IDEC

Think Automation and beyond...

Ever-evolving PLC. MICROSmart FC6A

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Latest evolution. The MicroSmart FC6A Plus expands the limits of productivity, allowing for controlling not only large-size machines, but also entire small-size production lines.

- Up to 2,060 I/O (incl. a maximum of 511 analog I/O)
- Extremely fast basic instruction execution of 21 ns
- User program size: 800 KB (100,000 steps)
- BACnet/IP protocol

The MicroSmart FC6A Plus can also handle large programs such as positioning, PID, flow totalization and recipes.

A maximum of 2,060 digital/analog I/O (All-in-One CPU module: 528 I/O), 33 ports of serial communication, PID control using PID module with up to 126-I/O expandability. Can be used in larger system configurations than conventional ones where micro PLCs are used.

* Maximum expansion of All-in-One CPU module: System configuration of DIO+AIO (528 I/O), serial communication (9 I/O), temperature control (up to 30 I/O) using temperature module is possible.

Multi-point system configuration can be set up flexibly with the Ethernet cable and expansion interface module (unibody master/slave). Flexibly configure up to 10 expansion racks (15 modules max. per rack) to fit the control panels or installation sites.

Only a small number of points, such as one or two, can be added easily by using cartridges. Optional spring clamp block connector is available to reduce wiring.

IDEC's ever-evolving MicroSmart FC6A Plus reduces wiring and labor, and creates robust and stylish control panels.

More Power.
More Performance.
More Connectivity.

HMI Module

Cartridge Base Module

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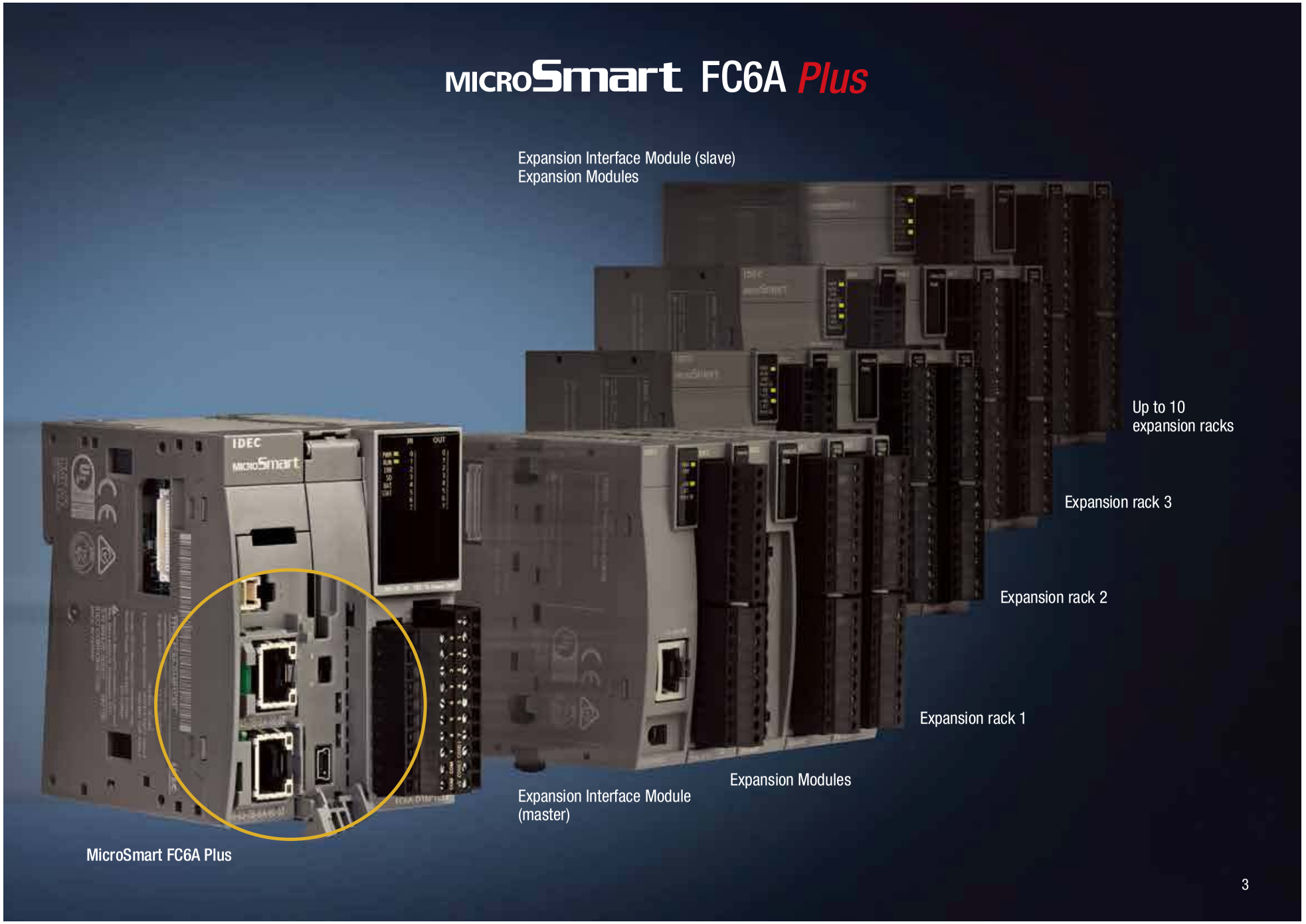
MICROSmart FC6A *Plus*



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Power, Performance, and Connectivity

The MicroSmart FC6A All-in-One.
High performance and easy programming.

- Up to 528 I/O (incl. a maximum of 511 analog I/O)
- Extremely fast basic instruction execution of 42 ns
- User program size: 640 KB (80,000 steps)
- Easy and quick programming

Parameters such as the status of peripheral input devices connected to the PLC, results of logical operation to peripheral output devices. These parameters need to be checked and changed on-site. Simplify your work by using the FC6A's HMI module. No PC required.

Perform run/stop of CPU module, parameter check/change, calendar display, and clock setting using the LCD with 32 characters × 4 lines and six buttons. Ethernet ports can be used for Email and Web Server Functions.

With cartridges available in 10 types, a small number of I/O and communication port can be added easily in a limited space. The FC6A-PC4 Bluetooth communication cartridge enables wireless communication with barcode readers and other peripheral devices. Eliminating the need to adjust the cable length on-site shortens the time for installation and maintenance.

HMI Module

MICROSmart FC6A All-in-One

CPU Module

Expansion Modules

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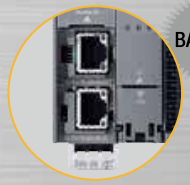
Adaptive Design



NEW

BACnet/IP

Plus

Dual Ethernet ports

One port can be configured for information system such as FTP, Web Server, and Email functions, and the second port can be configured for a control network including Modbus TCP, to provide you with powerful maintenance and control capabilities. BACnet/IP also supported. (System software ver 1.20 or later)

Plus All-in-One

RJ45 Ethernet Port

Supports the Modbus TCP protocol, and internet connections such as Web Server and Email functions for remote monitoring and control.
(All-in-One: HMI module is required.)

Plus All-in-One

SD Memory

SD card for data logging, program storage/transfer, or user program updating.

Plus All-in-One

Replaceable Battery

Battery can be replaced by the user, enabling predictive maintenance.

Plus All-in-One

Pull-up/down Removable Power Supply Terminal

Pull-up/down terminal reduces wiring (patented).

Plus All-in-One

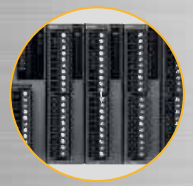
USB Port

Can be used to transfer user programs from WindLDR to CPU module and for monitoring, without the need of power supply.

Plus All-in-One

Removable Terminal Blocks

Simplifies wiring, installation, and module replacement—just wire the terminal block plugged into a module.



Plus All-in-One

9 ports max.

Up to 33 Serial Ports

Using a combination of communication cartridges and FC6A-SIF52 modules, up to 33 serial ports can be utilized.

All-in-One

RJ45 RS232C/485 Serial Port

Supports Modbus RTU, user communication, maintenance communication, and data link communication.

Plus

Reduced Wiring

Spring clamp terminal available.

Plus All-in-One

Digital/Analog/Communication Cartridges

Digital cartridge: 3 types (4-point digital input/4-point transistor output)
Analog cartridge: 4 types (2-point analog input/output)
Communication cartridge: 3 types (Serial/Bluetooth communication)

Plus All-in-One

I/O Modules

Digital input module:	5 modules
Digital output module:	10 modules
Digital mixed I/O module:	2 modules
Analog I/O module:	12 modules

Unmatched Performance

Up to 2,060 I/O
A maximum of 511 analog I/O.
(when using a 32-point FC6A Plus CPU module + an expansion interface module + 32-point digital I/O modules (63 modules) + digital cartridges (3 cartridges) + a cartridge base module + an HMI module)

Positioning Control
Equipped with features needed for simple positioning control, such as zero return and 2-axis linear interpolation.

Expanded Memory
Program memory size is 800KB (100,000 steps) maximum with 2,000 timers, 512 counters, and 260,000 data registers. Double the capacity of conventional PLCs. This allows handling of large and complex programs such as PID, flow totalization and recipes.

Improved PID Algorithm
A new and improved PIDD algorithm enables cascade control that needs complex programming.

Fast Processing Speed
Processing speed is 4 times faster than IDEC FC5A MicroSmart Pentra.

Modbus TCP, RTU Protocols
These two leading industrial communication protocols are supported in the CPU module and FC6A-SIF52 communication module. Communication monitor shortens the debugging time, and communication to other devices is quick and seamless.

Fast I/O Refresh
Expansion I/O refresh is 0.1 ms with four digital I/O modules + one analog I/O module.

Automatic Email Function
Remote access to system status using web browser. Get periodic report and error notification alarm anywhere with Email function.

High-Speed Outputs
Advanced instructions:
ARAMP: Advanced Ramp
JOG: Pulse with direction
ABS: Set the origin

Upgradable Software
System software and user programs are upgradable through WindLDR, data file manager, or SD memory.

Time-Base Applications
Real-time clock is built in. Obtain time from SNTP server.

iOS/Android Apps: WindEDIT
Perform status check, run/stop check and operation, parameter check/change, user program download/upload of FC6A with your smart phone or tablet without PC or HMI module.
Files/folders in SD memory can be displayed as a list, downloaded, uploaded, and deleted. Format operation is also possible.

Wireless Communication

Wireless communication achieved with Bluetooth cartridge. Use the iOS/Android App to monitor/change parameters, upgrade user program, and monitor logged data in the SD memory without opening a control panel. System upgrade and predictive maintenance cannot be more easier. Use your smart phone or tablet to wirelessly communicate via the Bluetooth cartridge of the FC6A, or over wifi or internet. The FC6A microsite links to App Store and Google Play application download sites.

App Store Google Play

FTP Server/Client Functions

Store real time on-site information in the host FC6A or PC to manage operation effectively. Because systems in multiple FC6A can be upgraded at the same time, downtime and management are minimized.

Email Function

Connecting the Ethernet port on the CPU or on the optional HMI module to the internet enables email notification to quickly inform personnel of alarms and events, allowing them to take remedial action quickly. Can be used with third-party email servers such as Gmail and Yahoo.

SCADA Monitoring and Control

Connecting the Ethernet or one of the serial communication ports on the FC6A to a SCADA system, all data required for display screen, trend, and troubleshooting can be sent to the SCADA system. Sending the data or commands from the SCADA system to the CPU enables remote management.

Security/FTP/Web Server/App

Up to 16 user accounts can be set up by setting user names and passwords. Ensure security by separately setting the monitoring and operation authorities.

Industrial Internet of Things

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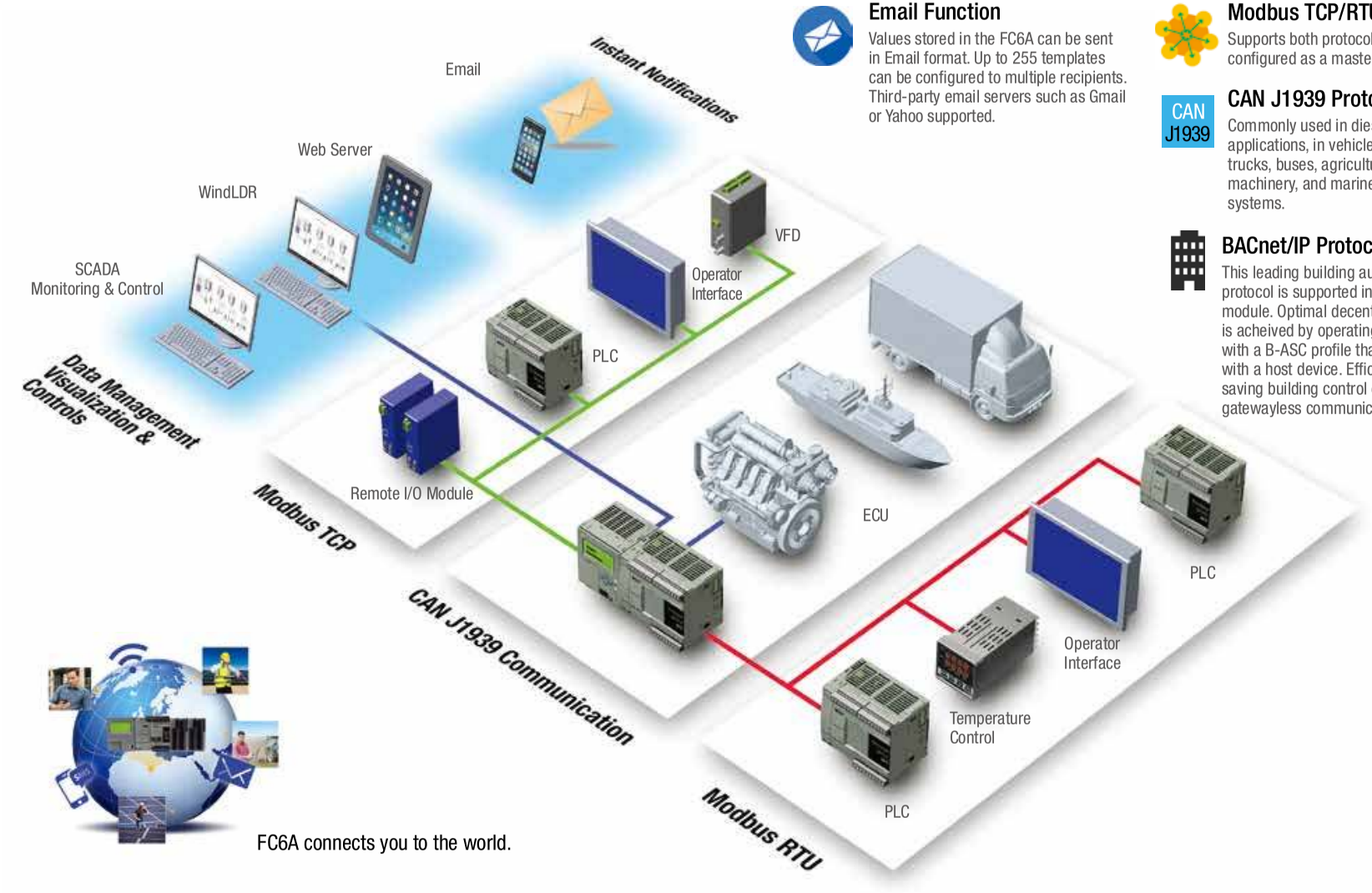
Multiple Communication Options



Email Function

Values stored in the FC6A can be sent in Email format. Up to 255 templates can be configured to multiple recipients. Third-party email servers such as Gmail or Yahoo supported.

Modbus TCP/RTU Protocol

Supports both protocols and can be configured as a master or slave.

CAN J1939 Protocol

Commonly used in diesel power applications, in vehicle networks for trucks, buses, agriculture & forestry machinery, and marine navigation systems.

BACnet/IP Protocol

This leading building automation control protocol is supported in the Plus CPU module. Optimal decentralized control is acheived by operating as a controller with a B-ASC profile that communicates with a host device. Efficient and energy-saving building control can be realized by gatewayless communication.

FC6A connects you to the world.

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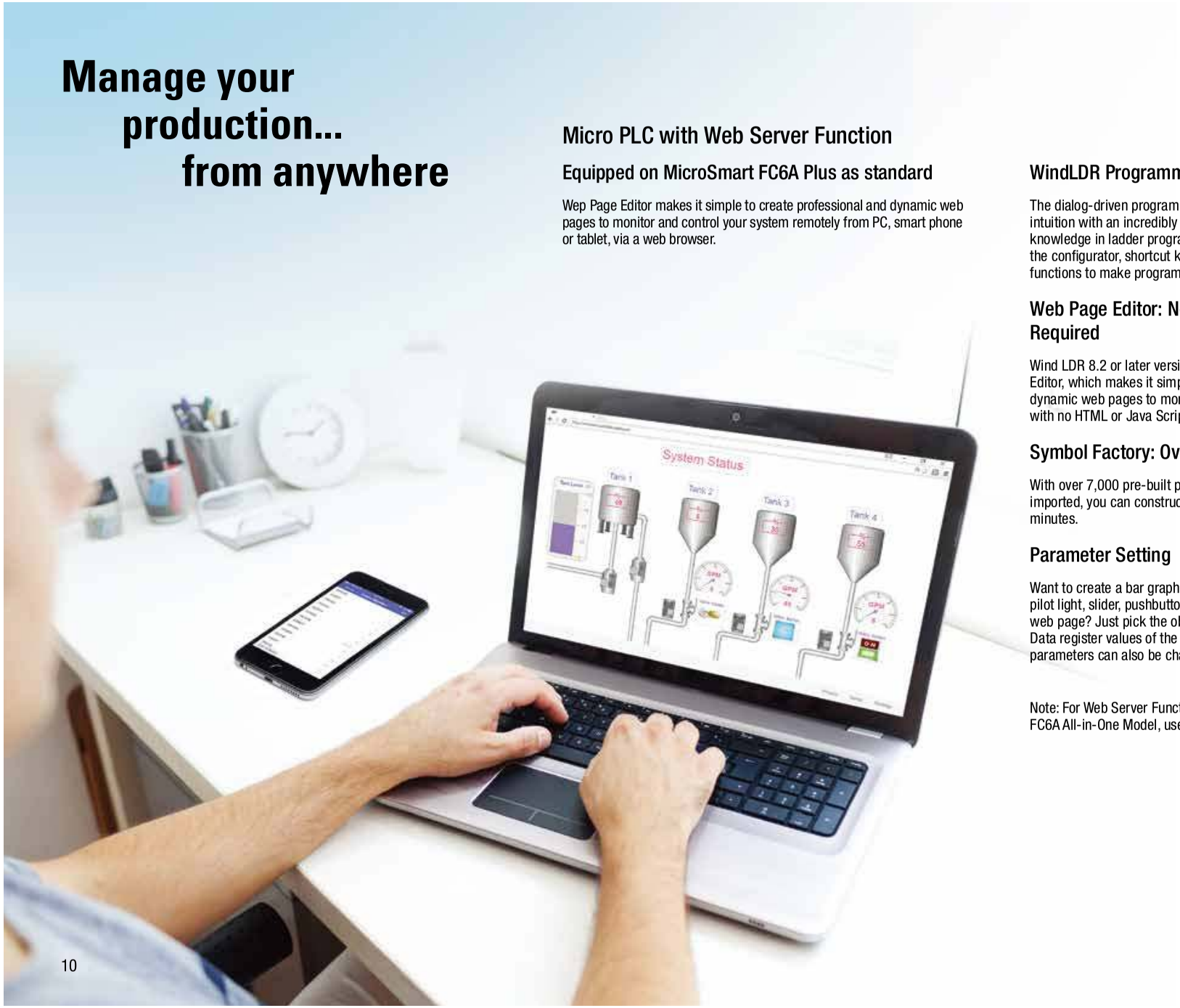
Manage your production... from anywhere



Micro PLC with Web Server Function

Equipped on MicroSmart FC6A Plus as standard

Wep Page Editor makes it simple to create professional and dynamic web pages to monitor and control your system remotely from PC, smart phone or tablet, via a web browser.

WindLDR Programming Software

The dialog-driven programming tool combines logic and intuition with an incredibly easy-to-use interface. No knowledge in ladder programming required. Just use the configurator, shortcut key, simulation and monitor functions to make programs quickly.

Web Page Editor: No HTML Programming Required

Wind LDR 8.2 or later version has a new Web Page Editor, which makes it simple to create professional and dynamic web pages to monitor and control the FC6A, with no HTML or Java Script knowledge.

Symbol Factory: Over 7,000 Images

With over 7,000 pre-built practical images that can be imported, you can construct a professional web page in minutes.

Parameter Setting

Want to create a bar graph, gauge, pie chart, trend chart, pilot light, slider, pushbutton or other object on your web page? Just pick the object, drop it on the screen. Data register values of the FC6A can be displayed, and parameters can also be changed on the web page.

Note: For Web Server Function and Email Function of the FC6A All-in-One Model, use FC6A-PH1 HMI module.

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Compare FC6A Models

	FC6A Plus CPU Module		FC6A All-in-One CPU Module			
Number of I/O	16 I/O	32 I/O	16 I/O	24 I/O	40 I/O	CAN J1939: 40 I/O
Shape						
Rated Power Voltage	24V DC	24V DC	24V DC 100 to 240V AC	24V DC 100 to 240V AC	12V DC 24V DC 100 to 240V AC	12V DC 24V DC 100 to 240V AC
Program Capacity	800KB (100,000 steps)	800KB (100,000 steps)	384KB (48,000 steps)	384KB (48,000 steps)	384KB (48,000 steps)	640KB (80,000 steps)
Expansion Interface Modules (Max.)	63 modules	63 modules	12 modules	15 modules	15 modules (12V DC Type: None)	15 modules (12V DC Type: None)
Maximum Digital I/O	2,044	2,060	404	508	528 (12V DC Type: 48)	528 (12V DC Type: 48)
Maximum Analog I/O	511	511	101	125	127 (12V DC Type: 7)	126 (12V DC Type: 7)
Communication Protocol	Modbus TCP Modbus RTU User Communication (Serial, TCP/UDP) FTP Client/Server BACnet/IP Bluetooth (SPP, iAP) (optional cartridge)	Modbus TCP Modbus RTU User Communication (Serial, TCP/UDP) FTP Client/Server BACnet/IP Bluetooth (SPP, iAP) (optional cartridge)	Modbus TCP Modbus RTU User Communication (Serial, TCP) Bluetooth (SPP, iAP) (optional cartridge)	Modbus TCP Modbus RTU User Communication (Serial, TCP) Bluetooth (SPP, iAP) (optional cartridge)	Modbus TCP Modbus RTU User Communication (Serial, TCP) Bluetooth (SPP, iAP) (optional cartridge)	CAN J1939 Modbus TCP Modbus RTU User Communication (Serial, TCP) Bluetooth (SPP, iAP) (optional cartridge)
IoT Functions	iOS, Android Apps Web Server Functions Email Function	iOS, Android Apps Web Server Functions Email Function	iOS, Android Apps Web Server Functions (*1) Email Function (*1)	iOS, Android Apps Web Server Functions (*1) Email Function (*1)	iOS, Android Apps Web Server Functions (*1) Email Function (*1)	iOS, Android Apps Web Server Functions (*1) Email Function (*1)
Serial Port Extensibility	33	33	7	7	8	8
Cartridge	3 (*2)	3 (*2)	3 (*2)	3 (*2)	3 (*2)	3 (*2)

*1) Using FC6A-PH1 module

*2) Using HMI module. For All-in-One, Analog and digital cartridges can be added to the HMI module.
For Plus, Analog, digital, communication cartridges can be added.

(All-in-One CPU module System software Ver. 1.60 or later
Plus CPU module System software Ver. 1.00 or later
HMI module System software Ver. 1.52 or later)

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