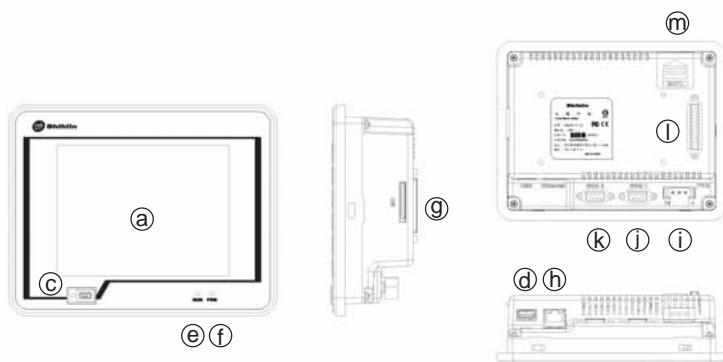
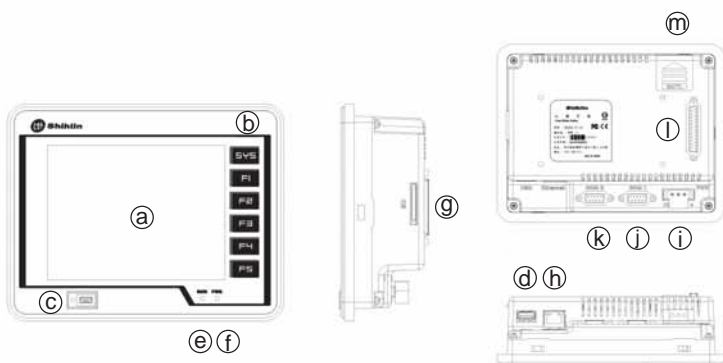
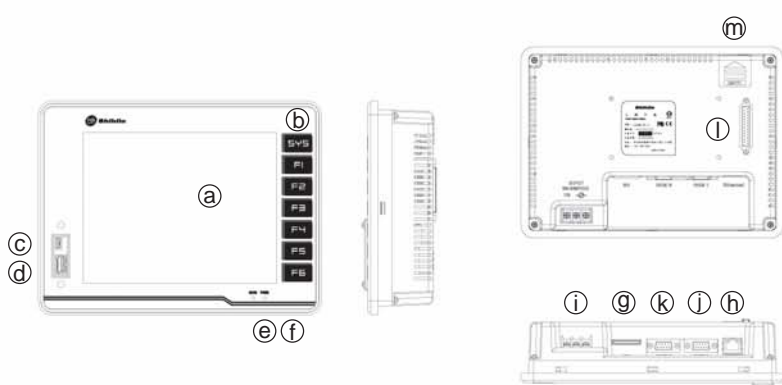
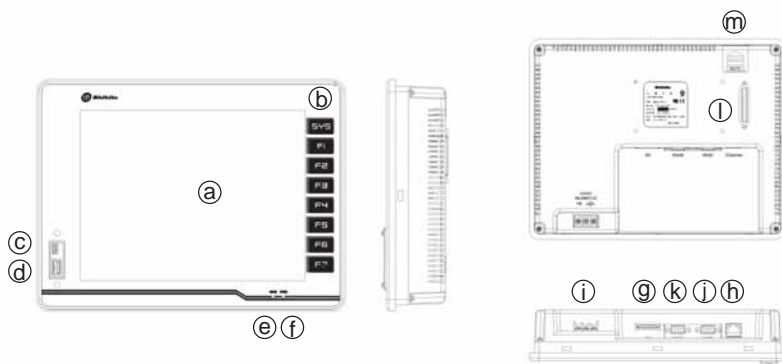
USB  
Port x 2

COM1 Serial  
Communication

COM1 Serial  
Communication

Ethernet  
10/100M

SD Memory  
Card Supported



## Description of the Components

- (a) : Display Section
- (b) : External Function Buttons
- (c) : USB Port
- (d) : USB Port
- (e) : RUN Status Lamp
- (f) : Power ON Lamp
- (g) : SD Slot
- (h) : Ethernet Connector
- (i) : Power Terminal

EU210	AC110-AC220V
EU208	
EU206	DC24V

- (j) : COM1 Port  
Support RS232/422/485
- (k) : COM2 Port  
Support RS232/422/485
- (l) : Expansion Slot
- (m) : Battery Cover

## Model Description

EU2 10 – CT 11  
(A) (B) (C) (D)

(A) EU200 Series

(B) Dimensions Frame Size

10: 10.4"

08: 8"

06: 5.7"

(C) Screen Format:

CT : TFT Color Type

GS : STN Monochrome Type

(D) Series Types

00 : The Basic Type

11 : The Multi-functional Type



# Hardware Features

## Standard USB and SD Memory Card



USB 1.1



★ Offers the largest 8G support:  
(SDHC Applicable)

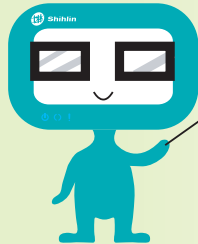
The frontal USB port provides users an easy access to transmit human-machine interface programs by saving device disassembling time on making transmission connections. A tightly fitted USB cover keeps dust or foreign matter away. It is SD card and USB supportable—for saving man-machine files, recipe file, etc.

\* The USB port of EC series on the backside.

## External I/O Control Interface (Optional)

The selected external I/O card can be coordinated with internal macro functions to carry out simple monitoring and automated functions.

\* External I/O control interface supports only the EU200 multifunctional model.



Model : EU1-16IO  
(8 input / 8 output)

## External Control Buttons

Equipped with external control buttons, EU200 offers a more convenient operation.



EU206



EU208



EU210

## Multiple PLC Brands Connectable

It gives dynamic performance, and is connectable to various PLC brands, including Shihlin AX Series PLC, Mitsubishi FX, Ans, Q Series PLC, Siemens PLC, etc.



# Hardware Features

## Multilingual Support

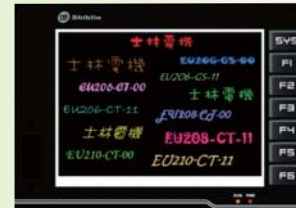
The multilingual function offers international users an easy operation. Users can easily select the required language from the switch language function.

\* Allow setting 10 different languages



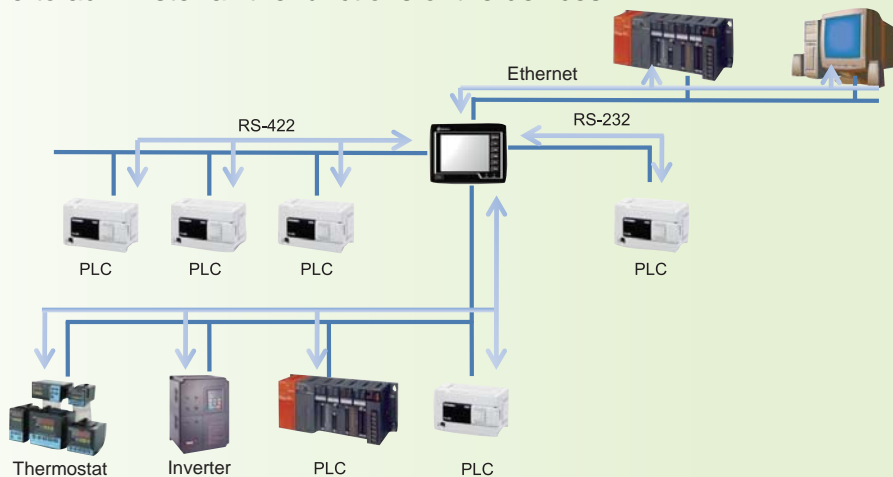
## Rich Text Effects

It supports Window True Type Fonts for making the edited screen more attractive.



## Flexible Communication

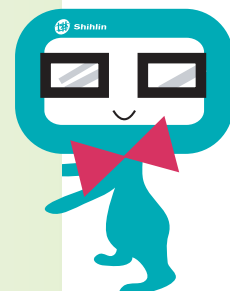
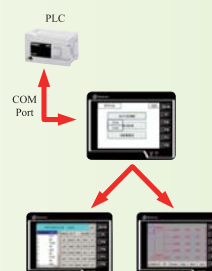
The entire EU200/EC200 series supports RS-232/422/485 communication interface as well as controller communication drivers from various brands. The multifunctional model also supports an Ethernet connection. As many as three types of communication interface can be operated simultaneously. Assorted devices can be connected easily to achieve using EU200/EC200 human-machine to administer all the functions of the devices.



## Edit List of Commands & Monitor Ladder Diagrams

It replaces computer PLC editing software by directly editing and executing commands at the OS system. PLC ladder diagrams are used for instantaneous program monitoring.

\* Support only AX/FX Series PLC.



# Software Functionality

## The New Generation Screen Design Software: EU Works 2

### Window Feature 1

The quick toolbar presents various icons, including graphics, units, etc.

### Window Feature 2

Use the screen list for viewing the screen type and searching screen. The default location is on the left of the screen, but the user can drag-and-drop it to a preferred spot. Users can easily manage the screen using screen functions including create, copy, paste, and delete.

### Window Feature 3

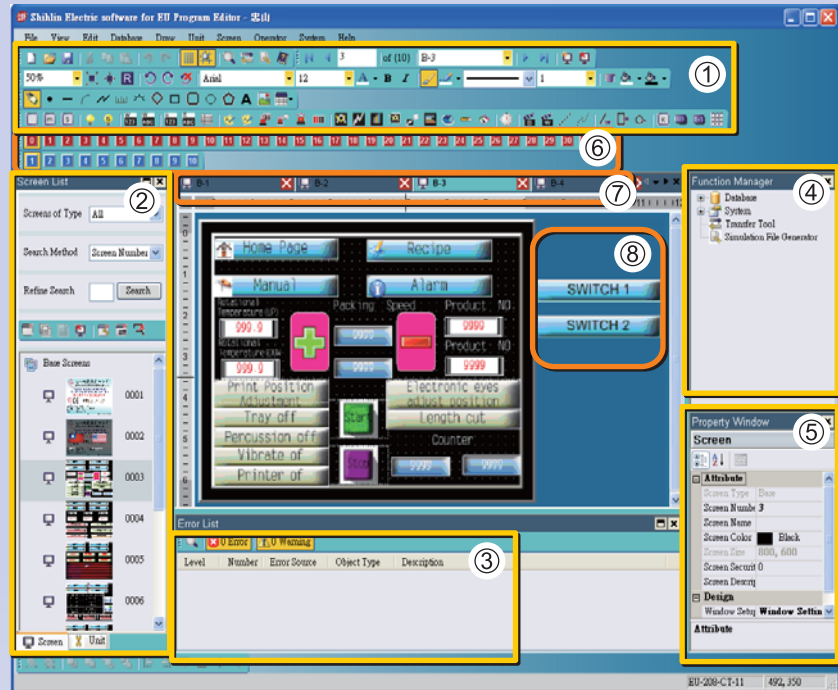
The default location for the error list window is at the bottom of the screen. Users can drag-and-drop it to a preferred spot. When an error message appears, double click the mouse left button for switching the screen and jumping to the selected item.

### Window Feature 4

The function manager window locates on the right of the screen. Users can create their own library, change human-machine system parameters, or quickly upload or download files in this window.

### Window Feature 5

The property window locates on the right of the window as the default. Users can quickly modify units properties in the property window.



### Functional Feature 6

Multiple switches and multilingual setup: every switch can have as many as 32 status sets. Multiple setups can be carried out rapidly. For multilingual switching, 10 sets of language bars can be edited on the screen regardless which country the equipment is exported to. Screen editing time can be saved after the setup.

### Functional Feature 7

The switch screen function displays all the once opened windows as folders on the top.

### Functional Feature 8

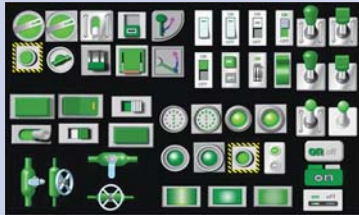
Frequently used units can be placed at the empty space on the side of the main editing screen to save time on searching them.



# Software Functionality

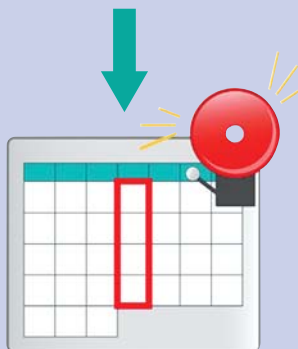
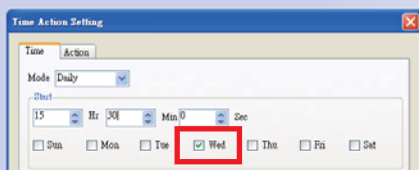
## Comprehensive Graphical Images Library

Expanded graphical library to help users have more selectable objects.



## Time Action

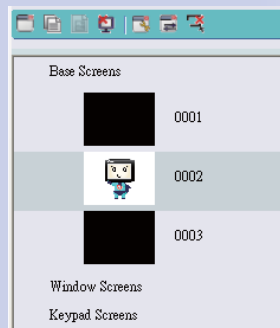
It can be planned, setting mode, time and week to execute actions at regular time in the editor. Besides, also available to set the 'Time Action' in the external control device, it allows users to edit time action parameters on HMI directly.



## First Page Assignable

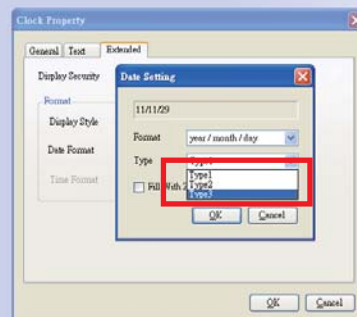
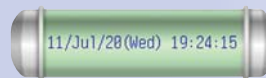
Select the page number to be start page under the HMI Type/Device Settings window.

First Page No.



## Clock Function

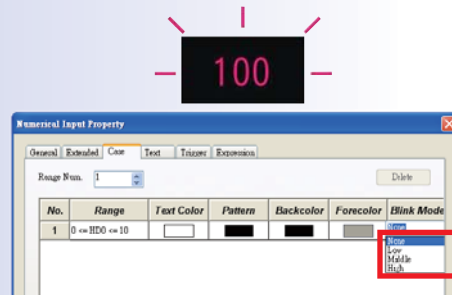
Available for showing Day of the Week from the clock function to indicate clear time information.



# Software Functionality

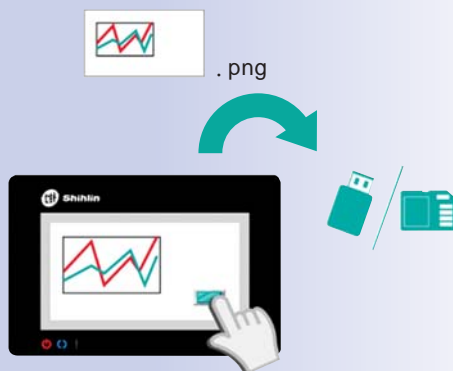
## Numerical Blink Function

Available for Blink Function in order to make users focus while numeric input, the numeric will blink when the data exceed the restriction range, also adjustable for the speed of blink.



## Print Screen Function

The Print Screen Function can be set at expanded selection list in button functions. To press the set button to print screen and save in external memory device.



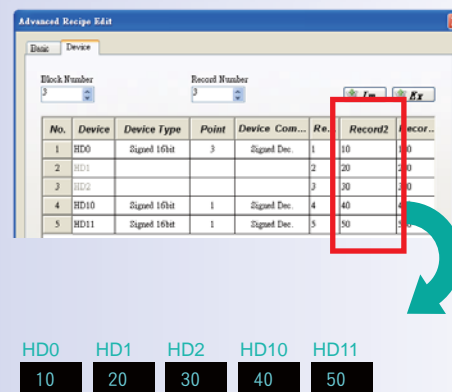
## Confirm Box Function

Newly added pop-up start confirmation windows function at the switch function , multiple action switch and multiple status switch. The confirmation window will pop-up when users press button, and will be close after the set seconds.



## Advanced Recipe Function

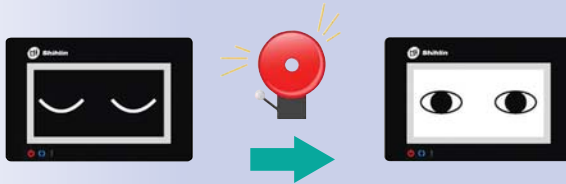
In addition to 'Recipe Function' , the 'Advanced Recipe Function' not only available for multi-data entry, but also available for more personalize settings. It is selectable for continue or individual settings, also can control numbers for entered data.



# Software Functionality

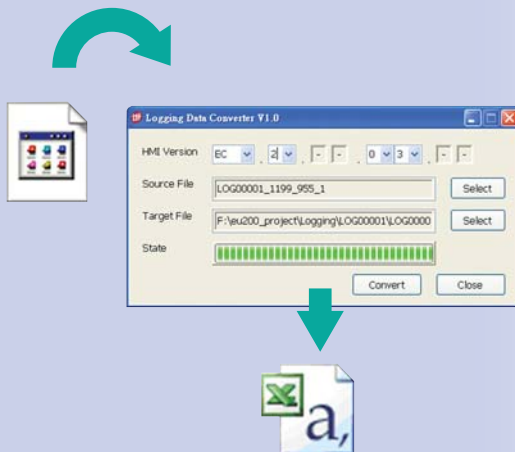
## Backlight lighting for alarm trigger

If alarm is triggered, monitor will display and light to inform user. We add this function in alarm history list and advanced alarm unit.



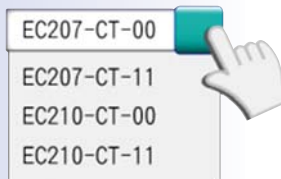
## History Trend Chart can be converted to CSV file

Users can easily to convert the history trend chart data by HMI Data Converter to CSV file. It will be convenient for users to analysis the history trend chart with CSV file by PC.



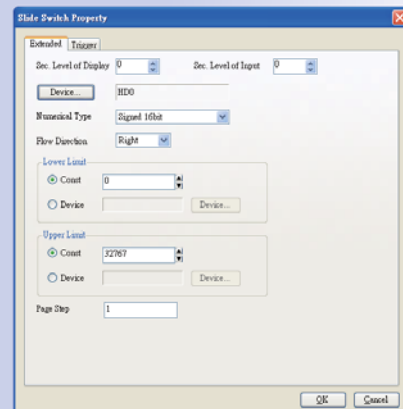
## Combo Box Function

Users can easily to select the item by list or drop-down menu then set the value in to device.



## Slider Function

Users can change and set the device value by slider switch.

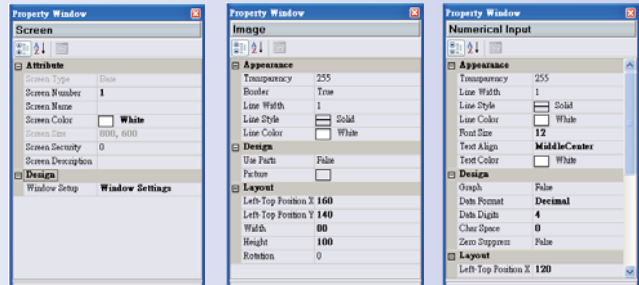




# Software Functionality

## The Property Window Function

Users can drag-and-drop the property window to any location on the editing screen. The default location is on the right of the window. Each unit has its own property window. The figure on the right is the property window for the editor .



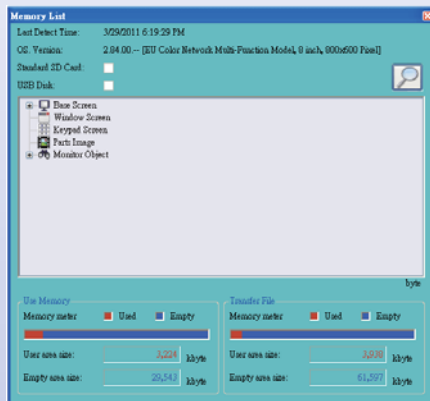
Screen Attributes

Image Attributes

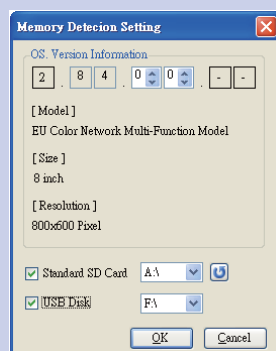
Numerical Input Attributes

## The Memory Usage List Function

The memory usage list is for users to view the used memory volume for the edited screen. The programmer can quickly check the volume of the current edited program.

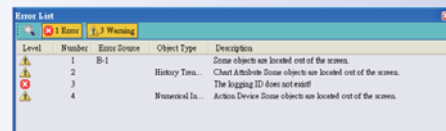


Files can be stored in removable media (USB flash drive or SD memory card) when the internal memory falls short. The external memory detection setup helps the programmer to assign the device for the storage.



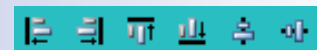
## The Error List Function

The default location of the error list is at the bottom of the window. When carrying out program editing, engineers can check correctness of the units from the error list, which is time saving.

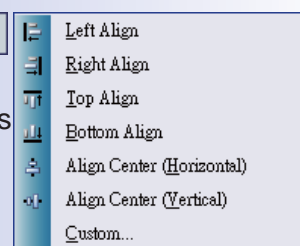


## The Item Alignment Function

The item alignment function is used to align two or more objects in the editor. There are two options for item alignment: one is to use the icon on the toolbar, and the other is to select the function from the "Edit" menu.



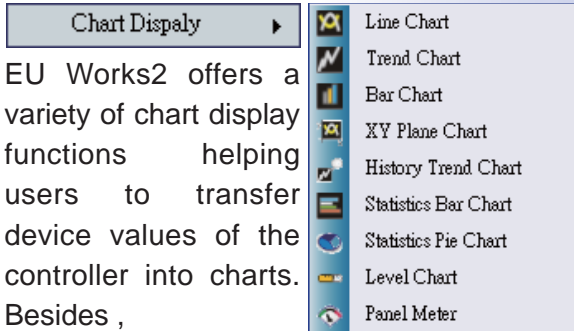
The editor provides six alignment methods , as shown in the figure on the right. The engineer simply clicks on the alignment method, and the objects on the screen will be lined up quickly.



# Software Functionality

## The Chart Display Function

EU Works2 offers a variety of chart display functions helping users to transfer device values of the controller into charts. Besides, those built-in chart types, users can also incorporate the image library function for creating a more dynamic diagram.



## The Array Copy Function

Select an object for array copy and click on either the menu or the quick tool access bar to open the dialog box for array copy. Click on the object for array copy and determine the direction of copies, number, space, and device increment. After confirmation, array copy setting is ready.

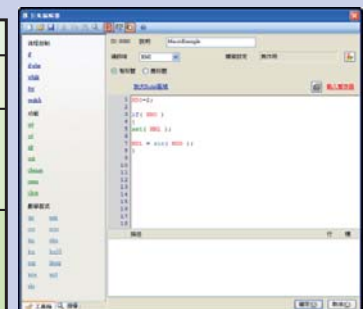


## The Library Function

The macro library provides a multi-functional effect by allowing users to edit macro commands at the human-machine interface. Macro commands can also be used to simplify controller processing procedure. For easy scripting, a grammar of C-like language is used so the design personnel

engineer need not to get familiar with any new language. The three major categories of macro commands are flow control, basic operation, and math functions.

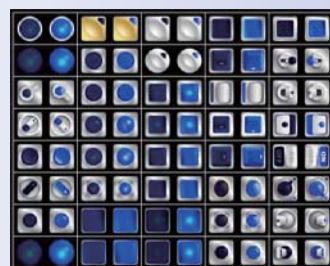
Category	Macro Command
Flow Control	if \ if-else \ while \ for \ switch
Basic Operation	set \ rst \ alt \ sub \ change \ oWindow \ cWindow \ olmpose \ clmpose \ fmov \ bmov
Math Function	sin \ cos \ tan \ asin \ acos \ atan \ log \ log10 \ exp \ ldexp \ pow \ sqrt \ abs



For the image library, there are built-in images for selection, but other types of images can also be included into the library, for a richer human-machine interface content. The already built-in images can be shared with others to save editing time.



Image library



EU200/EC200 Series offers a variety types



The comment library consists of basic comment and comment group. The text content, color, flashing, quality, and style of the basic comments and the comment groups can be set up within the comments. Multilingual text display can also be arranged in the comment groups.

# Software Functionality



## The Alarm Record Function

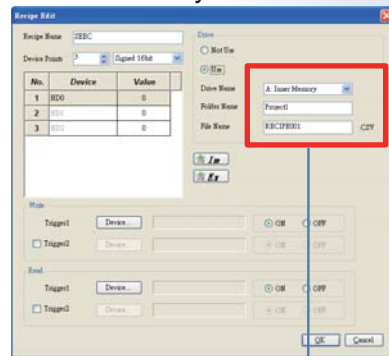
Historical alarm record, advanced alarm record, and advanced alarm pop-up display functions are available for the engineer. The figure on the bottom is a template for the historical alarm record and the advanced alarm record. The year, month, day, and time of an alarm happened can be displayed. As many as 32,767 data of points and 255 sets of groups can be monitored by the advanced alarm record and saved into the memory card. The advanced alarm pop-up display function will present fault states in a pop-up window when presenting the fault record.



	Description
Alarm Type	User: Individually tailored alarm message System: System-related alarm messages
Display Type	Historical Record: Each alarm happened is recorded in the data table. Historical Record: Each alarm happened is recorded in the data table.
Display Sequence	The Oldest: The order is arranged following the alarm occurrence time; the list begins with the earliest one and so forth. The Newest: The order is arranged following the alarm occurrence time; the list begins with the latest ones and so forth.

## The Recipe Function

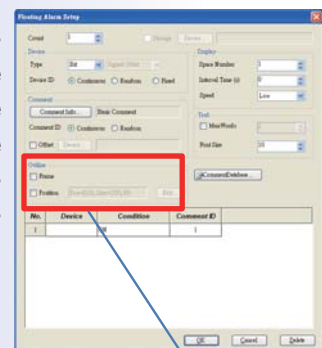
Process parameter modification may be frequently required for devices are used in various production states. With this recipe function, users can quickly modify the parameters, set up the parameters in the editor, add new parameters via human-machine interface, or store the process parameters in \*.CSV format in a memory card for better production efficiency.



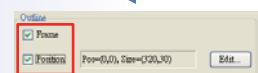
Memory Device	Description
Device Name	Select an external memory device for usage.
	A : Inner Memory
	B : Standard SD Card
	C : USB Disk

## The Floating Alarm Function

The text content, color, flashing, quality, and style of the floating alarm can be arranged in the editor. Three scrolling speeds are available for option.



Select the "outer frame" and "location" in the Outline Box to change the floating alarm location and to make the screen more eye-catching.



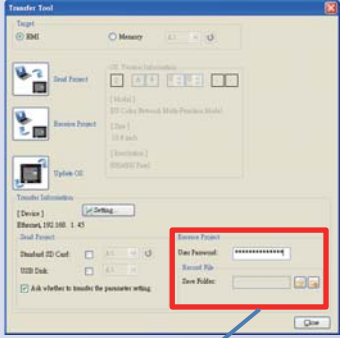
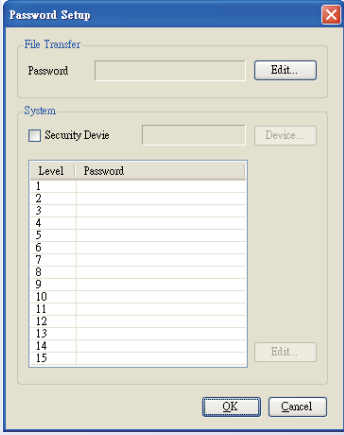


## Software Functionality

## 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.



Password has to be entered for uploading or downloading programs via the software.

## The External I/O Setup Function

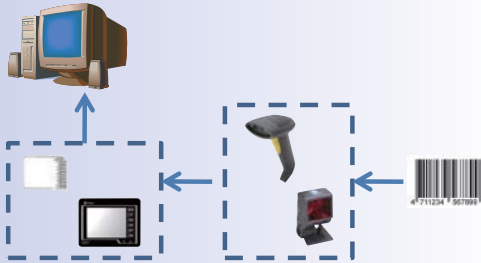
EU200 Series offers external I/O functions for design. The external I/P arrangement is carried out via editor.



On the screen for function key setup, the action properties that can be assigned to each set of keys include device, base screen, window screen, table control, system control, and special functions. By pressing the key, as many as 32 actions can be carried out concurrently.

※ This function requires EU1-16IO.

## Functions for Bar Code Reading and Setup



To upgrade industrial process of automated production, every product item is given a product bar code. EU200/EC200 Series can be connected to a BARCODE device via COM port and store the scanned data in the SD card to record the production state.

## The Automatic Power-on and Shutdown Function

As many as 8 sets of machine power-on and shutdown time can be arranged in the OS internal setup of EU200/EC200 Series.



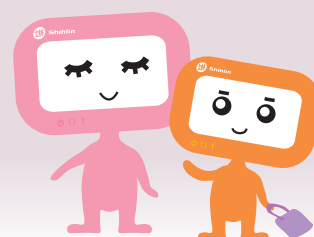
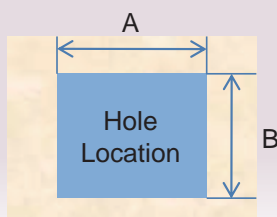
## Purchase Information

Specification		Content
Human-machine Interface Body	EU200 series	EU210CT11 10.4" TFT 65536 colors HMI. It includes Ethernet, RS-232/422/485 communication interface and USB port x 2. The RS-232/422/485 communication interface can support external connectable I/O card. The front panel offers 8 function keys.
		EU210CT00 10.4" TFT 65536 colors HMI. It includes RS-232/422/485 communication interface and USB port x 2. The front panel offers 8 function keys.
		EU208CT11 8" TFT 65536 colors HMI. It includes Ethernet, RS-232/422/485 communication interface, and USB port x 2. The RS-232/422/485 communication interface can support external connectable I/O card. The front panel offers 7 function keys.
		EU208CT00 8" TFT 65536 colors HMI. It includes RS-232/422/485 communication interface and USB port x 2. The front panel offers 7 function keys.
		EU206CT11 5.7" TFT 65536 colors HMI. It includes Ethernet, RS-232/422/485 communication interface and USB port x 2. The RS-232/422/485 communication interface can support external connectable I/O card. The front panel offers 6 function keys.
		EU206CT00 5.7" TFT 65536 colors HMI. It includes RS-232/422/485 communication interface and USB port x 2. The front panel offers 6 function keys.
		EU206GS11 5.7" TFT blue & white dual colors 16-grayscale human-machine interface. It includes Ethernet, RS-232/422/485 communication interface and USB port x 2. The RS-232/422/485 communication interface can support external connectable I/O card.
		EU206GS00 5.7" TFT blue & white dual colors 16-grayscale HMI. It includes RS-232/422/485 communication interface and USB port x 2.
	EC200 series	EC210CT11 10.2" TFT 65536 colors HMI. It includes Ethernet, RS-232/422/485 communication interface, audio interface, and USB port x 2.
		EC210CT00 10.2" TFT 65536 colors HMI. It includes RS-232/422/485 communication interface, audio interface, and USB port x 2.
		EC207CT11 7" TFT 65536 colors HMI. It includes Ethernet, RS-232/422/485 communication interface, audio interface, and USB port x 2.
		EC207CT00 7" TFT 65536 colors HMI. It includes RS-232/422/485 communication interface, audio interface, and USB port x 2.
Human-machine Peripheral Interface	EU1-16IO	8 IN / 8 OUT external connection I/O card
	SLH-AX-CAB30	Connection cable for EU200-AX PLC Cable (3M)
	SLH-AX-CAB30	Connection cable for EU200 Series and Shihlin AX Series PLC 5M
	MINI-USB-18M	1.8M Connection cable for EU 200 Series and computer USB port

## Cutout Dimensions

Unit: mm

Model Type	A	B
EU210	285.5	231.5
EU208	231.5	165.5
EU206	171.5	131.5
EC210	259	201
EC207	192	138



# EC200 Series

## Hardware Specifications

Specification		Type	EC207CT	EC210CT
Display Specification	Screen Size (inch)		7"	10.2"
	Color Display		64K colors	
	Screen		TFT LCD	
	Resolution (DPI)		800x 480	
	Brightness (cd/m2)		300	350
	Viewing Angle Scope(Up/ Down/Left/Right)		50 / 70 / 70 / 70	45 / 65 / 65 / 65
	Backlight Sources		30,000 hours	
Touch-control Panel Specification	Touch Control Panel		4-wire Resistive	
	Touch Resolution		2mm and Above	
	Lifespan		More Than 1 Million Times	
	Screen Surface Hardness		4H	
	The Number of Switch Can Be Set (Number/Screen)		960(40x24)	
Text	Text Display		Support Windows Type	
	Language Font		Support Unicode	
Memory	Screen Memory (ROM)		64 MBytes	
	Internal Memory (RAM)		64 MBytes	
	Static Random AccessMemory (SRAM)		128 MBytes	
	Memory Expansion		SD Card Maximum 16G SDHC	
Battery			Approximately 2 Years from the Battery Manufacturing Date	

## Environment Specifications

Specification		Type	EC207CT	EC210CT
Power Source Specification	Voltage		DC Power: 24V	
	Voltage Tolerance		10%	
	Range for Instantaneous Stop		Within 10ms	
	Power Consumption		Under 15W	
Environment Specification	Operation Temperature		0°C ~ 45°C	
	Storage Temperature		-20°C ~ 60°C	
	Operation Humidity		10% ~ 85%RH (An Environment without Condensation)	
	Environmental Tolerance		Non-corrosive Environment; Non-conductive Environment	
	Vibration Resistance		IEC 61131-2 Compliant , Vibration frequency : 5~150Hz , Acceleration : 9.8m/s2(1.0G) , X , Y , Z directions for 12 times	
	Noise Resistance		Compliant with IEC61000-6-2 : 2001	
Installation Criteria	Grounding		D Class Grounding	
	Water Resistance		Front: IP65 (Dust-proof/Anti-drop Design); Back: IP20	
	The Cooling Method		Natural Cooling	
	Exterior Dimensions WxHxD (mm)		200x146x42.5	271x213x50
	Panel Cutout (mm)		192x138	259 x 201
	Weight		0.85	1.4
Certification Specifications			CE 、 FCC 、 BSMI	



# EU200 Series

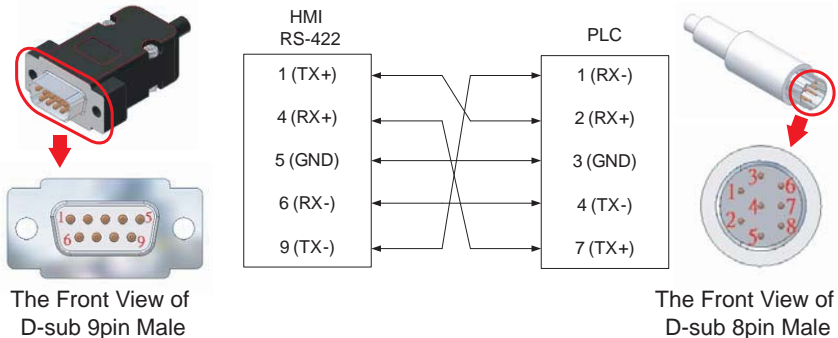
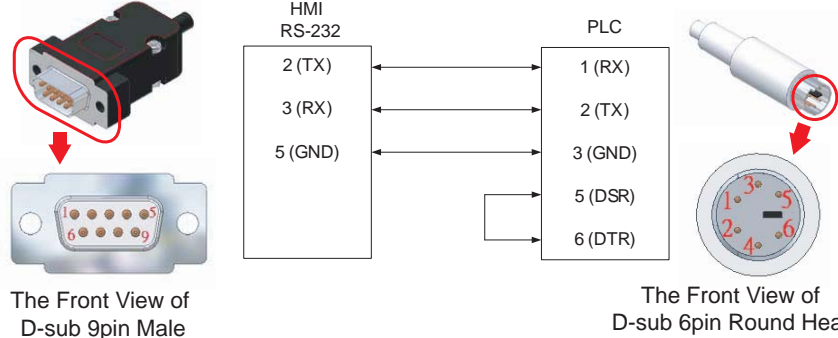
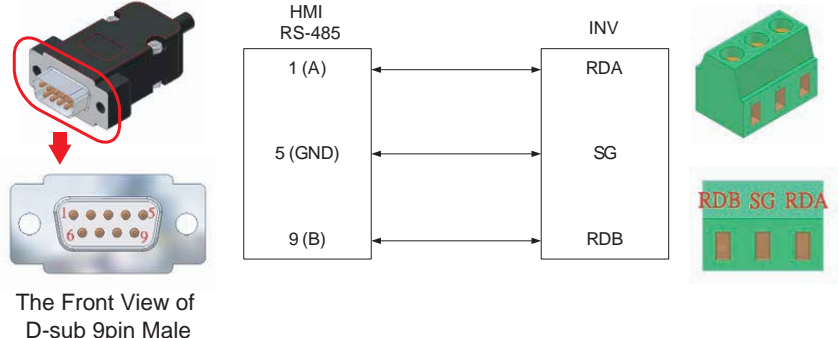
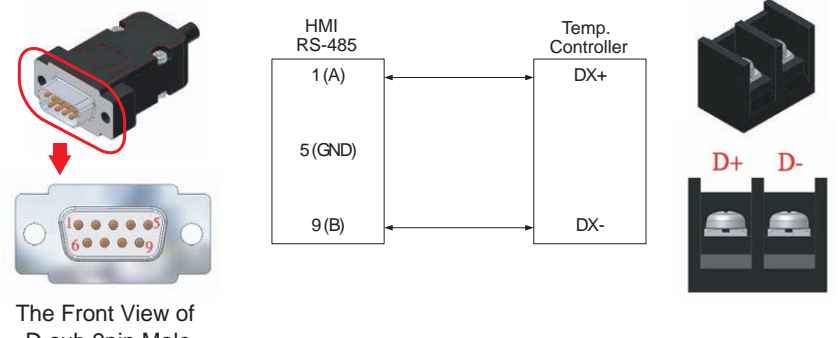
## Hardware Specifications

		EU206GS	EU206CT	EU208CT	EU210CT
Display Specification	Screen Size (inch)	5.7"		8"	10.4"
	Color Display	Blue & White Dual Colors	64K Colors		
	Screen	STN (White Text with Blue Background) Adjustable 16-bit Grayscale	Color TFT		
	Resolution (DPI)	320x240		800x600	
	Brightness (cd/m2)	270	400		450
		Adjustable 10 Brightness Levels			
	Viewing Angle Scope (Up/Down/Left/Right)	55/55/55/55	50/70/70/70	60/70/70/70	
Backlight Sources	50,000 hours				70,000 hours
Touch-control Panel Specification	Touch Control Panel	4-wire Resistive			
	Touch Resolution	2mm and Above			
	Lifespan	More Than 1 Million Times			
	Screen Surface Hardness	4H			
	Auxiliary Keys	N/A	System Key x 1		
			Function Key x 5	Function Keyx6	Function Keyx7
The Number of Switch Can Be Set (Number/Screen)	300(20x15)			1200(40x30)	
Language Font		Support Ture Type Font			
Display Text	Quarter-width	40 Characters x 30 Lines		80 Characters x 60 Lines	
	Half-width	40 Characters x 15 Lines		80 Characters x 30 Lines	
	Full-width 16 dot	20 Characters x 15 Lines		40 Characters x 30 Lines	
	Full-width 32 dot	10 Characters x 7 Lines		20 Characters x 15 Lines	
	Character Size	Quarter-width: 8x8 dot; Half-width: 8x16 dot; Full-width:16x16 dot and 32x32 dot			
Memory	Screen Memory (ROM)	EU206 : 32 MBytes · EU208/EU210 : 64 MBytes			
	Internal Memory (RAM)	64 MBytes			
	Static Random Access Memory (SRAM)	128 KBytes			
	Memory Expansion	Memory Card Slot (SD Card), Maximum Support from SDHC is 8G			
Battery		For 2 Years of Consecutive Usage (Off State)			

## Environment Specifications

		EU206GS	EU206CT	EU208CT	EU210CT
Power Source Specification	Voltage	DC Power: 24V		AC Power: 110/220V(50/60Hz)	
	Voltage Tolerance	10%		85/265V(50/60Hz)	
	Range for Instantaneous Stop	Within 25ms		Within 25ms	
	Power Consumption	Under 10W		Under 30W	
Environment Specification	Operation Temperature	0°C – 50°C			
	Storage Temperature	-10°C – 60°C			
	Operation Humidity	Below 85%RH (An Environment without Condensation)			
	Environmental Tolerance	Non-corrosive Environment; Non-conductive Environment			
	Vibration Resistance	IEC61131-2 Qualified			
	Impact Resistance	Pulse wave: Sine Half Wave; Peak Acceleration: 147 m/S <sup>2</sup> ; X, Y, Z directions for 6 times			
Installation Criteria	Noise Resistance	IEC61000-6-2 : 2001 Qualified			
	Grounding	D Class Grounding			
	Water Resistance	Front: IP65 (Dust-proof/Anti-drop Design); Back: IP20			
	The Cooling Method	Natural Cooling			
	Exterior Dimensions WxHxD (mm)	187.4x147.4x56.5		245x179x56.5	297x223x56.5
	Panel Cutout (mm)	171.5x131.5		231.5x165.5	285.5x211.5
Certification Specifications		CE 、 FCC 、 BSMI			

# Wiring Diagram

Brand	FA Device	Wiring Diagram
Shihlin / Mitsubishi	AX/FX Series Programmable Controller	 <p>The Front View of D-sub 9pin Male</p> <p>The Front View of D-sub 8pin Male</p>
Mitsubishi	Q Series Programmable Controller	 <p>The Front View of D-sub 9pin Male</p> <p>The Front View of D-sub 6pin Round Head</p>
Shihlin	SS/SE/SH/SF Series Inverters	 <p>The Front View of D-sub 9pin Male</p>
Shihlin	WT Series Thermostat	 <p>The Front View of D-sub 9pin Male</p>



# Shihlin Electric

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