



OPERATOR STATION Control Pack CP-519



The CP-519 EI Integrated Operator Station that Encapsulates All the Technology Required for Plant Structuring

It provides human-machine interface functions for easy plant monitoring, operation, and maintenance.



In recent years there has been a remarkable evolution of information technology, and computer technology using the Windows operating system, along with general-purpose communications technology including Ethernet, public networks and wireless LAN, have made it easy to achieve remote monitoring.

The CP-519 HMI for plant systems adopts a PC-based system configuration. It helps to improve the reliability of plants since it enables you to check the on-site status from a remote location by displaying the information in a web browser in a simple and easy-to-understand representation. With product offerings including hardware such as operation keyboards and UPS (uninterruptible power supply) units, and comprehensive technical support, it is a power aid to customers as they construct their plants.

CP-519 Features

Reliability

Standard electrical functions

Functions provided as standard include a fault monitoring/guidance function, a traceback function and a system monitoring function that covers servodrives and AC drives.

Operability

Standard instrumentation functions

An integrated engineering environment including on-screen standard instrumentation, and EWS CP-717, has been achieved with an instrumentation control system using the CP-3550 controller.

Flexibility

Suited to varied network configurations

Since CP-215 and Ethernet communications are featured as standard, the system can cope flexibly with a variety of network configurations.

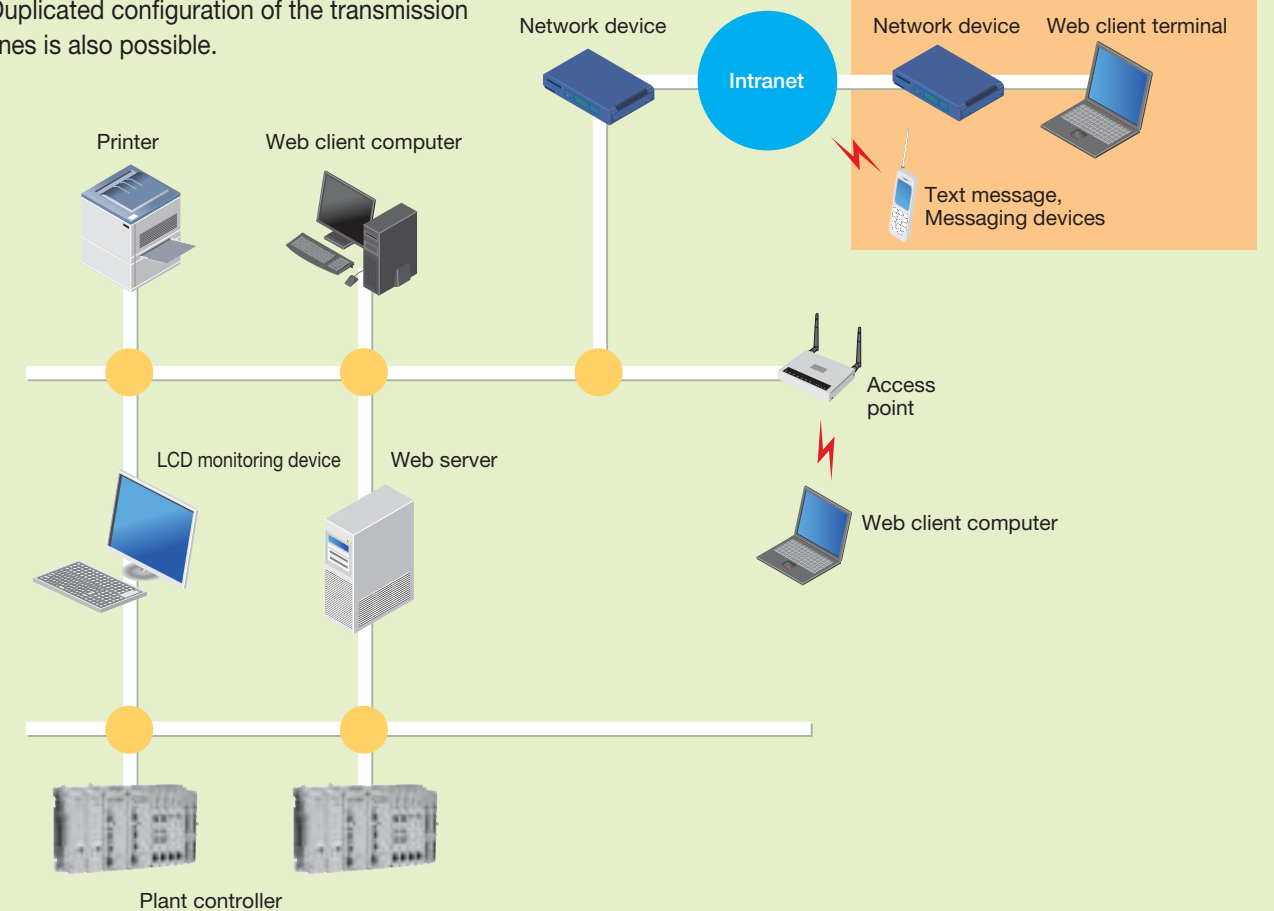
Maintainability

Supports maintenance using a network

A remote maintenance service and notification of alarms by e-mail are also available as options.

CP-519 System Configuration

By using a wide area network service you can configure the optimum monitoring and control system with excellent flexibility and expandability. Duplicated configuration of the transmission lines is also possible.



Functions

The standard HMI functions of the electric (E) control system of this EI integrated system include trend display, an alarm summary and an event history, allowing you to obtain the information you need with reliable timing. In addition, the standard HMI functions centering on the instruments that are the basic modules of the instrumentation (I) control system make it easy to monitor and tune instrumentation processes.

Graphics

The statuses of pieces of equipment are shown graphically. Operability is improved with convenient functions available on the screen.

Function 1

Latest alarm display

The most recent alarm is displayed here.

Function 2

Window-calling buttons

You can open the intended window just by pressing a button.

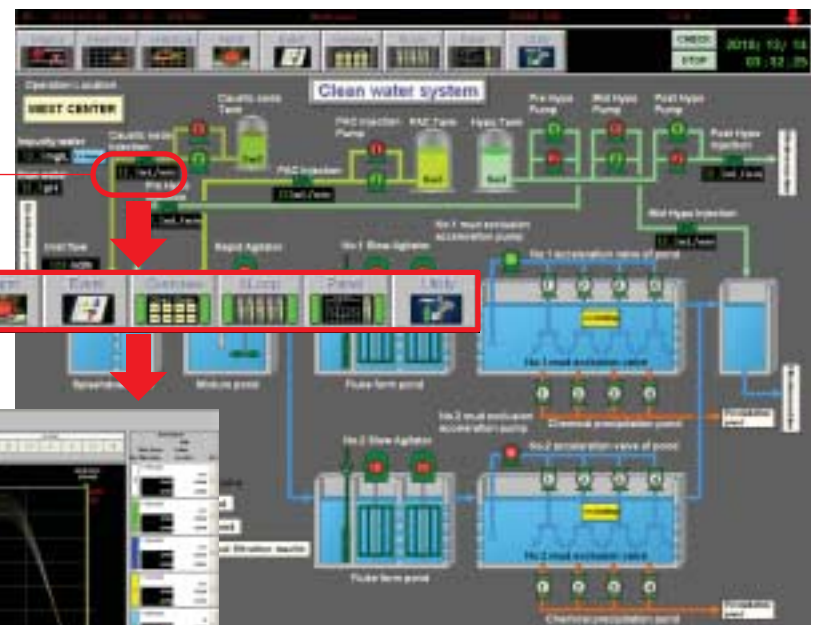
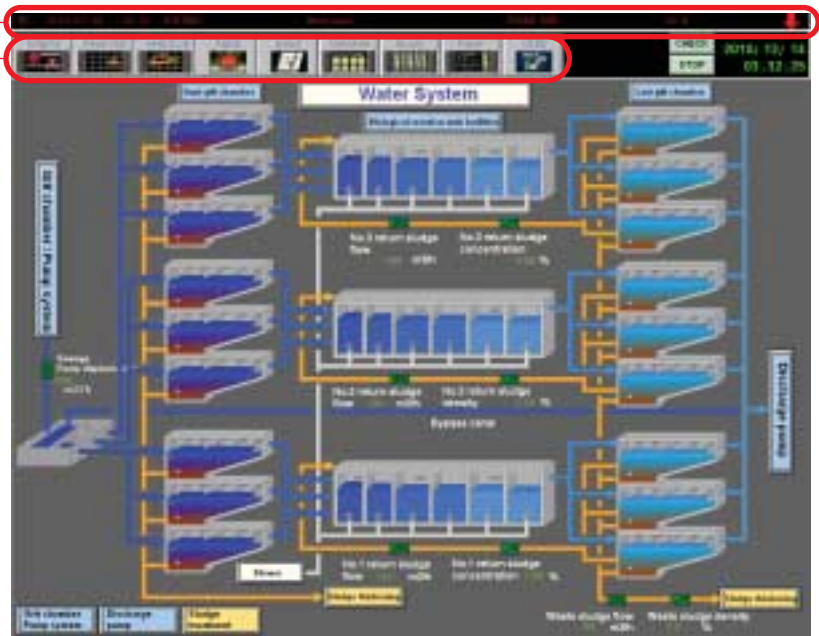
Function 3

Function for opening related windows

The relevant data can be viewed directly from here.

[Example of Operation]

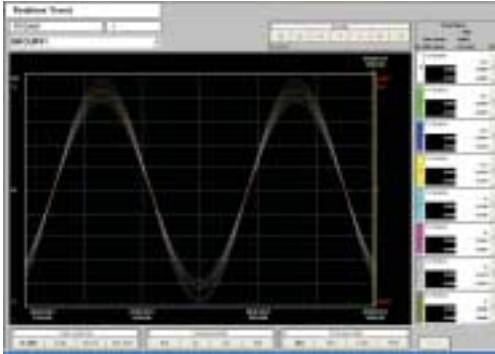
- (1) Click measurement.
- (2) The button that relates to that symbol is highlighted.
- (3) Press that button to view the relevant data.



Standard Electrical Functions

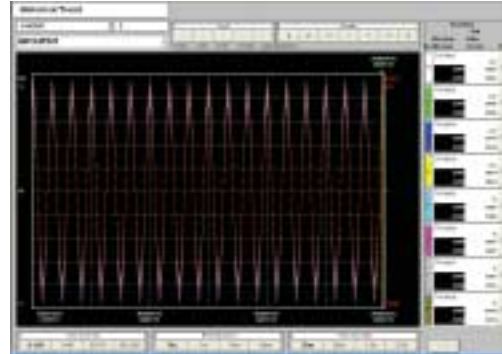
Real-time Trend

Plant data obtained in real time is shown in the form of graphs. The graph displays the trend for a shorter cycle than for the historical trend function.



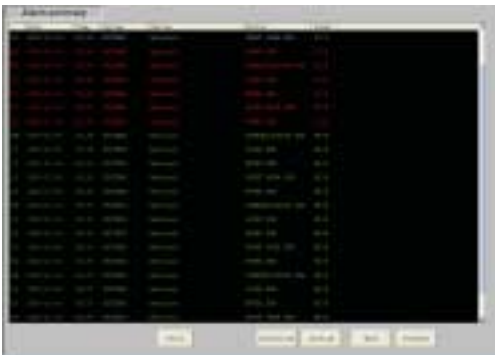
Historical Trend

Plant data obtained in the past is stored long term and displayed in the form of graphs. The data can be stored and retrieved using other media such as magneto optical disks.



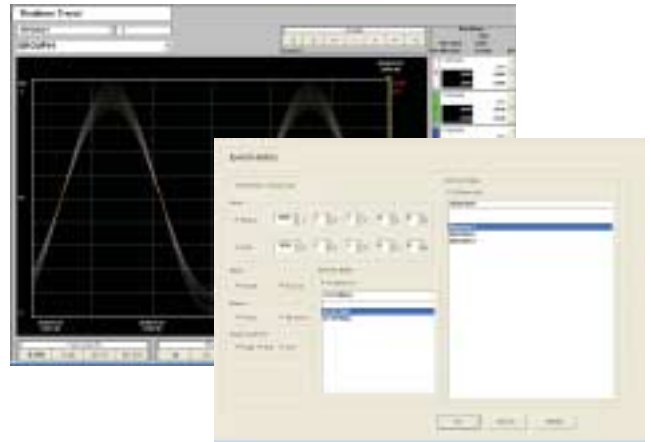
Alarm Summary

Current alarms are displayed in their order of occurrence. Easily confirm the date and time of occurrence, whether a fault is active or has been reset, and whether it has been confirmed or not.

A screenshot of a software interface showing an alarm summary table. The table has multiple columns, likely representing alarm ID, description, time, and status. The text is small and difficult to read, but the structure is clear.

Event History

The history of events and alarm messages is shown. A search function allows you to refine the displayed list based on the time of occurrence and piece of equipment.



Standard Instrumentation Functions

Group Status

The group settings for instrumentation and list of groups are displayed.

The status of upper and lower limit warnings, rate of variation errors and so on can be checked based on display colors.

A screenshot of a software interface showing a group status table. The table has multiple columns, likely representing group name, status, and other parameters. The text is small and difficult to read, but the structure is clear.

Instrument Group

Instrumentation panels for up to eight instruments are displayed in a list. This makes it easy to consider related instruments in comparison with each other. Measurement statuses, current values, operation output values and so on can be monitored for the individual instruments. You can open the instrumentation adjustment window from this window.

A screenshot of a software interface showing an instrument group table. The table has multiple columns, likely representing instrument name, current value, and other parameters. The text is small and difficult to read, but the structure is clear.

Instrumentation Adjustment Panel

This window shows the parameters, the real time trend graph, and the instrument panel for each instrument. It allows you to check the control status and to adjust the upper and lower limit settings and other parameters.



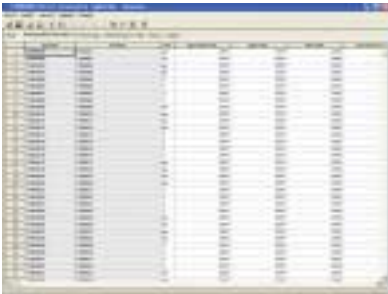
Simple Engineering

Database building using the exceptionally easy-to-operate builders in table formats, standard function definition by tag allocation and other functions, enables simple structuring of human-machine interface functions.

Electrical Builder Windows

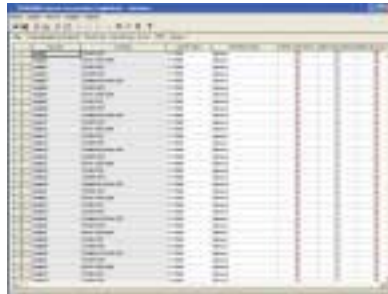
Main Builder

In this window the process data to be monitored or controlled with the CP-519 is registered as tags. For each of these you can define detailed information including associations with various standard functions, data addresses at the controller, units, and upper and lower limit values.



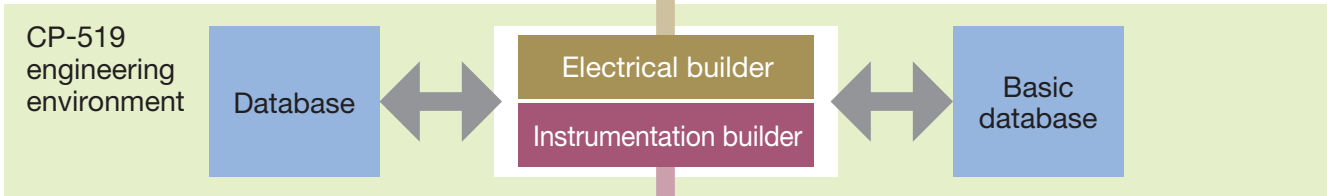
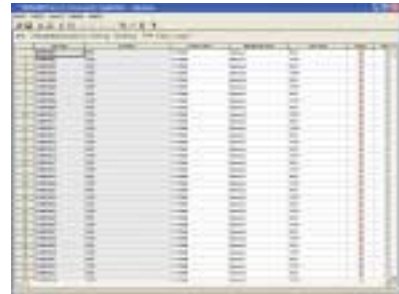
Alarm Builder

This window is used to register information on the process data that is to be monitored for error statuses such as device errors or faults and upper or lower limit errors in analog data. Detailed information such as the system name, mechanical name and fault name, along with the instruction for display in the alarm summary window and instruction to print on a printer, is defined for each individual alarm.



Event Builder

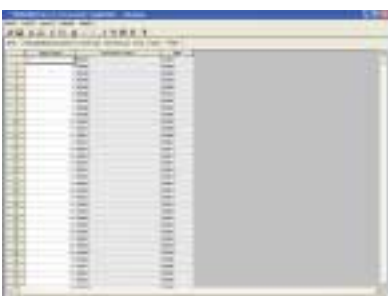
This window is used to register information on the process data for which various event statuses such as device operation statuses and mode switch statuses are to be monitored. Detailed information such as the system name, mechanical name and tact name, along with the instruction for display in the event history window and instruction to print on a printer, is defined for each individual event.



Instrumentation Builder Windows

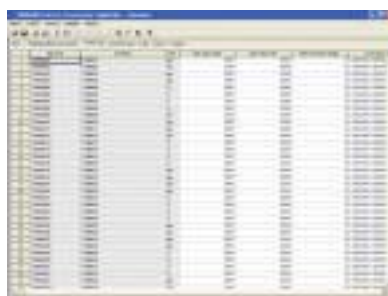
Instrument Builder

This window is used to define information such as the instrument code, instrument name, units, and upper and lower limits values that relates to the instruments that are the basic modules of the instrumentation control system.



Trend Builder

This window is used to register process data that is to be depicted in real time trend and historical trend graphs. By simply defining the units, upper and lower limit values for the display range and so on and registering the information as a trend group, the trend display window is automatically generated.



Trend Group Builder

This window is used to register up to eight trend tags as a single trend group. Trend groups can also be changed online.



Specifications

The high reliability required of an HMI unit for industrial applications has been achieved.

- 24-hour continuous operation using an industrial computer or a PC running Windows XP
- Comprehensive standard RAS functions including watchdog timers, temperature error detection, fan error detection and external contact outputs
- Backup of the data in the entire area of the hard disk in a magneto optical disk, and an offline maintenance function that enables failure analysis

Hardware

Items	Specifications	
Main Unit	Type	PC/AT compatible computer
	Processor	Pentium 4, 2 GHz or more recommended Operation System: Microsoft Windows XP
	Memory capacity	Main memory capacity of at least 512 MB recommended (expansion required when using optional functions, general-purpose software) Auxiliary memory capacity: 8 GB or more of free hard disk space recommended
Monitor	Resolution: 1,280 × 1,024 dots, Number of colors displayed: 65,535	
Keyboard	Standard keyboard: 106-key keyboard Operator keyboard: Function keys, flat type, dust-proofing measures	
Pointing devices	Mouse: 3-button optical type Touchscreen: Static capacitance type with resolution of 1,024 × 780	
Auxiliary disk	Magneto optical disk / SCSI	
Printer	Color laser printer for screenshots, color laser printer for documents, faults, and events	
Uninterruptible power supply unit	UPS	
Warning system	Digital inputs/outputs	

Software

Items	Specifications
Number of tags	Maximum of 100,000 (total for digital/analog inputs/outputs)
Tag names	Maximum of 16 alphanumeric characters
Tag comments	32 characters
Tag types	6 types
Types of warning	3 levels (serious, moderate, minor)
Basic functions	〈Graphic functions〉 · Numeric value and character display · Lines, circles, polygons · Bar graphs, buttons, sliders, external graphics · Pasting of simple graphs and external programs
	〈Script functions〉 · Operators: arithmetic calculations, relational operations, logical operations, bit calculations, 1-dimensional arrays · Intrinsic functions: Character string operations, time functions, numeric value calculations, data conversion, etc. · Intrinsic event functions: Start and termination events, timer events, etc.
Standard functions	Real Time Trend Display 〈Functions〉 · Number of pens: Maximum of 8 (colors can be set by user) · Sampling cycle: Maximum of 1 second · Recording time: 72 hours · Number of reference items: Maximum of 800 · Number of groups: Maximum of 200 〈Display format, etc.〉 · Display in group units with scooter display available · Frequency range: Use the Data Range buttons to change magnification online; value can be set as required · Range: Can be set as required
	Historical Trend Display 〈Functions〉 · Number of pens: Maximum of 8 (colors can be set by user) · Sampling frequency/recording time: 1 minute (24 hours) to 60 minutes (60 days) · Number of groups: Maximum of 200 (8 items per group) 〈Display format, etc.〉 · Display in group units with scooter display available · Frequency range: Use the Data Range buttons to change magnification; value can be set as required · Range: Can be set as required
	Common Area Display 〈Functions〉 Display of the latest alarms and operation events 〈Display〉 · Event display: 1 event
	Event History 〈Functions〉 · Alarm and event history display: Maximum of 10,000 events 〈Display〉 · Event display: 20 events per page Event Summary 〈Functions〉 · Alarm status display and confirmation operations: Maximum of 1,000 events · Guidance memo function 〈Display〉 · Alarm status display: 20 events per page
Options	Logging 〈Functions〉 Documentary functions: · Standard documents (daily report/monthly report/yearly report) · Special documents (daily report sheet) · Storage term: 2 years/5 years/10 years Logging function: · Collection cycle: 30 seconds to 24 hours · Collection time: Maximum of 60 days
Communications functions	· CP-215 (link transmission, message transmission) · CP-218 (10M/100M, message transmission)
Guidance function	Fault recovery assistance
System monitoring functions	Communications status, performance monitoring RAS functions: Watchdog timer time-up, internal temperature error, fan stoppage, bus error, etc.
Multiple MMI functions	Time adjustment, equalization
EWS functions	Ladder list, register list
Instrumentation functions	〈Functions〉 · Overview, 8 types of trend group, etc. · 800 panel pages · Collection cycle: 1 second to 10 minutes · Recording: 24 minutes (1 second) to 60 days (10 minutes) · Maximum number of instruments: 1000

Peripheral Devices

Various types of peripheral devices are available in order to support the different communications functions for interfacing among the controller, host computer and so on, and to achieve the optimum operation monitoring environment for the operator station.

Communications

CP-215
CP-218(Ethernet)

Operation

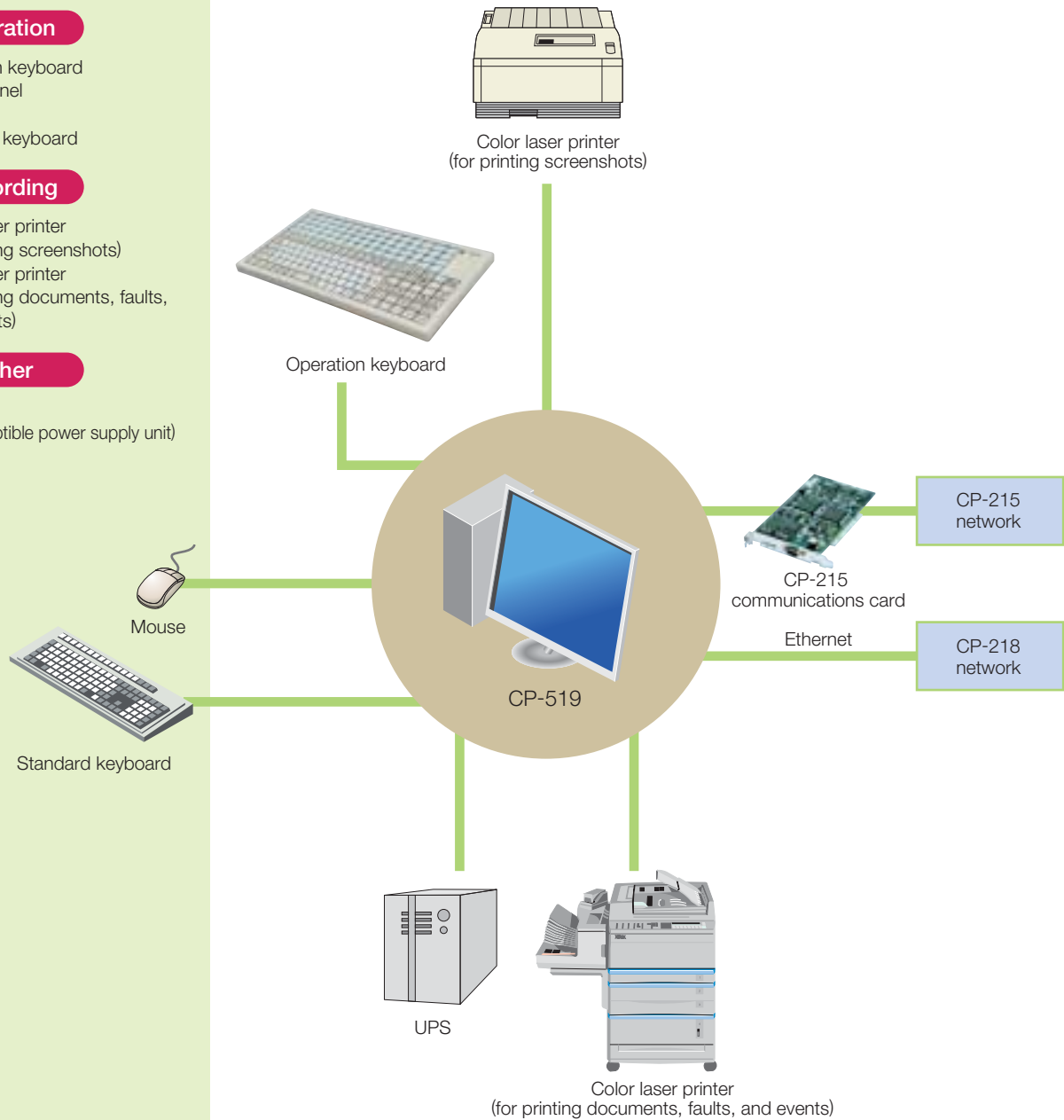
Operation keyboard
Touch panel
Mouse
Standard keyboard

Recording

Color laser printer
(for printing screenshots)
Color laser printer
(for printing documents, faults,
and events)

Other

UPS
(uninterruptible power supply unit)



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