IDEC Combined PLC+HMI is Compact and Feature Packed

A conveniently-sized and industrially-tough 4.3" multi-touch display, along with an integrated controller and expandable I/O, makes the FT1J Series ideal for visualizing and automating equipment and machinery.

IDEC Corporation, Sunnyvale, CA, October 3, 2024 — IDEC Corporation has updated its SmartAXIS touch family with the new FT1J Series combined PLC+HMI. This device combines a built-in full function controller, both onboard and expandable I/O, and an advanced technology 4.3" touchscreen display, in a compact all-in-one form factor that is rightsized for visualizing and automating a wide range of applications. The FT1J Series builds on the success of the FT1A-C and -M Series 3.8" PLC+HMIs, which remain available, and provides designers with another size option.

Combined PLC+HMI advantages
An all-in-one PLC+HMI requires far less panel door and interior space than individual devices. The unit's thin bezel provides the greatest possible display area compared with its installation footprint, and the entire package requires only a shallow mounting depth clearance. Installation is simplified because the PLC and HMI are internally connected, share the same network connection, require only one power supply (and consumes less power than individually separate PLC and HMI installations), and all connections use push-in wiring connectors. Furthermore, the FT1J is ready to use and communicate right out of the box. End users configure the PLC+HMI with an intuitive and easily-used integrated development environment for both PLC and HMI functions, providing significant configuration and programming efficiencies.

Powerful PLC features
The integrated PLC and HMI each have their own dedicated CPU and user memory for optimized scan time performance, and they communicate natively with each other. Built-in I/O includes 8 points of DC inputs (configurable as all discrete, or 6 discrete and 2 analog 0-10VDC or 4-20mA 12-bit). Discrete inputs can operate as high-speed counters up to 20KHz, with a maximum of 4 points of single-phase and 1 point of two-phase. For discrete outputs, a relay version provides 4 points of 2A relay outputs, while a transistor version provides 4 points of 0.5A transistor outputs. The transistor version also provides 2 points of 0-10VDC or 4-20mA analog outputs. Built-in transistor outputs are also pulse capable up to 200KHz.

The FT1J supports up to two expansion cartridges of discrete or analog I/O, in a variety of configurations and including a 2-point RTD/thermocouple analog input version. All analog inputs and outputs are 12-bit resolution. Also, designers can use the Ethernet port and the SX8R Bus Coupler to provide expanded amounts of remote I/O.

Cutting edge HMI design
The HMI's projected capacitive touch panel (PCAP) advanced technology—like what is used for smartphones and tablets—saves space and improves performance, while providing 480x272 resolution and 16 million colors. Besides being water- and scratch-resistant, PCAP is very responsive, and it resists false signals when dirt or water droplets are present on the HMI face. Fewer touchscreen layers and better light transmission ratings mean less backlight power is needed, and the display provides an

industry-leading 500 cd/m² brightness level and 50,000-hour backlight life. In addition to being multi-touch, users can interact with the touchscreen HMI while using thin gloves. The front bezel carries no branding, of interest to many OEMs.

Robust performance
The glass-top design is wear-resistant even in harsh environments, and it delivers a long life with a 50,000-hour-rated backlight, making these units low maintenance. The battery-free design eliminates the need for replacements, reducing maintenance and easing overseas shipments by avoiding battery-related regulations. A hyper-capacitor maintains clock time for 20 days, while magnetoresistive random-access memory (MRAM) provides non-volatile storage for programs, retentive registers, and log data. Ratings for extreme temperatures from -20 to 55˚C, IP66 and IP67 for wash-down areas, IP66F and IP67F for oil resistance, UL60101, UL Type 4X/12/13, and Class I Div 2 make the FT1J PLC+HMI suitable for a wide range of applications and locations.

Streamlined configuration
All PLC and HMI configuration is accessed through IDEC's standard WindOI-NV4 software, which is easy-to-use and intuitive, with a drag-and-drop interface and extensive image library. Projects can automatically be converted from one HMI size to another within seconds. Script programming, PIDD loop control, pulse width modulation (PWM) control, multilingual capabilities, security, trend charts, data logs, alarm logs, and other functions and features are supported for both the HMI and the PLC. Users only need to keep track of one program file as it supports both the PLC and HMI.

Connectivity and IIoT
Two USB-A ports support flash drives for data logging, recipes, and program transfer—along with dongles for speakers, Wi-Fi, and Bluetooth. The embedded Ethernet port provides users with easy access for remote maintenance and communication, and the Modbus TCP/IP, BACnet IP, EtherNet/IP, and MQTT protocols are supported for connecting with other intelligent devices. The built-in RS232C and RS422/485 serial communication ports support Modbus RTU and allow the FT1J to communicate to other serial PLCs or devices, like barcode readers or temperature controllers. A main FT1J can operate up to 15 other IDEC HMI devices over the serial port using OI Link communication, which simplifies wiring and reduces communication loading. The FT1J also supports the concurrent use of up to three other protocols.

Many communication options are available for users to create automation and IIoT solutions incorporating multiple industrial protocols, the FTP protocol, remote monitoring and control, email/text messaging, Twitter/X, iOS and Android apps, and custom web pages.

An adaptable PLC+HMI solution
The IDEC FTxJ Series Combined PLC+HMIs packages modern technologies into a conveniently compact display size and form factor, making it the ideal solution for space-limited and other industrial applications which are not fit for individual PLC and HMI installations. The new FT1J 4.3" device, and the recently released FT2J 7" device, provide designers with options to size the visualization and control functions for their applications. The FT1J is ideal for many laboratory, commercial, and industrial applications throughout industries like food and beverage, consumer packaged goods, oil and gas, and agriculture. Designers of test equipment, HVAC systems, pump controls, remote wells and booster stations, and other OEM machines and process skids are finding the FT1J to be the best fit as a control and visualization solution.

As with all its products, IDEC offers free tech support for the FT1J 4.3" HMI, without requiring a service or support contract. The FT1J carries a three-year warranty. For complete specifications or additional information, please contact IDEC Corporation at 800-262-IDEC (4332), or visit us online at https://lp.idec.com/FT-J-Series-US.html .

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and value-driven products include PLCs, human machine interfaces (HMIs), safety products and other industrial automation components. By delivering world-class products backed by personalized service and highly-rated technical support, IDEC enables design engineers to create lean, cost-effective and safe solutions to optimize their automation applications. With the acquisition of ez-Wheel, as well as the acquisition of APEM, one of the world's leading manufacturers of operator interface panels and related components, IDEC continues to enhance our customers' ability to create high-quality solutions. For additional information, visit www.IDEC.com/usa

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