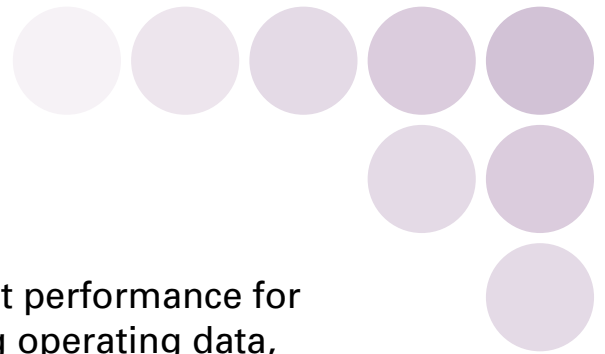**New!**

OMRON

CX-Process
Monitor Plus Ver. 2.0

WS02-LCMC1-EV2

The CX-Process Monitor Plus can improve cost performance for monitoring and controlling equipment, storing operating data, and checking the alarm status.

realizing

Easy Monitoring of PLC-based Process

Lower the cost of screens required for process monitoring and control.

The CX-Process Monitor Plus is Support Software that monitors a process control system based on OMRON CS/CJ-series PLCs. Tag information, which is allocated in the monitor/control program in the Loop Controller, can be allocated to dynamic elements in a Control Screen.
Flexible screens can be created inexpensively and easily to achieve Easy Monitoring of PLC-based process control.
The various functions of the Graphic and Trend Screens have been improved in the version 2.0 upgrade.

CX-Process Monitor Plus Functions

Function 1 Monitor and control the operating status of function blocks in the Loop Controller.

Function 2 Monitor the alarm status of function blocks in the Loop Controller.

Function 3 Configure screens.

Graphic Screen
Version 2.0 upgrade

Segment Program 2 Screen
Version 2.0 upgrade

Control Screen

Trend Screen
Version 2.0 upgrade

Tuning Screen
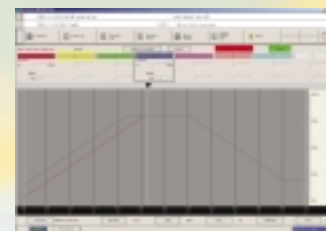
CX-Process Monitor Plus Ver. 2.0

Support Software (CX-Process Tool)

Tag allocation

CS/CJ-series PLC

PID1
MV1
RSP1
PID2
MV2
Split conversion
Heating and cooling outputs

Loop Controller

Create a monitor/control program.
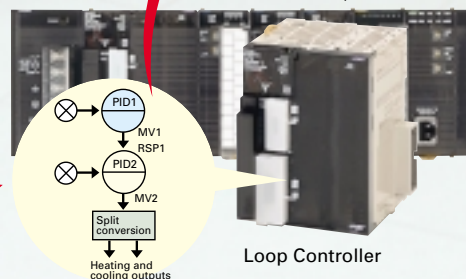
Control
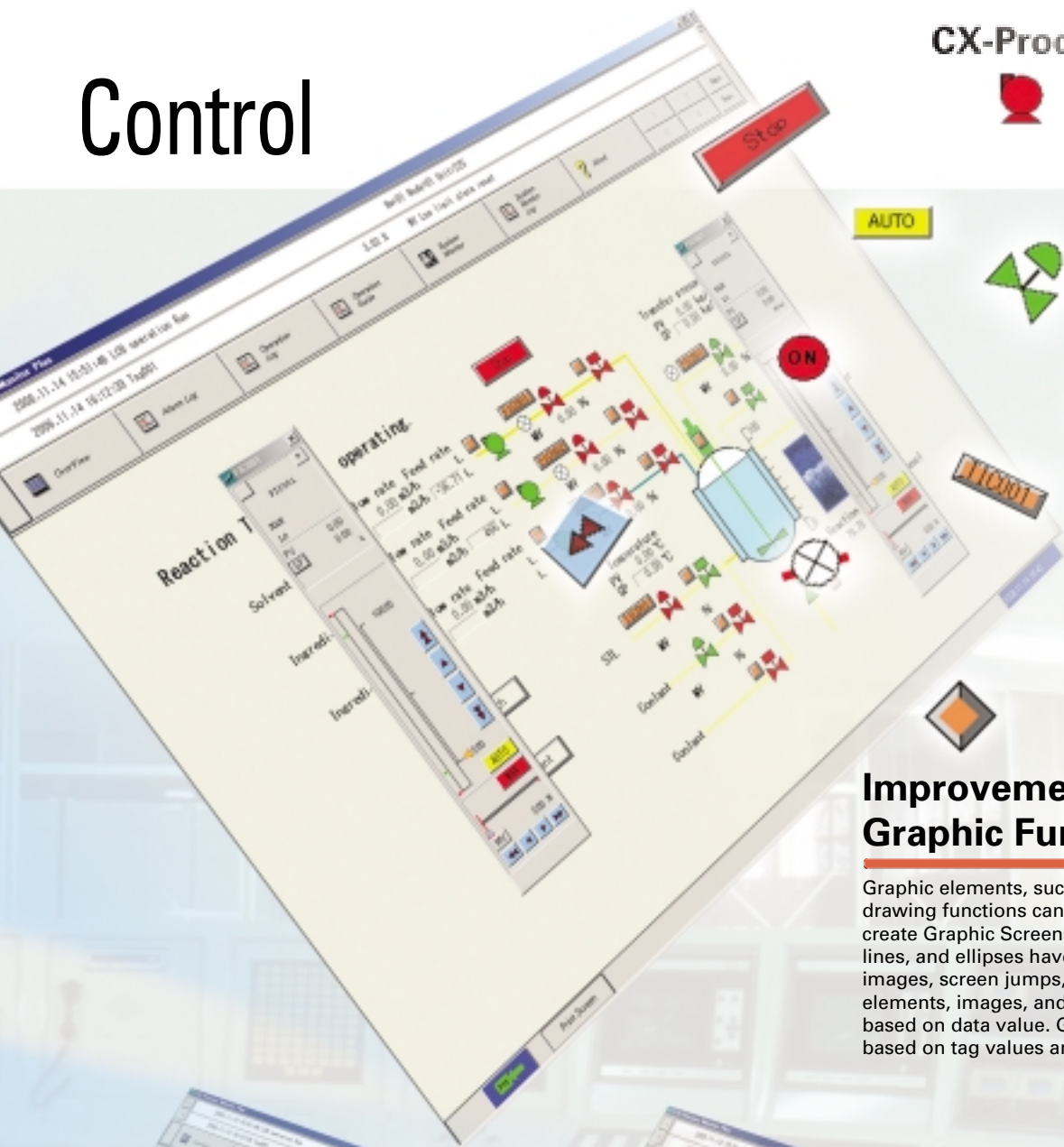
Improvements to Graphic Functions

Ver. 2.0

Graphic elements, such as tanks and pumps, and drawing functions can be used to easily and flexibly create Graphic Screens. Fixed elements such as text, lines, and ellipses have been added, along with images, screen jumps, and faceplate pop-ups. Graphic elements, images, and objects can be shown or hidden based on data value. Graphic colors can be changed based on tag values and graphics can be grouped.

Improvements to Trend and Segment Functions

Ver. 2.0

An upgraded Trend Screen called a Batch Trend Screen can start or stop data collection using a data value as a trigger. Another screen can set or display Segment Program 2. collection using a data value as a trigger. Another screen can set or display a Segment Program 2 block.

CX-Process Monitor Plus Functions

A Wide Variety of Screens Is Available, and PLC-based Process Control Systems Can Be Constructed Flexibly and Inexpensively.

The CX-Process Monitor Plus can be used to import tag data (CSV file format) of the function blocks in a Loop Controller, and easily create screens such as Control Screens (on-site instrument images), Trend Screens, Graphic Screens, and Annunciator Screens.

Control Screens

Up to eight tags can be allocated. By allocating tags, it is possible to display faceplates based on the function. The loop status can be monitored and controlled in the faceplate.

Alarm Log Screens

The Alarm Log can be displayed in historical order. Alarms resulting from deviation alarms or bit status can also be displayed in the Alarm Log, in addition to the Control Block's HH, H, L, and LL alarms. Operation Log Screens are also available to sequentially display values manipulated from Control Screens, Tuning Screens, or Graphic Screens.
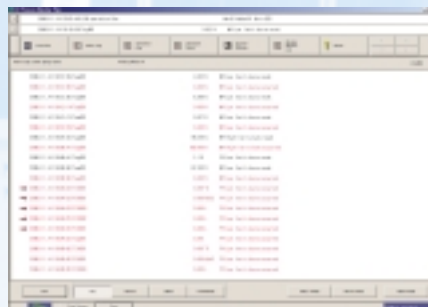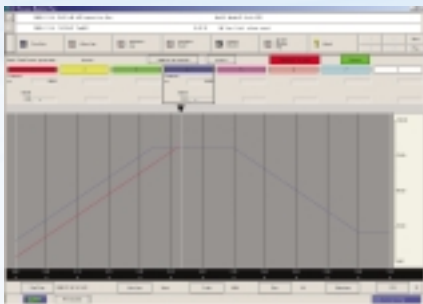

Graphic Screens

Dynamic symbols (elements that change with the tag's value), such as valves, pumps, and numerical values, can be allocated freely. Lines, rectangles, and ellipses can also be drawn, the color of those elements can be changed, and the elements can be made to flash. Static symbols or bitmap images created in standard graphics software can be read as images and displayed.


Trend Screens

Control Block values such as the SP and MV can be displayed as a trend graph. There are three kinds of trends: realtime trends, historical trends, and batch trends. And up to 8 trends can be displayed in one Trend Screen. The collected data can be saved automatically or manually in CSV format. The defined trend points can be changed, deleted, or added offline.
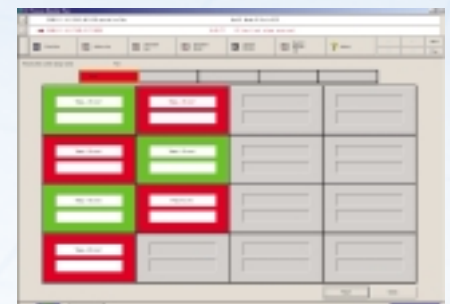

Tuning Screens

Tuning Screens display the parameters that can be tuned in faceplates and trend graphs displaying the PV, SP, or MV. Parameters can be adjusted while monitoring operation in the trend graph in 1-second intervals.
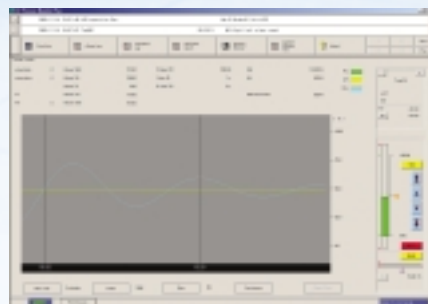

Other Screens

Other helpful screens are provided, such as System Monitor Screens, Annunciator Screens, and Operation Guide Message Screens. System Monitor Screens can display the status of the CPU and Loop Controller as well as the error status of Blocks. Annunciator Screens can display up to 16 alarm displays per screen. Operation Guide Message Screens can display messages that were registered in advance by the user.
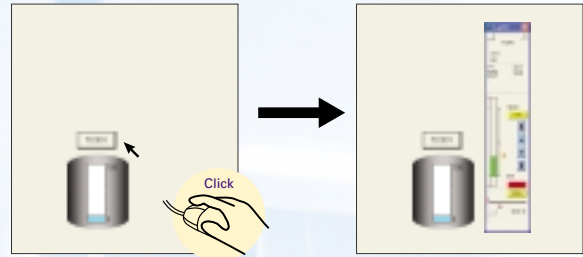
Function Upgrades in CX-Process Monitor Plus Version 2.0

With the Upgraded Graphic Functions, It Is Easy to Configure the Monitoring Screens Needed for the Overall System.

● Images can be changed, displayed, hidden, or made to flash based on the values of tags (data). `Version 2.0 or Higher`

Value: 20

Value: 50

Display/Hide switch

Value: 80
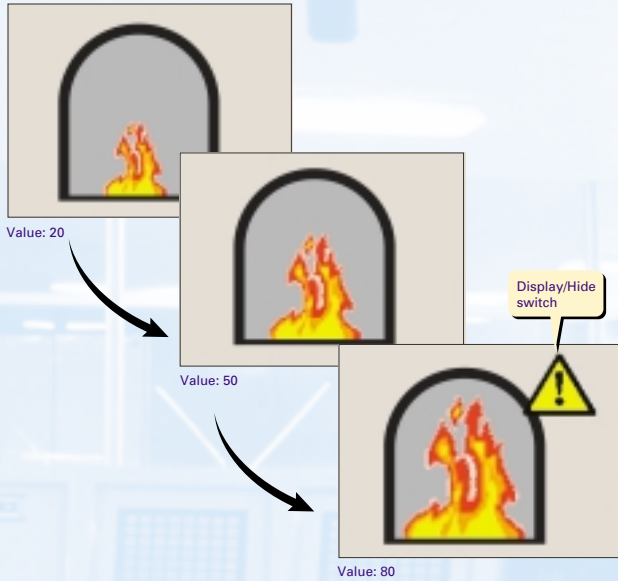
● A Faceplate Button can be set up to display a faceplate in a Graphic Screen. `Version 2.0 or Higher`

Click

● A screen jump element can be set up to easily switch screens. `Version 2.0 or Higher`

Screen selection dialog box

Move to selected screen.
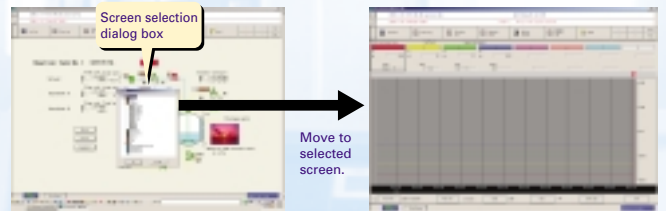
Function Upgrades in CX-Process Monitor Plus Version 2.0

With the Upgraded Trend/Segment Functions, It Is Easy to Read Changing Analog Values.

● Use a specified tag (data) value to start or stop data collection in a Batch Trend Screen. It is also possible to automatically save past data, read that past data, and superimpose it on the chart. `Version 2.0 or Higher`

Start data collection with a screen operation or a data-collection status trigger.

Automatically saved.
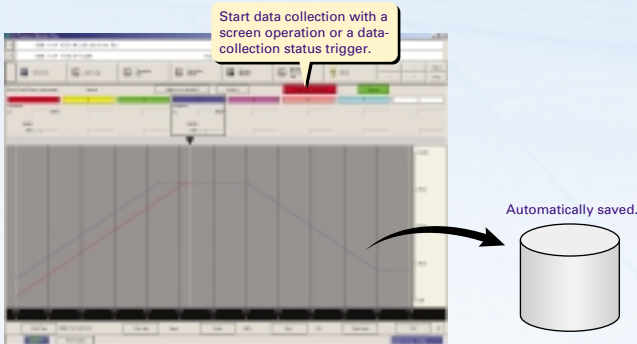
● The PV trend can be displayed against the SP by setting the segments in table format in the Segment Program 2 Screen. `Version 2.0 or Higher`

Segment Program 2 settings

SP

PV
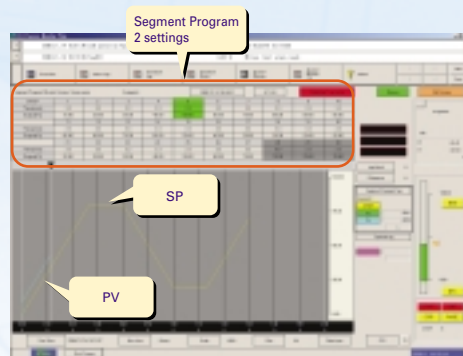
CX-Process Monitor Plus Specifications

■ CX-Process Monitor Plus Specifications

Item			Descriptions		
Product name			CX-Process Monitor Plus		
Model			WS02-LCMC1-EV2		
Applicable PLC-series			CS/CJ-series		
Applicable Unit			•Loop Control Unit Ver. 2.0 or higher •Loop Control Board •Process-control CPU Unit •Loop-control CPU Unit		
Applicable computer	Personal computer		IBM PC/AT or compatible		
	CPU		Min. required: Pentium MMX233 MHz or faster, Recommended: Celeron 400 MHz or faster		
	OS		Microsoft Windows NT 4.0 (Service Pack 6a or higher), Windows 2000 Professional (Service Pack 4 or higher), Windows XP Professional (Operation is not supported on Windows 95, 98, or ME.)		
	Memory		Min. required: 128 Mbytes, Recommended: 256 Mbytes or more		
	Hard disk drive		Min. required: 650 Mbytes of free space, Recommended: 800 Mbytes or more of free space		
	Monitor		Min. required: XGA, Recommended: XGA or higher, min. 1024 x 768 dots, 256 colors		
	CD-ROM drive		At least one		
	Mouse		Recommended: Microsoft mouse or compatible pointing device		
	Printer		Any printer supported by Microsoft Windows		
	Sound board		1 board		
Software that must be installed at the same time			FinsGateway (One of the following must be installed according to the communications method with the PLC.) •Serial Unit driver (Host Link) •Controller Link driver (Controller Link) •CLK (PCI) driver (Controller Link, PCI bus) •ETN_UNIT driver (Ethernet)		

Connecting method	Connection with CPU Unit (or Serial Communications Board/Unit)	Using FinsGateway Serial Unit version	Connect the computer to the CPU Unit's peripheral port, RS-232C port, or the RS-232C port of a Serial Communications Unit.
			•Connecting Cable:
			  When connecting to the CPU Unit peripheral ports: Model CS1W-CN□□□ (2 m, 6 m)
			  When connecting to the CPU Unit's RS-232C port: Model XW2Z-□□□-□ (2 m, 5 m)
			  For details on the Connecting Cables, refer to CX-Process Monitor Plus Operation Manual (Cat. No. W428).
			•Communications protocol with PLC: Host Link (not supported on Peripheral bus)		

	Connection via Controller Link	Using FinsGateway CLK (PCI) Driver	Install the driver in a computer equipped with a Controller Link Support Board (PCI slot) to support communications between the computer and PLCs equipped with a Controller Link Unit.		
		Using FinsGateway Controller Link driver	Install the driver in a computer equipped with a Controller Link Support Board (ISA slot) to support communications between the computer and PLCs equipped with a Controller Link Unit.		
	Connection via Ethernet	Using FinsGateway ETN_UNIT driver	Install the FinsGateway ETN_UNIT driver on the computer on which an Ethernet board is mounted to enable communications with the PLC on which the Ethernet Unit is mounted.		
Loop Control Unit/Board data specification method			CSV tags and tags for Monitor Plus (CSV monitor tags) are set using the CX-Process Tool. These tags are used to specify Loop Control Unit/Board data.		
Offline operation functions			Prepare user configuration screens for use in the online operation screen.		
Online operation functions	User Configuration Screen	Overview Screen	Place buttons for progressing on the Control Screen, Trend Screen, and other screens. Four columns and eight lines are displayed on each screen (32 screens max.). Alarm status for each loop is displayed on the button on Control Screens.		
		Control Screen	Control blocks such as the PID blocks and Indication blocks, and some Operation blocks are displayed for up to 8 loops in a single screen in the form of a field device. The maximum number of screens is 400. This screen displays the SP, PV, and MV numeric values, displays a PV as a bar graph that can be scaled, and can be used for changing the SP, MAN, and other setting values. When an alarm occurs, the color of the bar graphs changes. You can progress to the Tuning Screen from the Control Screen.		
		Tuning Screen	This screen is for setting P, I, and D parameters in control blocks such as the PID blocks. The PV, SP, and MV can be monitored while tuning the parameters. The maximum number of screens is 400 x 8 = 3,200. When an alarm occurs, the color of the bar graphs changes. Fine-tuning according to the degree specified by the user is possible for PID constants.		
		Trend Screen	The analog signals output from tag ITEMs for each function block can be collected at fixed intervals and saved to a file. If necessary, up to 8 analog signals can be displayed on one screen in the form of a multi-dot recorder.		
			Data collected (logger function)	Realtime trend	Stores 10, 20, 50, 100, or 300 hours of data for up to 480 tags sampled at 1, 2, 5, 10, or 30-second intervals.	Data can be saved in CSV format either using button commands, or automatically at a set interval (every 1, 2, 3, 4, 6, 8, 10, 12, 18, 20, 24, 48, 72, 96, 120, or 240 hours).
				Historical trend	Stores 30, 150, 300, 900, or 1,800 days of data for up to 960 tags sampled at 1, 5, 10, 30, or 60-minute intervals.	
			Data display		Horizontal (time) axis: 2, 4, 8, 12 and 24-hour time units can be scrolled Vertical (8-point common) axis: Graduation can be enlarged by a factor or 1, 2, 5 and 10. Data is displayed from the time when the specified display start time is reached. Display color: Red, yellow, green, blue, magenta, purple, cyan, or white	

Item			Descriptions		
Online operation functions	User Configuration Screen	Batch Trend Screen	The analog signals output from each function block's tag ITEMs can be collected at fixed intervals and stored automatically when a specified tag data condition is met. Past data can be superimposed on the chart.		
			Data collection	Stores 10 days or 4 hours of data for up to 960 tags sampled at 1-minute or 1-second intervals.	Data can be saved manually in CSV format by pressing a button, or it can be saved automatically in CSV format each time a batch is completed. Past data is saved automatically as binary data.
			Data display	Horizontal (time) axis: The time axis can be scrolled in the following time units. 1, 2, 4, 6, 8, 12, 24, 36, 48, or 72 hours 7 or 10 days Vertical (8-point common) axis: Scale can be enlarged by a factor or 1, 2, 5 or 10. Data is displayed from the time when the specified display start time is reached. Display color: Red, yellow, green, blue, magenta, purple, cyan, or white	
		Segment Program 2 Screen	Displays the PV trend for the settings in Segment Program 2 (Block Model 157). Segments can be set in table format while observing a time axis graph.		
			Data collection	Stores 3, 30, or 180 days of data sampled at 1, 10, or 60-second intervals.	Data can be saved manually in CSV format by pressing a button, or it can be saved automatically in CSV format each time a batch is completed. Past data is saved automatically as binary data.
			Data display	Horizontal (time) axis: The time axis can be scrolled in 2, 4, 8, 12, 24, or 72-hour time units. Vertical axis: Scale can be enlarged by a factor or 1, 2, 5 and 10. Data is displayed from the time when the specified display start time is reached. Display color: Yellow, blue, green, or violet	
		Graphic Screen	This screen displays changes in the plant status using graphic elements representing plant devices pasted to the screen from the graphic elements library. The maximum number of screens is 200. Graphics/graphic parts: Text, straight lines, rectangles, rectangles with rounded corners, ellipses, polygons, images Functional Objects Provided in Library •Fixed graphic elements provided in library: Text, instruments, thermometers, transmitters, orifices •Variable graphic elements provided in library: Analog display: Bar graph display, numeric indication, tanks Analog settings: Numeric settings Contact display: Pumps, valves, pipes Contact operation: Switches •Screen-displaying elements: Jump (screen jump) elements and FP switch (faceplate pop-up) elements •Individual Graphic Screens can be imported/exported as files. •Multiple graphic elements can be grouped and imported/exported as files.		
		Annunciator Screen	This screen notifies the operator of alarms or errors that occur by changing the display color and emitting sound. A message with two lines of 16 characters each is displayed on the screen at the same time. A total of 16 screen elements (4 columns x 4 lines) can be displayed on each screen. The maximum number of screens is 5.		
		Operation Guide Message Screen	This screen displays a pre-registered message with two lines of 64 characters each together with the date of occurrence when the specified internal switch is set to ON. Max. number of registerable messages: 1,000, Number of display colors: 16 Up to 1,000 messages are displayed in a single screen. Output possible in CSV format.		
	System Fixed Screen	Alarm Log Screen	A record of alarms (time of error occurrence, tag name, PV or MV current value at occurrence, alarm type, etc.) that occur and that are input from the Control and Alarm blocks is saved and displayed as a list later. Up to 1,000 alarm messages are displayed in a single screen. Output possible in CSV format.		
		Operation Log Screen	Operation logs of data elements and switches in Graphic Screens and a record of changes (date and time of operation, tag name, original ITEM data setting, new ITEM data setting, etc.) made to ITEM data on the Loop Control Unit/Board in the Control or Tuning Screen are saved and displayed as lists later. Up to 1,000 operation messages are displayed in a single screen. Output possible in CSV format.		
		System Monitor Screen	This screen displays the Loop Control Unit/Board system error information.		
		System Monitor Log Screen	This screen displays logs of the run/stop history and a history of execution errors that occur on the Loop Control Unit/Board together with the date and time of occurrence. Output possible in CSV format.		

■ Ordering Information

Product name	Specifications		Model number	Standards
CX-Process Monitor Plus	Monitoring software for loop control OS: Windows NT4.0, 2000, or XP	1 license	WS02-LCMC1-EV2	___
		3 licenses	WS02-LCMC1-EV2L03	

Note: The CX-Process Monitor Plus is not bundled in the CX-One Integrated Tool Package.

This catalog mainly provides information that is necessary for selecting suitable models, and does not contain precautions for correct use. Always read the precautions and other required information provided in product operation manuals before using the product.

● The application examples provided in this catalog are for reference only. Check functions and safety of the equipment before use.
● Never use the products for any application requiring special safety requirements, such as nuclear energy control systems, railroad systems, aviation systems, medical equipment, amusement machines, vehicles, safety equipment, or other application involving serious risk to life or property, without ensuring that the system as a whole has been designed to address the risks, and that the OMRON products are properly rated and installed for the intended use within the overall equipment or system.

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