P5 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

www.logicbus.com.mx
**The FATEK P5 series provides a high quality and high performance human machine interface with the option of an integrated PLC.**

The P5 series represents the high quality and reliability expected in the industrial automation market today. The P5 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 P5 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 P5’s stability and robustness to provide end users with a reliable HMI product that can operate in harsh conditions.

**In-built Termination Resistors for RS485/422 Ports**

With RS-422/RS-485 communication networks, termination resistors are often required to improve the reliability of communications. External termination resistors can make communication wiring onsite complex. To solve this problem, the P5 provides built-in termination resistor switches. Terminating can be achieved by turning on the switch to connect to termination resistors, or turn off the switch to disconnect the resistors.

**Optional Integrated PLC**

The P5 series provides cableless communications to the FATEK HB1 PLC by offering a version that can be mounted onto the back of the P5 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

**Office 2010 Silver**

**Office 2007 Blue**

**Windows 7 Scenic**

**FATEK Style**

**Topic 2**
Use Wizard to Complete Project Setting in Three Steps

1. Choose HMI Model
2. Choose Controller
3. Select Location
Easy Planning and Rich Resources

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.

Pipe Line
A pipeline is composed of L/T/Cross joints and pipes. You can create a pipeline easily and efficiently. At runtime, you can also control a pipeline to change color, blink, and flow effect dynamically.

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

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.

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.

Update User Accounts / Passwords Via External Storage
To add or edit user accounts on a HMI can cause headaches for production managers. By Function Switch, the P5 series allows users to change user accounts and passwords via external storage.

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.

Security
Security function provides 16 access levels and 100 user accounts, 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.
Step 1: Use the Alarm function to set the threshold value for monitoring system status.

Step 2: 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.

Step 3: Pop up the child window to get a further message or for post-processing.

Step 4: User can also receive the email that attached the alarm information and the captured camera image on site. Then review the history records of Data Log and Operation Log for root cause investigation.

Email
- Send important messages to recipients through triggered alarm.
- Can configure the contact lists and groups, easy to assign recipients.
- Provide SSL/TLS encryption mechanism to ensure file security.

Camera
- Support USB camera input and display images directly on the HMI screen.
- Can capture the image and save to the USB storage or send the site image via email.

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, creating a chart with two Y-axes 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, Alarm and Operation Log can be exported to the assigned location automatically(HMI, microSD card, usb).
- Or enable the ability of data retention in the Data Log, Alarm, Recipe and Operation Log function, 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/Subscriber/Broker) 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.

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.

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.

NTP
Network Time Synchronization function synchronizes the time of all HMIs, no need to worry about time delay.

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

**Pass Through**
Pass Through without stopping HMI. By using Pass Through function, PC can connect to PLC device indirectly, and then you can make adjustments for the device (Eg: WinProladder).

**Simulation**
Support on-line/off-line simulation. You can simulate the behavior of your project on a PC connecting to PLC or without PLC before downloading it to HMI.

**Remote Configuration**
As an added convenience employees in the office can use Remote Configuration to change the setting of HMI.
**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.

**On-line Monitoring PLC Ladder Program**

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

**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.

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<tr>
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<th>Milk</th>
<th>Water</th>
<th>Butter</th>
<th>Chocolate</th>
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<td>1.3</td>
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<td>120</td>
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**Fast Update**
Provides users in different situations to select the update speed to get the latest data.

<table>
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<tr>
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<th>2 T</th>
<th>3 T</th>
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<td></td>
</tr>
<tr>
<td>Once</td>
<td></td>
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</table>

It will update when it was triggered or the screen has changed.

**Schedule**
Up to 64 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.

**Print function**
- The project image can be printed and stored in to HMI, SD cards, 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

### Display

<table>
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<tr>
<th>Model</th>
<th>Panel Type</th>
<th>Panel Size</th>
<th>Resolution</th>
<th>Contrast Ratio</th>
<th>Backlight</th>
<th>Backlight Life Time</th>
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<tr>
<td>P5043SA</td>
<td>TFT LCD, 16.7M Colors</td>
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<td>LED, 500nt</td>
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<td>700</td>
<td>LED, 300nt</td>
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<td>450</td>
<td>LED, 300nt</td>
<td>20/50/55/55</td>
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<td>TFT LCD, 16.2M Colors</td>
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<td>1024 x 768</td>
<td>700</td>
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### Touch

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<th>Model</th>
<th>Type</th>
<th>Accuracy X axis</th>
<th>Y axis</th>
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<td>+/-2%</td>
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### System

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<tr>
<th>Model</th>
<th>CPU</th>
<th>Flash</th>
<th>RAM</th>
<th>RTC</th>
<th>I/O Port</th>
<th>Ethernet</th>
<th>USB</th>
<th>Micro-SD Slot</th>
<th>Audio</th>
<th>Termination Switch</th>
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<tbody>
<tr>
<td>P5043SA</td>
<td>32 bit RISC Cortex 600MHz</td>
<td>256MB</td>
<td>128MB</td>
<td></td>
<td>Serial 1</td>
<td>10M/100M</td>
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<td>P5070SA</td>
<td>32 bit RISC Cortex 1GHz</td>
<td>256MB</td>
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### I/O Port

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<tbody>
<tr>
<td>P5043SA</td>
<td>HB1 main units (10/14MB Series)</td>
<td>HB1 main units + B1 extension modules</td>
<td>14VDC, 32VDC (Isolated Power)</td>
<td>500Ω at 500VDC</td>
<td>9.56W</td>
<td>Front Panel: IP65</td>
<td>Yes</td>
<td>-5C to 5C</td>
<td>-20 to 70C</td>
<td>10% - 90% @40°C (non-condensing)</td>
<td>AC500V, 20mA, 1min. (between charger &amp; FG terminals)</td>
<td>5 to 9Hz Half-amplitude: 3.5mm</td>
<td>Plastic</td>
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