YASKAWA

SYSTEM CONTROLLER

CONTROL PACK CP-3550

High Speed
Large Capacity
High Reliability

CP-3550

The CP-3550 Control Pack is a system controller that has enough capacity to provide centralized and integrated control for a large-scale plant. With its high performance, advanced functions, and easy handling, the CP-3550 can meet your requirements for high throughput, redundant system, and centralized control of sophisticated systems.

Flexibility

MF Modules to change how you think about making systems

- Up to 512k steps of program memory and a high-speed arithmetic processor.
- Four virtual CPUs in one Main Frame (MF) module. Each virtual CPU can be used independently as a controller. Also, a system with multiple MF modules improves processing speed and capacity.

Reliability

Latest technology to smoothly run your plant

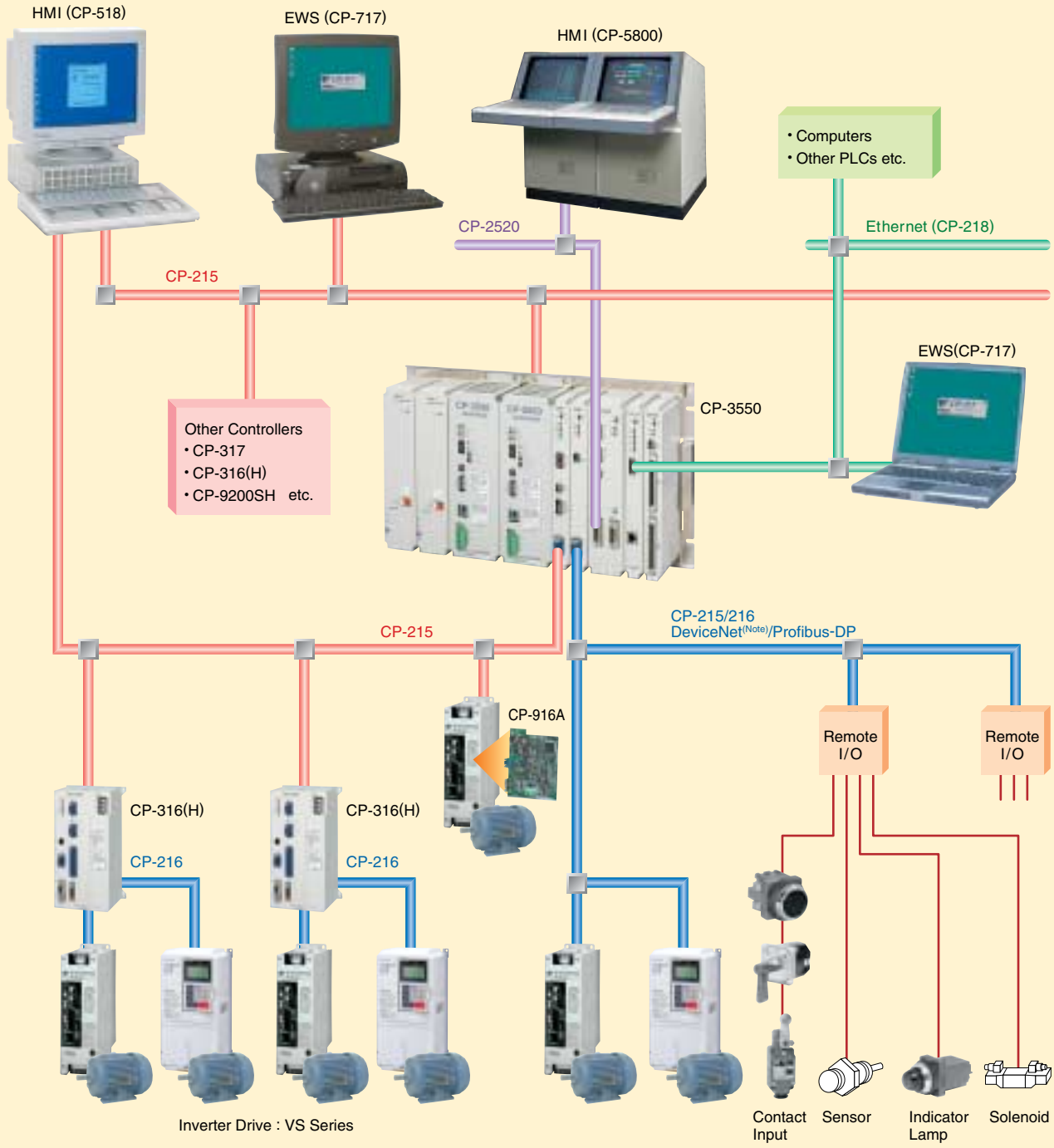
- A large-capacity FPGA is used for better self-diagnosis. Also, the battery back-up memory, with an Error Check and Correct (ECC) function, increases the reliability of the CP-3550.
- The dual-MF configuration allows non-stop operation.
  Even if an error occurs in one module, the other module continues the operation. The modules can be replaced while the power runs. Hot swapping of the modules is possible.

Operability

CP-717 EWS to increase operation and maintenance efficiency

- User-friendly support for everything from system design to maintenance even for sophisticated and complex configurations.
- Trace functions for large-capacity system to collect Reliability, Availability, and Serviceability (RAS) data from individual components and rapidly pinpoint the location of any faults.

System Configuration



Component Descriptions

■Network

CP-215:
A shared-memory N:N high-speed realtime network handling both cyclic and message transfers. Used primarily to interconnect controllers, HMI or EWS.

CP-2520(Vnet):
High-speed N:N realtime network handling both cyclic and message transfers.

CP-218:
Uses Ethernet*1protocol, primarily for connection with computers. Supports MEMOBUS, no-protocol, and MELSEC*2protocol connections.

CP-216:
1:N field network handling both cyclic and message transfers.

■Human-machine interface(HMI)

CP-518, CP-5800:
Windows-*3 based HMI designed for general-purpose PC plat-forms.

■Engineering workstation(EWS)

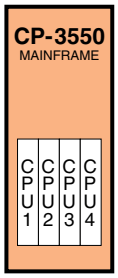
CP-717:
An engineering maintenance tool for controllers. From a single EWS, it is possible to access all controllers on the network.

Note: DeviceNet*4 interface is under development.
*1: Ethernet is a registered trademark of Xerox Corporation.
*2: MELSEC is a registered trademark of Mitsubishi Electric Corporation.
*3: Windows is a registered trademark of Microsoft Corporation.
*4: DeviceNet is a registered trademark of Open DeviceNet Vendors Association.

MF Modules to Change How You Think about Making Systems

Varied rack configuration

In the CP-3550, the program memory of an MF module is divided for a maximum of four virtual CPUs for the effective construction or reconstruction of your system. (The switches on the MF module can be used to select the number of virtual CPUs.)



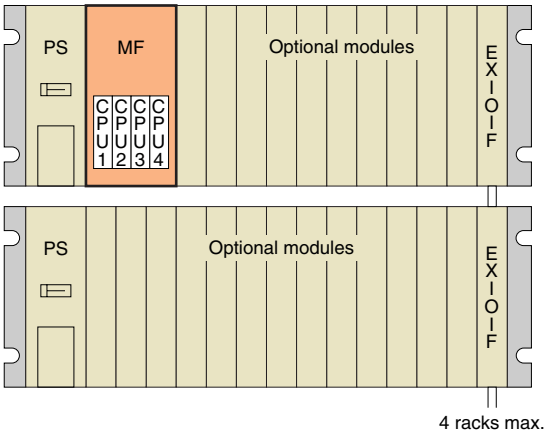
MF Module

Allocated program memory of virtual CPU
Four virtual CPUs: 128K steps/CPU
Three virtual CPUs: 170K steps/CPU
Two virtual CPUs: 256K steps/CPU
One virtual CPU: 512K steps/CPU

Single-MF configuration

One MF module on a mounting base

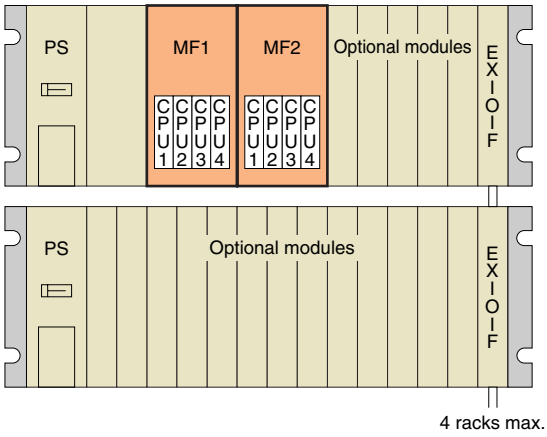
Each virtual CPU (4 CPUs max.) can be used independently as a controller in synchronous operation mode.
The data of each virtual CPU is transmitted through the shared memory (32K words).



Multi-MF configuration

Two MF modules on a mounting base for use with eight virtual CPUs

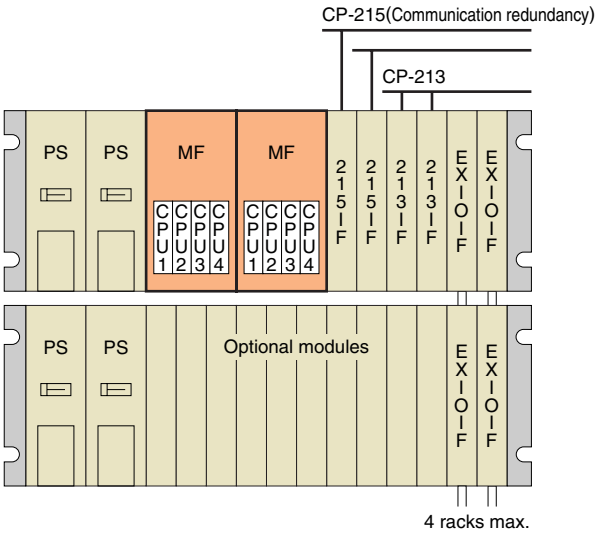
The multi-MF configuration is recommended for use with a large-scale system. Two MF modules can be operated in synchronous or asynchronous operation mode. The data between virtual CPUs or between MF modules is transmitted through the shared memory (32K words) just as in a single-MF configuration.



Dual-MF configuration

Two MF modules on a mounting base for duplicate operation of arithmetic modules

The dual-MF configuration can be used for applications that require high reliability. Two MF modules execute an arithmetic operation at the same time. Even If an error occurs in one module, the other module continues the operation (See page 5.).



System Expansion (Max. 4 racks)

Four racks can be used by mounting the expansion modules (EXIOIF) on the mounting bases for expansion. This allows flexibility when expanding the system.

Maximum number of modules that can be mounted

Module Name	Max. Number	Remarks
MF	2	
213IF, 215IF, 215IFQ, 216IF, 217IF, 218FXB, 218TXB, 2500IF, 2520IF, 2000IOIF, 820IF, 820IFR, 225IF, 261IFM, 262IF	8	Maximum total of 218FXB and 218TXB modules is 8.
LIO-01, CNTR-01, AI-01, AO-01, DI-01, DO-01	Unlimited	
EXIOIF	8	2 modules max. in one rack (Only for dual-MF configuration)

Latest Technology to Smoothly Run Your Plant

New technology to increase reliability

Yaskawa's most advanced technologies are concentrated in the CP-3550.

Enhanced reliability of data

One-bit and two-bit Error Check and Correct (ECC) functions are provided for the main memory.

Increased resistance to environmental conditions

The boards are vanished and gold-plated to resist corrosion.

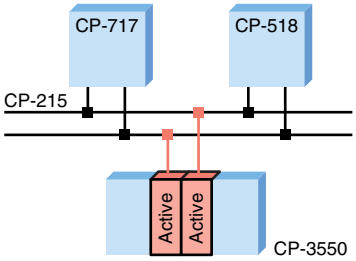
Improved reliability in dual-MF configuration

To enhance the self-diagnosis function, the CP-3550 includes clock error detection, task traffic jam detection, bus-access traffic jam detection, data parity check, and other functions.

Hot Swapping and Duplicate Operations of Modules and Communications

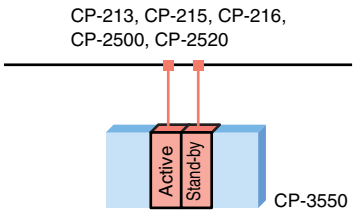
Most modules and transfer lines for communications can be used in fully duplicate configurations. The modules can be replaced while the power runs. Hot swapping of the modules is possible.

Module and communication redundancy



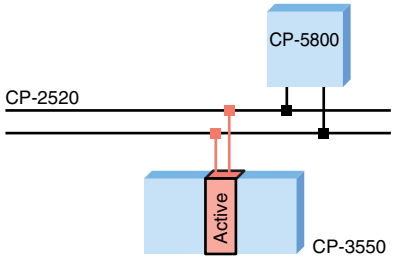
- Both modules handle communication.
- If one transmission path develops a fault, the data from the module connected to the fault-free path are valid.

Module redundancy



- The active module handles communication.
- In the event the active module fails, the stand-by module starts and takes over the processing.

Communication redundancy



- A single 2520 interface module can provide communication redundancy.

Exchange Online Module/Module Redundancy

○: Possible ×: Impossible

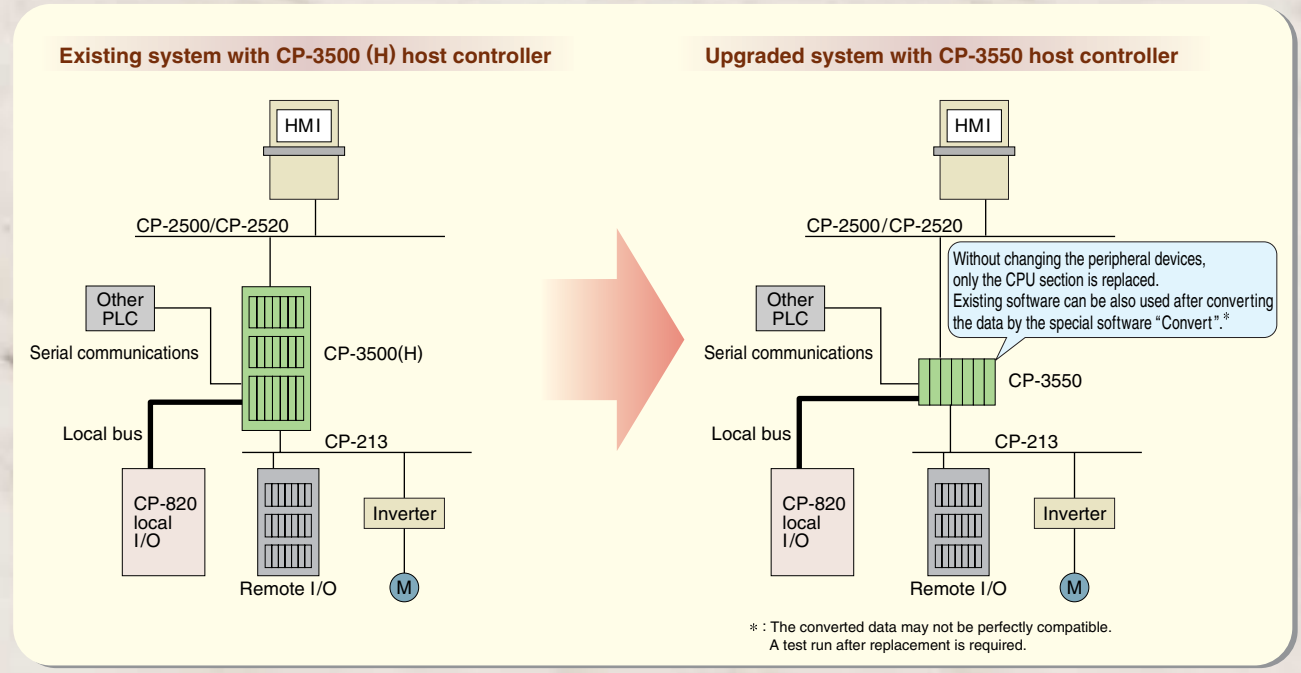
Module		Exchange Online Module	Redundant Module	Redundant Communication	Remarks
Power Supply	PS-01	○	○	—	100VAC/100VDC power supply module
	PS-02	○	○	—	200VAC power supply module
	PS-03	○	○	—	24VDC power supply module
MF	MF	○	○	—	MF module for CP-3550 single-, multi-, or dual-MF configurations
Option	213IF	○	○	×	CP-213 communication module
	215IF	○	○	○	CP-215 communication module
	215IFQ	○	○	○	CP-215 optical communication module
	216IF	○	○	×	CP-216 communication module
	217IF	○	×	×	CP-217 communication module (RS-232C/485)
	218FXB	○	○*1	○	CP-218 communication module (100M Ethernet optical)
	218TXB	○	○*1	○	CP-218 communication module (100M Ethernet electrical)
	2500IF	○	○	×	CP-2500 communication module
	2520IF	○	○	○	CP-2520 communication module (Vnet)
	225IF	○	×	—	CP-225 communication module
	260IF*2	○	×	×	CP-260 communication module (DeviceNet)
	261IFM	○	×	×	CP-261 communication module (Profibus-DP master)
	262IF	○	×	—	CP-262 communication module (FL-net 〈OPCN-2〉)
	2000IOIF	○	×	—	2000 series IOIF module
	820IFR	○	×	—	820IO connection module (with terminator)
	820IF	○	×	—	820IO connection module
	LIO-01	○	×	—	Local I/O (digital input / digital output) module
	DI-01	○	×	—	Local I/O (digital input) module
	DO-01	○	×	—	Local I/O (digital output) module
	AI-01	○	×	—	Local I/O (analog input) module
	AO-01	○	×	—	Local I/O (analog output) module
	CNTR-01	○	×	—	Local I/O (counter) module
	EXIOIF	○	○	—	Mounting base expansion module

*1 : Only module redundancy is not possible.
*2 : Under development.

Easily Adapted to Existing Systems

Because of its compatibility with Yaskawa's CP-3500 (H), the CP-3550 can be adapted to an existing system at minimal cost and lost time.

- The CP-3550's dual-MF configuration (two MF modules on a mounting base) has the same processing speed and program memory with the CP-3500 (H)'s dual-MF configuration (four CPU modules).
- The CPU configuration of the CP-3500 can be replaced with virtual CPUs (some of the instructions must be modified).
- Additional equipment can be easily introduced by adding the required programs to the reserved virtual CPUs.



Basic Specifications of the CP-3550 and CP-3500 (H)

Specifications		CP-3550	CP-3500 (H)
Processing speed		4 times higher than that of the CP-3500 (H)	1
Program memory		128K steps or equivalent / virtual CPU 3328K bytes / virtual CPU	64K steps or equivalent / CPU 1298K bytes / CPU
Scan cycle	High-speed scan	1 ms to 300 ms (Units: 0.1 ms)	5 ms to 300 ms (Units: 5 ms)
	Middle-speed scan	Not available	5 ms to 300 ms (units: 5 ms)
	Low-speed scan	1 ms to 300 ms (Units: 0.1 ms)	5 ms to 300 ms (units: 5 ms)
	Batch processing	Not available	At low-speed scan
Drawings and Functions	Start drawing (A)	64 drawings / virtual CPU	32 drawings
	Interrupt drawing (I)	64 drawings / virtual CPU	32 drawings
	High-speed drawing (H)	200 drawings / virtual CPU	100 drawings
	Middle-speed drawing (M)	—	200 drawings
	Low-speed drawing (L)	800 drawings / virtual CPU	500 drawings
	Batch drawing (B)	—	31 drawings
	Total number of drawings	800 drawings / virtual CPU	500 drawings
	Drawing hierarchy	3 hierarchies	
	Function	500 functions / virtual CPU	100 functions
	Number of steps	500 steps / drawing or function	
Registers	M (shared)	32K words / virtual CPU	26K words / CPU
	I (input)	32K words / virtual CPU	5K words / CPU
	O (output)	32K words / virtual CPU	5K words / CPU
	S (system)	1K words / virtual CPU	640K words / CPU
	C (constant)	16K words / virtual CPU	—
	D (unique)	16K words / drawing	
	# (constant)	16K words / drawing	
	I/O variable	Individual memory for input (I) register and output (O) register	Shared memory for input (I) register and output (O) register
	Constant data	With C register common to all drawings	No constant register common to all drawings
Data type	Bit	ON/OFF	
	Integer	−32768 to +32767	
	Double-length integer	−2147483648 to +2147483647	Not available
	Real number	$\pm(1.17 \times 10^{-38}$ to $3.40 \times 10^{38})$, 0	
Trace	Data trace	256K words / virtual CPU (32K words × 8 groups)	16K words / CPU (4084 words × 4 groups)
	Failure trace	Approx. 14K words / virtual CPU (5 words × 500 points for failure occurrence, and 8 words × 1500 points for restoration from failure)	Approx. 8K words / CPU (4 words × 450 points for failure occurrence, and 8 words × 756 points for restoration from failure)

Specifications			CP-3550	CP-3500 (H)
Dual CPU configuration			Synchronized parallel processing (Dual MF)	
Max. number of connectable racks (mounting bases)			CPU rack +3 expansion racks	IOP rack × 1
Multi-CPU configuration	Max. Number of CPUs		8 virtual CPUs (4 virtual CPUs × 2 MF modules)	16 CPUs (4 CPUs × 4 MF modules)
	Shared memory		Uses M register (32K words)	Uses M register (4K words)
	Operation mode		Synchronized scanning	
	Stop mode		Coordinated stop	
Shared memory	Shared memory within MF module		Arbitrary allocation from MW00000 to MW32767 (Synchronized scanning among CPUs 1 to 4)	Arbitrary allocation from MW00000 to MW26523 (Synchronized scanning among CPUs 1 to 4)
	Shared memory between MF modules		Arbitrary allocation from MW00000 to MW32767 (Asynchronized scanning between MFs 1 and 2)	Arbitrary allocation of 1K words for each MF (Asynchronized scanning among MFs 1 to 4)
Number of optional modules	Dual configuration	Standard rack	6 (MB-02)	8 modules can be mounted in an IOP rack.
		Expansion rack	12 (MB-02B)	
	Multiple configuration	Standard rack	11 or 8 (MB-01)	
		Expansion rack	14 (MB-01)	
Local I/O		Local I/O IF	820IF	NLBC
			2000IOIF	—
		Digital I/O	LIO-01	—
		Digital input	DI-01	—
		Digital output	DO-01	—
		Analog input	AI-01	—
		Analog output	AO-01	—
		Counter input	CNTR-01	—
Communications Interface		CP-240 transmission	—	N240IF
		CP-225 transmission	225IF	NHRBC
		CP-213 transmission	213IF	IOP-213IF
		CP-215 transmission	215IF	—
		CP-216 transmission	216IF	—
		Serial transmission	217IF	NASY
		Ethernet transmission	218IF	EIF (CP3500H only)
		FABUS-Ⅱ transmission	2500IF	IOP-FBⅡ IF
		Vnet transmission	2520IF	VIF (CP3500H only)
Power supply		100 VAC	PS-01	Built in the MF
		200 VAC	PS-02	—
		24 VDC	PS-03	—
External storage device			—	Hard disk unit

CP-717 EWS to Enhance Operation and Maintenance Efficiency

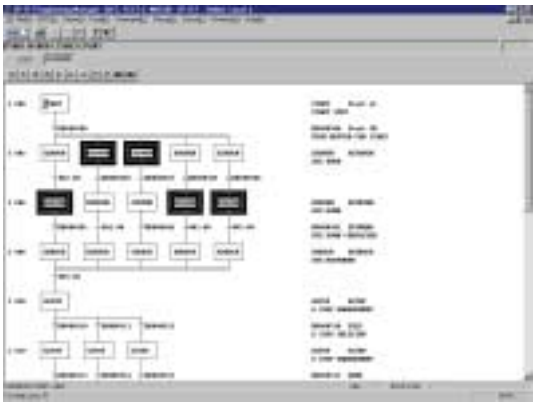
Desktop EWS CP-717
Connected through the high-speed CP-215 realtime network or Ethernet, using PC/AT compatible hardware.

Laptop EWS CP-717
Connects through an RS-232C interface, using a portable notebook PC/AT-compatible computer.

Programming performs resources of past CP programming

Programming is easy with relay symbol sequence circuits and operation circuit ladder programming, and sequential function chart (SFC) programming.

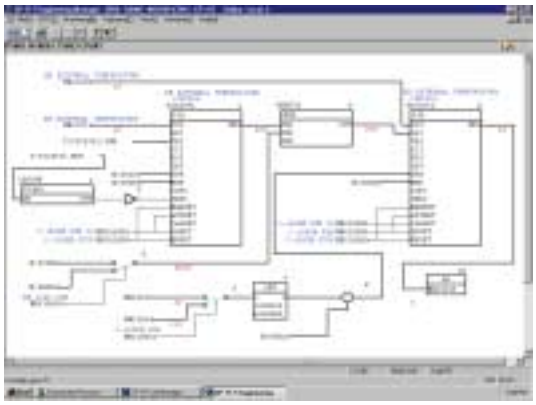
▲ Ladder program



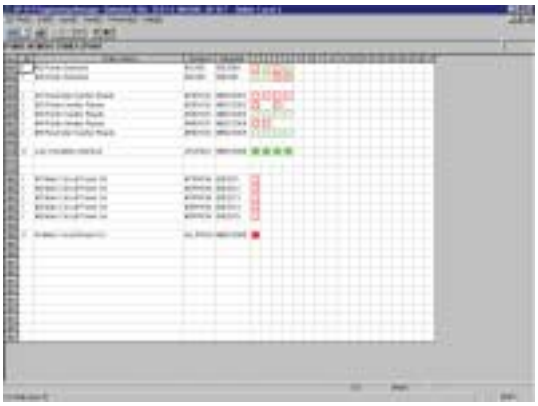
▲ SFC

Visual programming

Predictive visual programming, such as function block diagrams (FBD) and chart type programming, enhances coding efficiency. The online monitoring function in the programming window provides easy-to-understand, realtime monitoring performance. A single FBD can handle seamless coding for both electrical control and instrumentation.



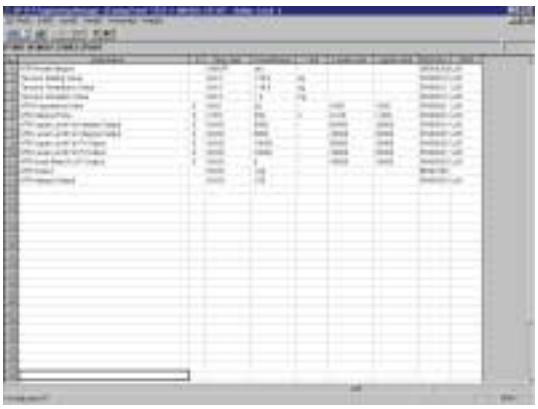
▲ Electrical control block diagram



▲ Interlock list

Simple parameter set and update

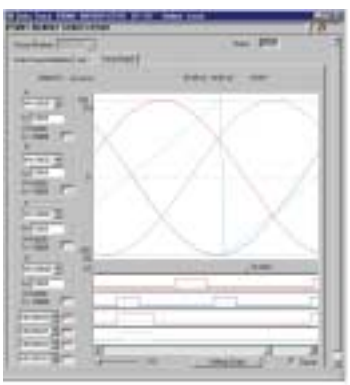
Control parameters can be set directly from the adjustment panel without programming.



▲ Adjustment panel

Data trace

Set the data to be analyzed in the trace data definition screen to call up, list or graphically any data items.



Specifications

General Specifications

The general specifications are the specifications for the power supply and the environmental conditions for the use and installation of the CP-3550.The following specifications are applicable excluding exceptional circumstances.Please install the CP-3550 in an environment that meets the following conditions for use.
If the CP-3550 is used in an environment where it may be exposed to corrosive gases, contact your YASKAWA representative for details.

Items			Specifications
Power Supply			
	PS-01 Power Supply Module		
		Rated Voltage	100VAC/100VDC
		Allowable Voltage Range 100VAC	Rated voltage 100VAC/115VAC ±15% (85VAC to 132VAC)
		Allowable Frequency Range 100VAC	47Hz to 440Hz
		Allowable Voltage Range 100VDC	Rated voltage 100VDC −10%, +40% (90VDC to 140VDC)
	PS-02 Power Supply Module		
		Rated Voltage	200VAC
		Allowable Voltage Range 200VAC	Rated voltage 200VAC/230VAC ±15% (170VAC to 264VAC)
		Allowable Frequency Range 200VAC	47Hz to 440Hz
	PS-03 Power Supply Module		
		Rated Voltage	24VDC
		Allowable Voltage Range 24VDC	Rated voltage 24VDC ±20% (19.2VDC to 28.8VDC)
	Common	Allowable Momentary Power Loss	10ms or less
		Power Consumption	150W or less
		Insulation Resistance	5MΩ or more at 500VDC application across each external terminal and the grounding
Environmental Conditions			
	Operating Temperature		0 to 55°C, average temperature for 24 hours: 50°C or less (below the CP-3550)
	Storage Temperature		−25 to +85°C (data backup not garanteed)
	Operating Relative Humidity		5 to 95%RH (non-condensing)
	Corrosive Gas		No corrosive gasses
Mechanical Operating Conditions			
	Vibration Resistance		In compliance with JIS* B 3502 Frequency range: 10≤f≤57Hz, constant amplitude vibration, half-amplitude: 0.075mm 57≤f≤150Hz, constant accel. vibration, acceleration: 9.8m/s² (1.0G) Apply vibration two hours in each of 3 orthogonal axial directions.
	Shock Resistance		In compliance with JIS* B 3502 Peak acceleration: 147m/s² (15G), application time: 11ms Apply vibration two hours in each of the 3 orthogonal axial directions.
Electrical Operating Conditions			
	Noise Resistance		In compliance with JIS* B 3502 First transient/burst noise: 2kV (power supply line only) Damped oscillation noise: 1kV (power supply line only)
	Resistant to Electric Discharge		In compliance with JIS* B 3502 Apply ESD of 1, 8kV ten times by contact discharge method
Grounding			Protective ground: 100Ω or less
Cooling Method			Natural Cooling

* : Japanese Industrial Standard

Performance and Function Specifications

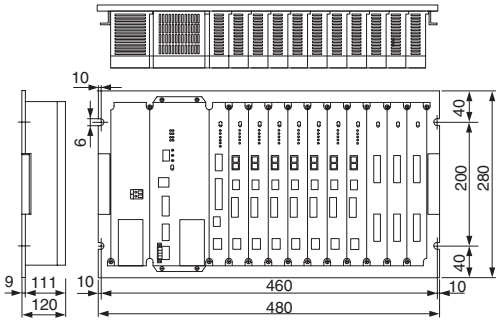
Items		Specifications	
CPU		32-bit general-purpose processor	
Main Memory			
	Program Memory	Equivalent to 512K steps	Memory retained a year or more by battery back-up * : In common with program memory.
	Data Memory (For one CPU)	32768 words: data (M) register 1024 words: system (S) register 32768 words: input (I) register 32768 words: output (O) register 16384 words: common constants (C) register 16384 words/DWG: DWG (D) register* 16384 words/DWG: constants (#) register*	
	Trace Memory (For one CPU)	32K words x 8: data trace, 16 points defined* 32K words: fault trace, 500 items defined*	
Program Execution Control Method		Constant-period scanning method: 2 levels (high speed, low speed) High speed scan time setting: 1 to 300ms (in units of 0.1ms) Low speed scan time setting: 1 to 300ms (in units of 0.1ms)	
User Defined Drawings/Functions (For one CPU)		Starting drawing (DWG.A) : 64 drawings max., up to 3 hierarchical drawing levels High-speed scanning drawings (DWG.H) : 200 drawings max., up to 3 hierarchical drawing levels Low-speed scanning drawings (DWG.L) : 800 drawings max., up to 3 hierarchical drawing levels Interruption process drawings (DWG.I) : 64 drawings max., up to 3 hierarchical drawing levels User functions : 500 functions max. Number of steps : 500 steps max. / drawing Drawing modification record, Secret function for each drawing (attribution setting possible), Adjusting screen	
Instructions		Program control : 14 types Numerical operation : 16 types Basic function : 10 types Direct I/O : 2 types Numerical conversion : 9 types DDC : 13 types Relay circuit : 14 types Numerical comparison : 7 types SFC : 8 types Logic operation : 3 types Data transfer : 26 types System function : 12 types Total: 134 types	
Operating Speed		Relay instruction: 0.05μs, Multiplication/division instruction: 0.1 to 0.3μs (at integer operation) Addition/subtraction instruction: 0.1μs (at integer operation)	
Data Type		Bit (relay) : ON/OFF Integer : −32768 to +32767 (8000H to 7FFFH) Double-length integer : −2147483648 to +2147483647 (80000000H to 7FFFFFFFH) Real number : ±(1.17 x 10^{-38} to 3.40 x 10^{38}), 0	

Product Lists

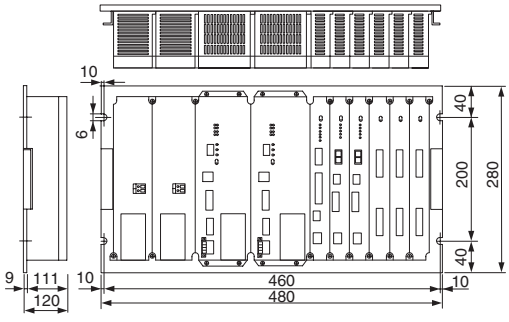
	Item		Code No.	Specifications
Module	MF		87355-3100x-S010y	MF module for single-, multi-, or dual-MF configuration
	Power Supply	PS-01	87317-1200x	For 100VAC/100VDC
		PS-02	87317-1210x	For 200VAC
		PS-03	87317-1220x	For 24VDC
	Communication	213IF (CP-213)	87317-2130x-S011y	Register input : 512 words (First 496 words for input, 16 words rests for system) Register output: 512 words (First 496 words for input, 16 words rests for system) Message transmission: Special protocol
		215IF (CP-215, Electrical)	87317-2150x-S011y	Register input : 2048 words Register output: 512 words max. Message transmission: MEMOBUS protocol/no protocol
		215IFQ (CP-215, Optical)	87317-2151x-S011y	Register input : 2048 words Register output: 512 words max. Message transmission: MEMOBUS protocol/no protocol
		216IF (CP-216)	87317-2160x-S020y	Register input/output : 1024 words Message transmission: MEMOBUS protocol/no protocol
		217IF (RS-232C/485)	87317-2170x-S011y	Message transmission: MEMOBUS/MELSEC/OMRON/no protocol
		218FXB (100M Ethernet, Optical)	87317-2184x-S020y	Message transmission: MEMOBUS/MELSEC/OMRON/no protocol
		218TXB (100M Ethernet, Electrical)	87317-2183x-S020y	Message transmission: MEMOBUS/MELSEC/OMRON/no protocol
		2500IF (CP-2500)	87317-2500x-S011y	Register input: 1024 words Register output: 258 words max. Message transmission: MEMOBUS protocol/no protocol
		2520IF (Vnet)	87317-2520x-S011y	Register input: 1024 words Register output: 1000 words max. Message transmission: MEMOBUS protocol/no protocol
		225IF (CP-225)	87317-2250x-S010y	Register input/output: 1024 words
		260IF (DeviceNet)*	87317-2600x-S020y	Register input/output: 1024 words max. Message transmission: Max. 256 bytes
		261IFM (Profibus-DP master)	87317-2610x-S010y	Register input/output: 2048 words max. Message transmission: Not available
		262IF (FL-net 〈OPCN-2〉)	87317-2620x-S010y	Register input/output: 8192 bits + 8192 words max. Message transmission: Max. 1024 bytes
	I/O LIO-01		87317-8000x	Local I/O module DI: 32 points DO: 32 points
	Input DI-01		87317-8010x	Digital input module DI: 64 points
	Output DO-01		87317-8020x	Digital ouput module DO: 64 points
	Input CNTR-01		87317-8050x-S010y	Counter input module PI: 4 points
	Input AI-01		87317-8030x	Analog input module AI: 8 points
	Output AO-01		87317-8040x	Analog output module AO: 4 points
	Expansion EXIOIF		87317-9000x	Mounting base expansion module
	2000IO Expansion 2000IOIF		87317-9010x-S010y	IF module for connecting 2000IO
	820IO Expansion 820IFR		87317-9020x	IF module for connecting 820IO (with terminator)
	820IO Expansion 820IF		87317-9021x	IF module for connecting 820IO
Mounting Base	Mounting Base	CP-3550/MB-01	87355-1100x	Long mounting base for single-MF configuration
		CP-3550/MB-02	87355-1200x	Long mounting base for multi- or dual-MF configuration
		MB-01	87317-1100x	Long mounting base for single or multi configuration (For expansion)
		MB-02B	87317-1111x	Long mounting base for dual configuration (For expansion)
Cable	Mounting Base Extension Cable	WRMW41032-1	87317-13001	(0.5m) EXIO extension cable
		WRMW41032-2	87317-13101	(1.0m) EXIO extension cable
	2000 I/O Extension Cable	JZMSZ-W20-1	YCN500001	(0.5m) 2000 I/O extension cable] for horizontal mounting
		JZMSZ-W20-2	YCN500002	(1.5m) 2000 I/O extension cable]
		–	87317-13200	(0.5m) 2000 I/O extension cable] for vertical mounting
		–	87317-13300	(1.5m) 2000 I/O extension cable]

* : Under development

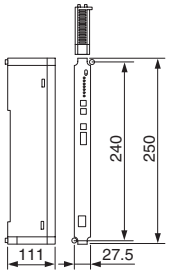
Dimensions Units : mm



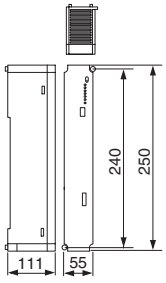
CP-3550 (CP-3550/MB-01 Mounting Base)



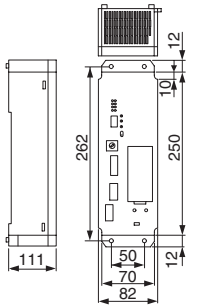
CP-3550 (CP-3550/MB-02 Mounting Base)



1-slot Width Module



2-slot Witdth Module



3-slot Witdth Module

CONTROL PACK CP-3550

TOKYO OFFICE
New Pier Takeshiba South Tower, 1-16-1, Kaigan, Minatoku, Tokyo 105-6891 Japan
Phone 81-3-5402-4502 Fax 81-3-5402-4580
http://www.yaskawa.co.jp

YASKAWA AMERICA, INC.
2121 Norman Drive South, Waukegan, IL 60085, U.S.A.
Phone (800) YASKAWA (800-927-5292) or 1-847-887-7000 Fax 1-847-887-7310
http://www.yaskawa.com

YASKAWA ELÉTRICO DO BRASIL LTDA.
Avenida Fagundes Filho, 620 São Paulo-SP CEP 04304-000, Brazil
Phone 55-11-3585-1100 Fax 55-11-5581-8795
http://www.yaskawa.com.br

YASKAWA ELECTRIC KOREA CORPORATION
9F, Kyobo Securities Bldg., 26-4, Yeouido-dong, Yeongdeungpo-gu, Seoul 150-737, Korea
Phone 82-2-784-7844 Fax 82-2-784-8495
http://www.yaskawa.co.kr

YASKAWA ELECTRIC (SINGAPORE) PTE. LTD.
151 Lorong Chuan, #04-01, New Tech Park 556741, Singapore
Phone 65-6282-3003 Fax 65-6289-3003
http://www.yaskawa.com.sg

YASKAWA ELECTRIC (CHINA) CO., LTD.
12F, Carlton Bldg., No.21 HuangHe Road, HuangPu District, Shanghai 200003, China
Phone 86-21-5385-2200 Fax 86-21-5385-3299
http://www.yaskawa.com.cn

YATEC ENGINEERING CORPORATION
No.34,Sihyuan Rd.,Sinjhuang City, Taipei Country 242, Taiwan
Phone 886-2-6635-7030 Fax 886-2-6635-7010

YASKAWA ELECTRIC CORPORATION

In the event that the end user of this product is to be the military and said product is to be employed in any weapons systems or the manufacture thereof, the export will fall under the relevant regulations as stipulated in the Foreign Exchange and Foreign Trade Regulations. Therefore, be sure to follow all procedures and submit all relevant documentation according to any and all rules, regulations and laws that may apply.

Specifications are subject to change without notice
for ongoing product modifications and improvements.

LITERATURE NO. KAEP C870355 00C
Published in Japan April 2012 03-12 ◇3-0
12-3-21-A