



FATEK[®] AUTOMATION CORPORATION

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P2 Series Human Machine Interface

- High Standards of Noise Immunity and Quality
- Optional Integrated Rear Mount PLC
- Intuitive Software Environment and Aesthetic GUI
- Powerful Programming Features

P2 series HMI provides a high quality and high performance human machine interface with the option of an integrated PLC.

The P2 series represents the high quality and reliability expected in the industrial automation market today. The P2 series also allows the rear mounting of an integrated programmable controller saving space and installation costs. With its intuitive software programming environment and outstanding graphical representation, the P2 series helps create functional and elegant user interfaces.



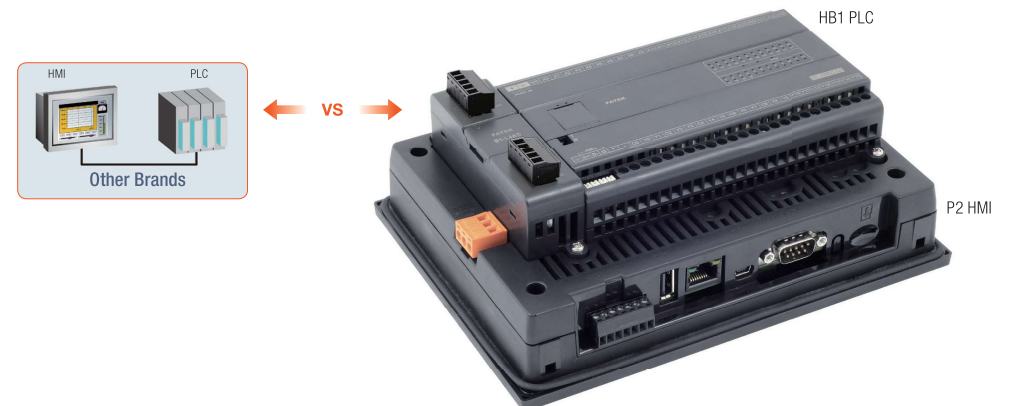
High Noise Immunity

HMIs at industrial sites are often adversely affected by electrical noise from the surrounding installations. This can cause malfunction and lead to injury to persons or property. FATEK has focused on the P2's stability and robustness to provide end users with a reliable HMI product that can operate in harsh conditions.



Optional Integrated PLC

The P2 series provides cableless communications to the FATEK HB1 PLC by offering a version that can be mounted onto the back of the P2 HMI. This provides more reliability and improves communication speeds with the added benefit of saving valuable space and installation costs.



Intuitive Programming Software Environment

1. Toolbar & Shortcut:

Icon-based organized design, enables users to operate what they want efficiently

2. Project Explorer:

Divide functions into 3 categories, collapsible, space-saving

3. Screen List:

Screen preview allows users to access a specific screen quickly

4. Screen Workspace:

What You See Is What You Get

5. Tab Page:

Switch view effortlessly

6. Memory Address:

View the status of memory usage



7. Object List:

Trace every object that the user creates currently

8. User Toolbox:

Drag the customized object into this area, and then you can use it anytime, everywhere

9. Output Message:

Compiling result will be displayed here. Double clicking the error message leads users to review the setting directly

10. Screen Toolbar:

Adjust the proportion of the screen and simulate the displaying status of the objects

11. Ribbon Style:

Change the default color scheme from several Ribbon styles

12. Toolbox:

Wide variety of useful, elegant objects to utilize

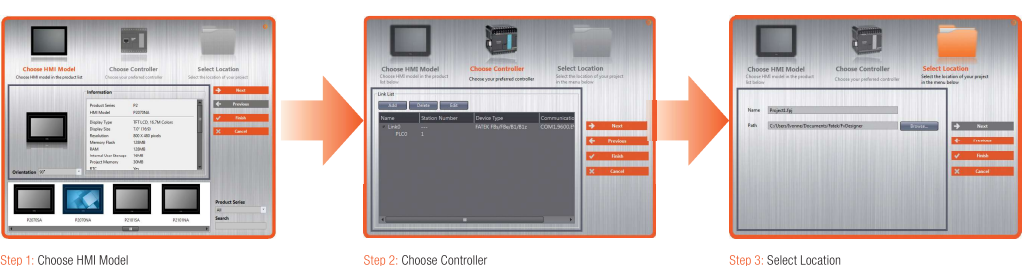
Topic 1

Different Ribbon Style, Different Arrangement of Workspace



Topic 2

Use Wizard to Complete Project Setting in Three Steps



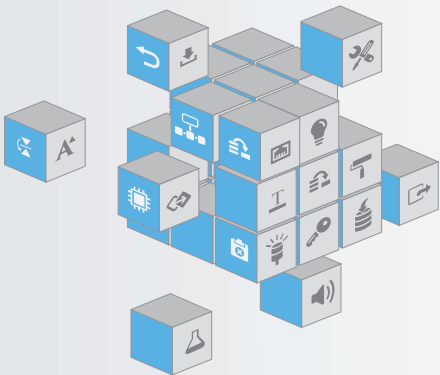
EasyEasy Planning and Rich Resources



Resources

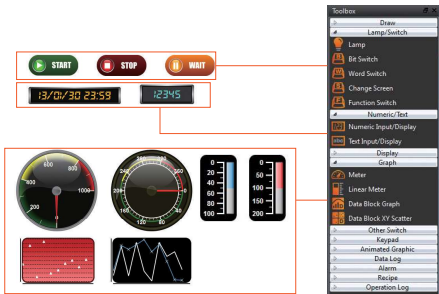
Support a plentiful of resource libraries that allow users to customize the content and apply it to any project applications.

- Image Library: Thousands of industrial images to choose from, or import your own images.
- Audio Library: Use the Audio Library to play the sound you like when an alarm happens or a button is clicked.
- Font Library: The capacity of font files is minimized, thus minimizing memory usage.
- Text Library: Multi-language support satisfies your requirement of localization. You can even change the language setting dynamically at runtime.
- Tag Library: Make abstract address's text easy to be understood for system planning.



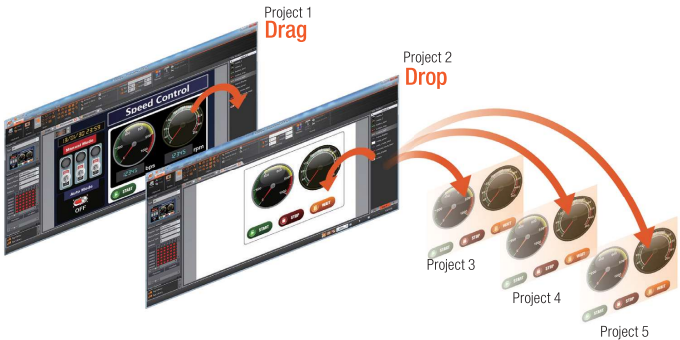
Toolbox

- Provides many useful objects like shapes, meters, charts, buttons etc.
- Utilize them from the Toolbox section to speed up the design time



User Toolbox

Drag user-defined objects into User Toolbox section, and these objects would become reusable. Export and import functions are also provided, which saves valuable time during program development.



Automatic alignment

Support snap alignment and grid alignment functions, and assist users to design faster and more conveniently.



User-defined Keypad

Can customize the style of the keypad, supports unicode string input.

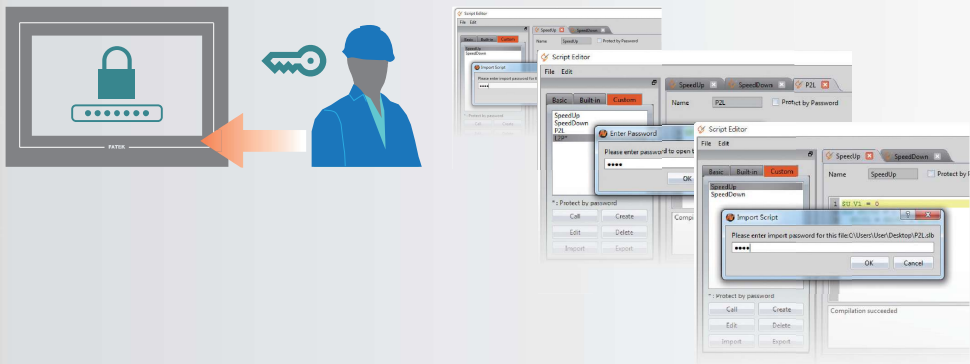


Security and Safety Control



Intellectual Property Rights Protection

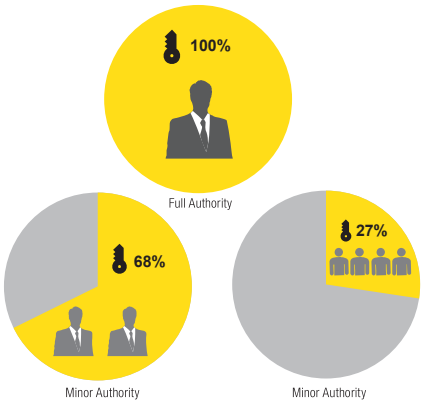
- The project can be protected by the password and it requires password verification for users to edit the file.
- Password protection supports download/ upload of HMI project, system setting and update of FATEK PLC program via USB flash disk.
- Supports project to execute protection function, the customer ID on the project and HMI device must set the same to run.
- Provides HMI internal register for users to change passwords directly and customize startup screen easily.
- The script allows you to design custom functions for your customers. You can also set passwords to these custom functions, so that your customers will be requested to enter passwords when they want to use them or see the source code



Security

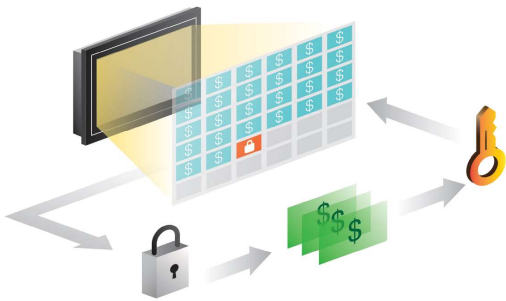
Security function provides multiple access levels, and each level and user can have different passwords; import and export functions are provided, increasing flexibility and convenience.

For security control, operations for switches, buttons and inputs are banned if operators input incorrect password; objects on HMI screen can even be hidden if operators have no privilege to see the objects.



Pay by Installments

- Static mode provides up to 48 periods, and each deadline can be different intervals between each one.
- Provides runtime modify function for set up machine without re-downloading project.
- Dynamic mode does not need to decide expired date in advance.
- Just use the key and the password generator to generate a password that contains the next expiration date.



On-Off Delay

For preventing mistakes in operations, you can set minimum hold time for buttons and switches or operators have to double press the objects to execute the operation.



Alarm, Trend, Data Log

Step1:

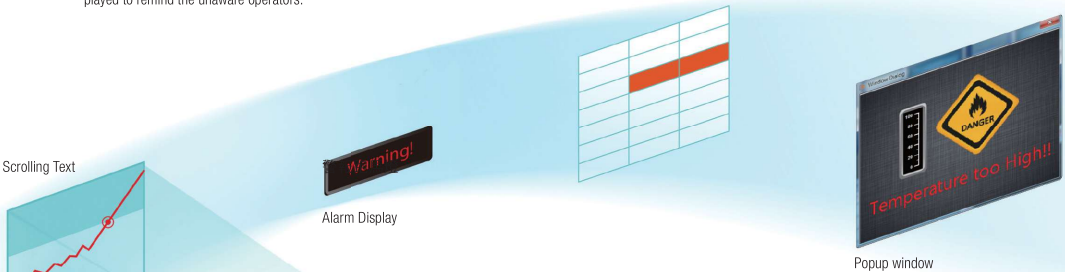
Use the Alarm function to set the threshold value for monitoring system status.

Step2:

When alarm is triggered, operators can see the scrolling text displaying the predefined message on the assigned position, or use the alarm display to see the detailed message; audio can be played to remind the unaware operators.

Step3:

Pop up the child window to get a further message or for post-processing.



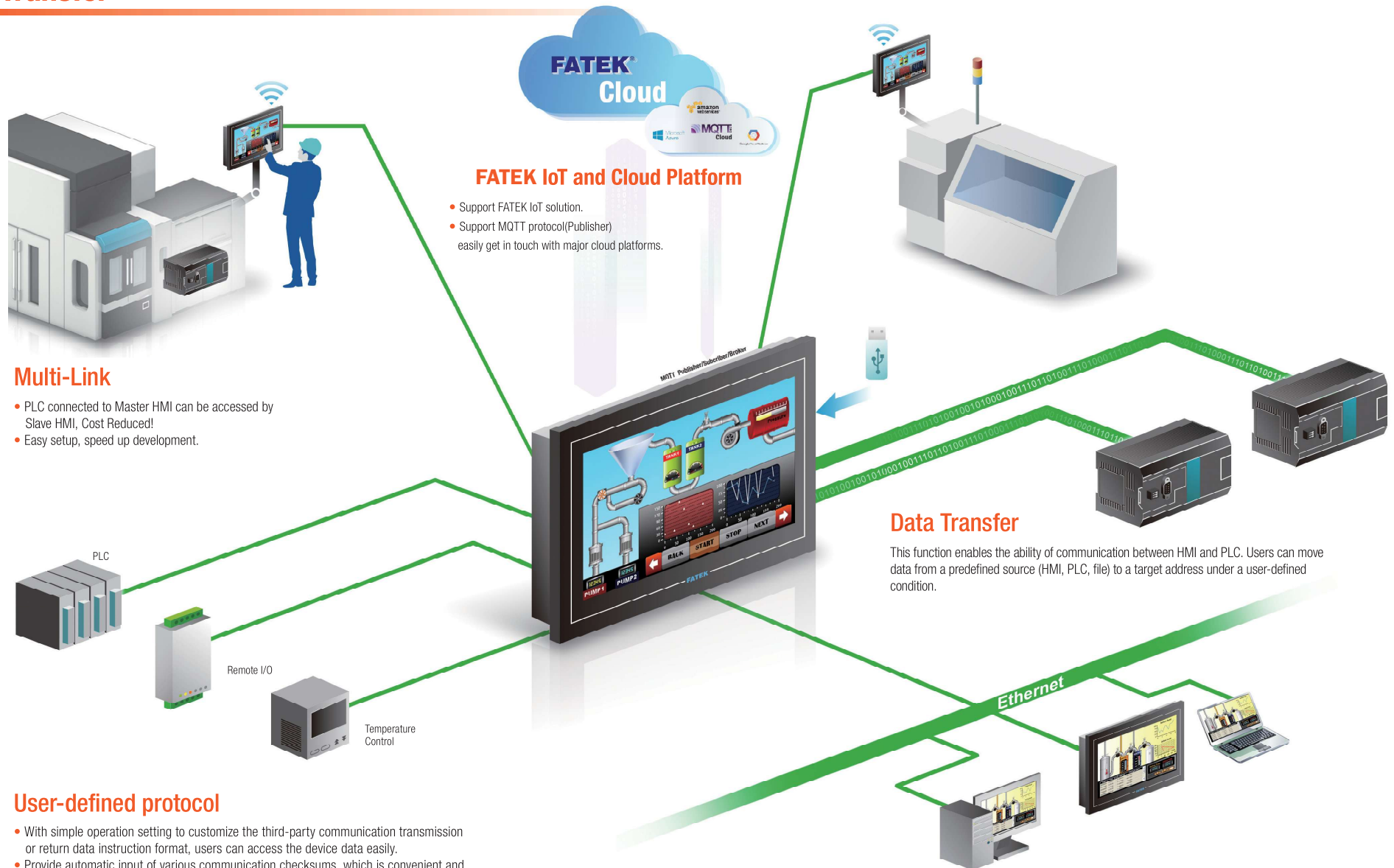
Data Log

- A maximum of 64 Data Log groups
- Each group can monitor a maximum of 512 addresses
- You can use the trend chart to observe the variance of data; a user is capable of clearing, zooming in/out, moving left/right/top/down the chart on screen.
Or use historic data table to see the overall information in real-time
- You can decide the event for triggering the data logging and the time interval for every occurrence.
Export and import data log as you need
- The source of data set can come from different controllers

Data Backup

- The data from Data Log and Alarm can be exported to the assigned location automatically(HMI, usb).
- Or enable the ability of data retention in the Data Log, Alarm and Recipe, and there is no need to worry about the data loss even when power failure happens.
- By combining with the Schedule and Script function, the backup timing can be triggered whenever the user wants.

Data Transfer



FATEK IoT and Cloud Platform

- Support FATEK IoT solution.
- Support MQTT protocol(Publisher) easily get in touch with major cloud platforms.

Multi-Link

- PLC connected to Master HMI can be accessed by Slave HMI, Cost Reduced!
- Easy setup, speed up development.

Data Transfer

This function enables the ability of communication between HMI and PLC. Users can move data from a predefined source (HMI, PLC, file) to a target address under a user-defined condition.

User-defined protocol

- With simple operation setting to customize the third-party communication transmission or return data instruction format, users can access the device data easily.
- Provide automatic input of various communication checksums, which is convenient and efficient.
- Script also supports this function to make system planning more flexible.

Modbus gateway

- Through Modbus gateway function, client can easily achieve remote monitoring and data collections with SCADA, HMI or other Modbus devices.
- Support Ethernet (Modbus TCP) and serial communication (Modbus RTU/Modbus ASCII)
- Support the data exchange between Modbus protocol and other protocols (a variety of PLCs, server, temperature controller and converter...)
- Customizable Modbus address correspondence table

Remote Monitor and Control

FTP Server

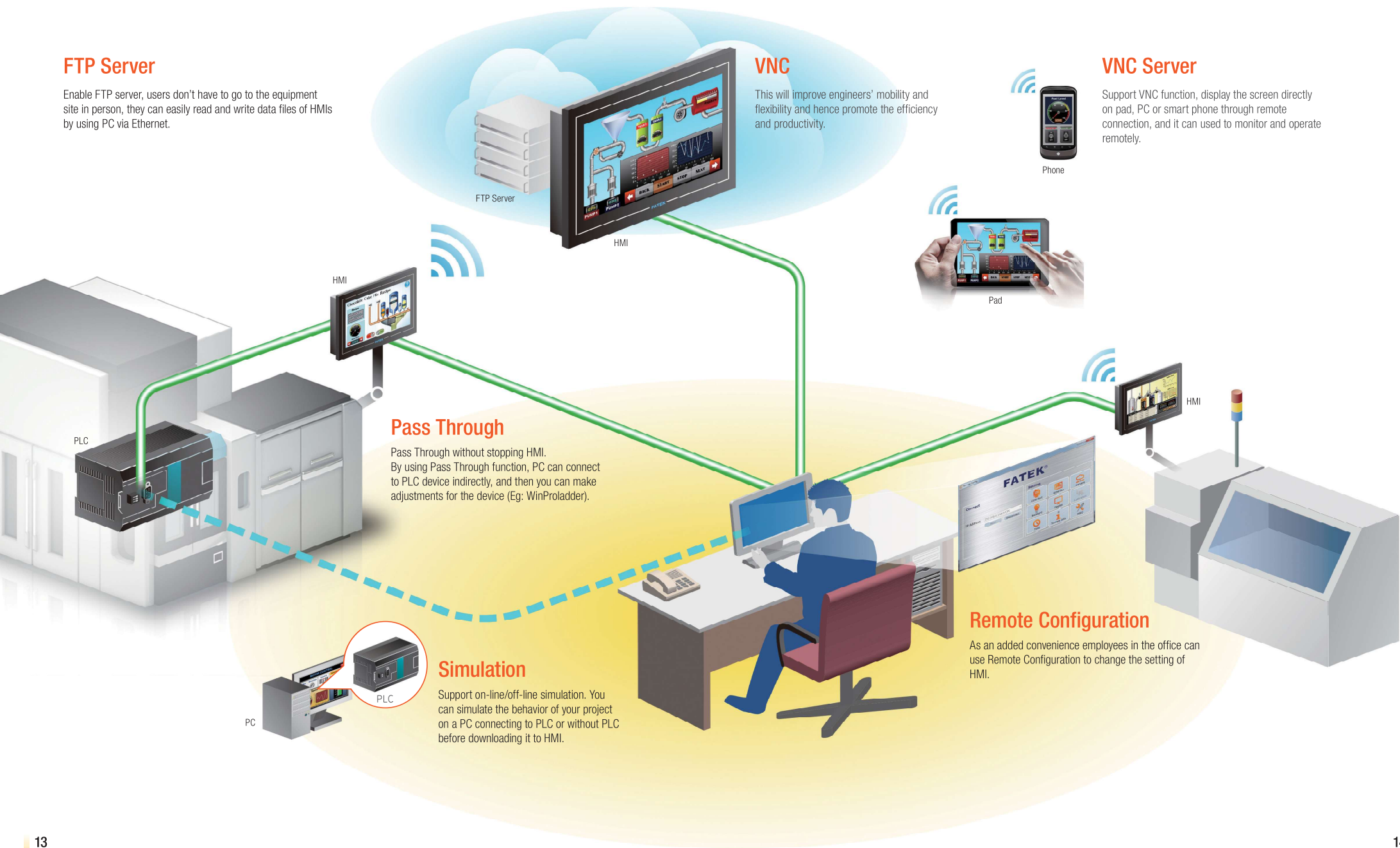
Enable FTP server, users don't have to go to the equipment site in person, they can easily read and write data files of HMIs by using PC via Ethernet.

VNC

This will improve engineers' mobility and flexibility and hence promote the efficiency and productivity.

VNC Server

Support VNC function, display the screen directly on pad, PC or smart phone through remote connection, and it can be used to monitor and operate remotely.



Integrated HMI + PLC

FATEK HMI and PLC solution is highly integrated system. The hardware has high noise immunity. The internal communication is optimized and use highest speed baudrate. There are many useful and powerful PLC software features built-in HMI. It helps user to maintain the system conveniently and quickly.

On-line Monitoring PLC Ladder Program

The PLC ladder program is displayed on the screen. Engineers can check machine status and find errors quickly.



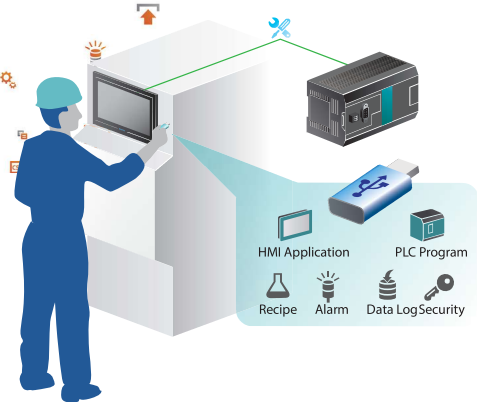
Import Tags from WinProladder Project

Engineers can import tags from the WinProladder projects when they develop HMI projects. This avoids repetitive typing of tags information, thus greatly saving engineering time and improving work efficiency.



USB Flash Drive Maintenance

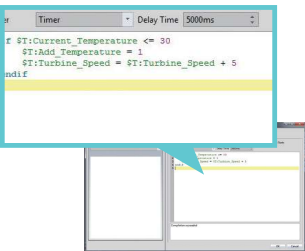
- Site personnel need not use PC to maintain the equipment. He can just use usb flash drive to upgrade PLC ladder program and HMI application.
- In addition to this, user also can access datalog and alarm data, modify recipe parameters, and change security password by using usb flash drive.



Powerful Programming Features

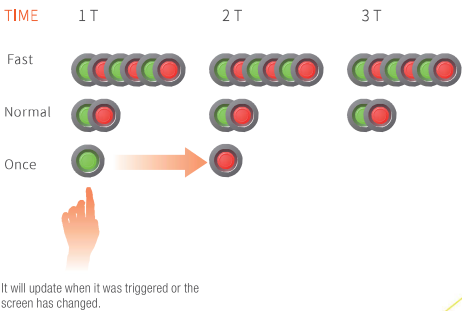
Script

- User can flexibly use Script to complete a complex task that cannot easily be accomplished with general objects. The Script functions include logical judgments, numerical computations, loop executions, string manipulation, communications between devices etc.
- Support user-defined functions, which can be imported and exported for the usage of future project designs, making it time-saving and adding flexibility
- Real-time display compiling result by which the user can correct contents immediately
- Provide password protection for engineers to protect their intellectual property



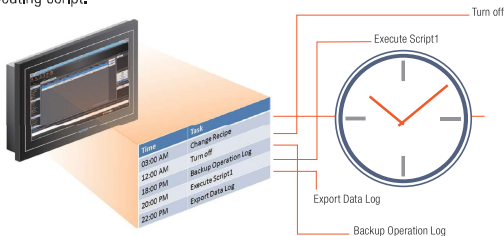
Fast Update

Provides users in different situations to select the update speed to get the latest data.



Schedule

Up to 32 schedules could be set. This function allows users to trigger event at a predefined time, or change schedule date at runtime. The event includes setting/resetting a bit, writing a word and executing script.



Recipe

- With Recipe function, you can store a set of verified data in HMI, and download to PLC whenever necessary
- The recipe data can be from a csv file, so operators do not need to enter parameters manually
- A built-in recipe editor for users to edit the contents
- Useful Recipe objects for users to choose from
- Add/Edit recipe at runtime

	Milk	Water	Butter	Chocolate	Flour	Yeast	Egg
Cake1	50	75	1.3	2	100	0.1	2.4
Cake2	40	100	0.7	1	200	0.05	1.2
Cake3	50	60	0.6	2	120	0.13	0.8

Print function

- The project image can be printed and stored in to HMI and USB storage devices.
- The image range is selectable, and the image can also be rotated and reversed.
- User can use Function Switch or a Script to print out the screen image, and also can cancel your printing if needed while the printing is under progress.

Specification



Spec.	Model	P2043SA	P2043NA	P2070SA	P2070NA
Display	Panel Type	TFT LCD, 16.7M Colors			
	Panel Size	4.3" (16:9)		7.0" (16:9)	
	Resolution	480 X 272		800 X 480	
	Contrast Ratio	500		500	
	Backlight	LED		LED	
	Backlight Life Time	25000Hrs.			
Touch	LCD Viewing Angle (T/B/L/R)	50/70/70/70		70/50/70/70	
	Type	4-wire Resistive Type			
System	Accuracy	X axis+/-2%; Y axis +/-2%			
	CPU	32 bit RISC Cortex 600MHz			
	Flash	128MB		128MB	
	RAM	128MB		128MB	
	RTC	Yes			
I/O Port	Serial 1	RS-232 (2W) RS-422/485 (4W)		RS-232 (2W) RS-422/485 (4W)	
	Serial 2	---		---	
	Ethernet	---	10M/100M	---	10M/100M
	USB	USB2.0 Type-A (Host) x1 USB2.0 Type mini-B (Device) x1			
	Micro-SD Slot	---	---	---	---
	Audio	---	---	---	---
I/O Extension	Termination Switch	---			
	PLC Extension	Yes		Yes	
	HMI Extension	Yes			
Power	Power Input	14~32 VDC			
	Isolation Resistance	Exceed 50MΩ at 500VDC			
	Power Consumption	9.6W (@24VDC)	10.1W (@24VDC)	12W (@24VDC)	12.5W (@24VDC)
Environment	Protection Structure	Front Panel: IP65			
	PCB Coating	Yes			
	Operating Temp.	0 ~ 50 C			
	Storage Temp.	-20 ~ 60 C			
	Relative Humidity	10% ~ 90% (40° C Non-condensing)			
	Withstand Voltage	500V/ 20mA/ 1 Min. (between charger & FG terminals)			
	Vibration Endurance	5 to 9Hz Half-amplitude: 3.5mm 9 to 150 Hz Constant Acceleration: 19.6m/s2 (2G) 3 directions of X, Y, Z: 10times (IEC61131-2 compliant)			
	Enclosure	Plastic		Plastic	
Dimension/ Weight	Cut-out	118.5 x 92.5 (mm)		191.5 x 137.5 (mm)	
	W x H x D	128.0 x 102.0 x 36.4 (mm)		201.0 x 147.0 x 38.3 (mm)	
	Weight	215 (g)	235 (g)	550 (g)	570 (g)
Certification		CE			

* Please inform when ordering



P2101SA	P2101NA
10.1" (16:9)	
1024x600	
450	
LED	
25000 Hrs.	
50/20/55/55	
4-wire Resistive Type	
X axis+/-2%; Y axis +/-2%	
32 bit RISC Cortex 600MHz	
128MB	
128MB	
Yes	
RS-232 (2W) RS-422/485 (4W) RS-485 (2W)	

---	10M/100M
USB2.0 (Host)x1 USB2.0 Type (Device)	
---	---
---	---

Yes	
Yes	
14~32 VDC	
Exceed 50MΩ at 500VDC	
11W (@24VDC)	11.5W (@24VDC)
Front Panel: IP65	
Yes	
0 ~ 50 C	
-20 ~ 60 C	
10% ~ 90% (40° C Non-condensing)	
500V/ 20mA/ 1 Min. (between charger & FG terminals)	
5 to 9Hz Half-amplitude: 3.5mm 9 to 150 Hz Constant Acceleration: 19.6m/s2 (2G) 3 directions of X, Y, Z: 10times (IEC61131-2 compliant)	
Plastic	
259.5 x 201.5 (mm)	
271.5 x 213.5 x 44.9 (mm)	
1300 (g)	1320 (g)
CE	

* Please inform when ordering