OMRON

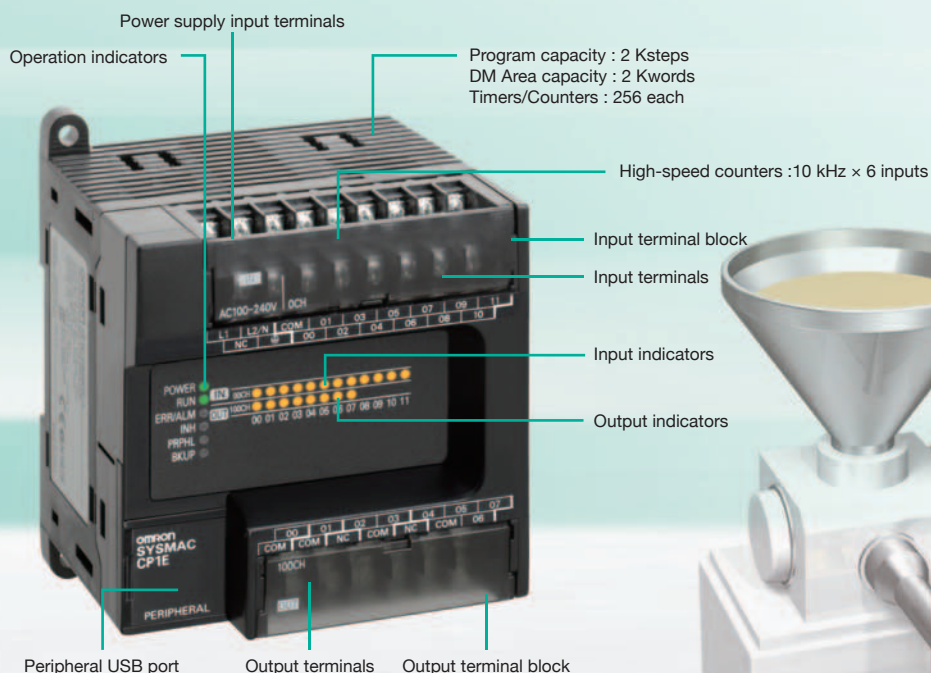# CP1E

Cost-effective CP1E with Enhanced Expandability for Analog and Temperature Control

» Easy to use

» Economical

» Efficient

reali**zing**

Cost-Effective, Easy Application, Application to Many Systems

Power supply input terminals

Operation indicators

Program capacity : 2 Ksteps
DM Area capacity : 2 Kwords
Timers/Counters : 256 each

High-speed counters :10 kHz × 6 inputs

Input terminal block

Input terminals

Input indicators

Output indicators

Peripheral USB port

Output terminals

Output terminal block

Easy to use

Support Software with "Smart Input" intuitive operation.
USB port provides.
Support Software can be connected using commercially available USB cables.

E□□S-type

The Basic Models provide cost performance and easy application.

Expanded capabilities to control analog I/O and temperature at minimum cost

NEW

NEW
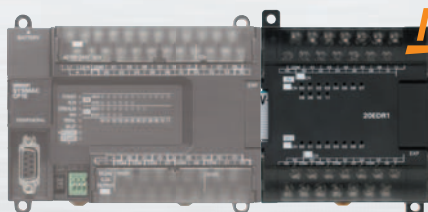
Analog I/O Units
Up to 8 analog I/O per Unit, high resolution of 1/12,000

Temperature Sensor Units
Multi-inputs: thermocouple and analog inputs, up to 12 thermocouple inputs per Unit

Analog Option Board
Note: Can be mounted to the CP1E-N□□ only.

Economical

Exceptional Cost

Responding to Global Competition with More Device Control Possibilities
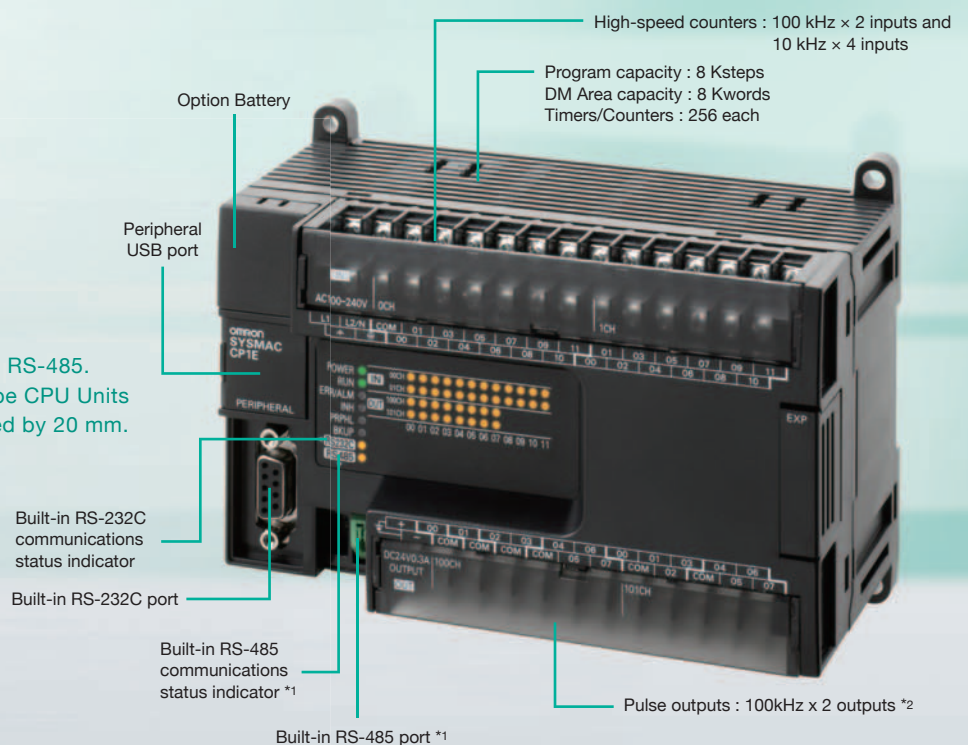
The CP1E provide high cost performance to further reduce costs by allowing you to select the optimal CPU Unit from the E□□S-type Basic Models or N/□□S(1)-type Application Models.

Economical

| Exceptional Cost.
| Optimal cost with a selection of two types of CP1E CPU Units.

Efficient

| Lineup including CPU Units with built-in three ports: USB, RS-232C, RS-485.
| The depth of the CP1E-N□□S(1)-type CPU Units with RS-232C connectors is reduced by 20 mm.

High-speed counters : 100 kHz × 2 inputs and 10 kHz × 4 inputs

Program capacity : 8 Ksteps
DM Area capacity : 8 Kwords
Timers/Counters : 256 each

Option Battery

Peripheral USB port

Built-in RS-232C communications status indicator

Built-in RS-232C port

Built-in RS-485 communications status indicator *1

Built-in RS-485 port *1

Pulse outputs : 100kHz x 2 outputs *2

*1. N□□S1-type only.
*2. Models with transistor outputs.

N□□S(1)-type

Compatible with small Programmable Terminals and inverter-controlled position control.

Simple and User Friendly

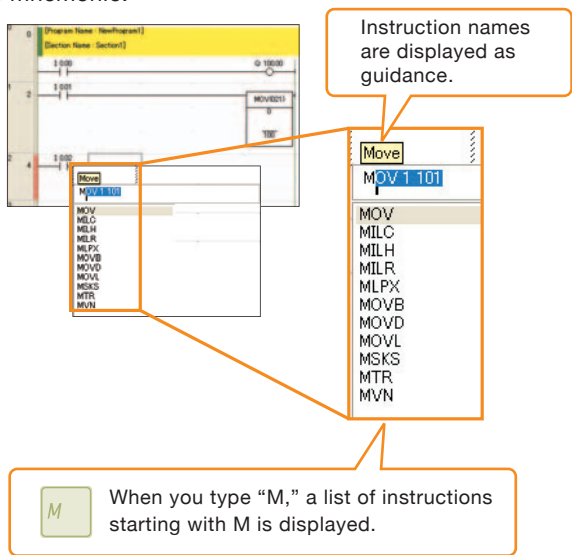## ▌Easy to use input editor with smart input function

When you begin typing an instruction from the keyboard in Ladder Editor Mode, suggested instructions are displayed and the addresses are automatically entered. Connecting lines are added automatically based on the cursor position, enabling intuitive ladder programming.
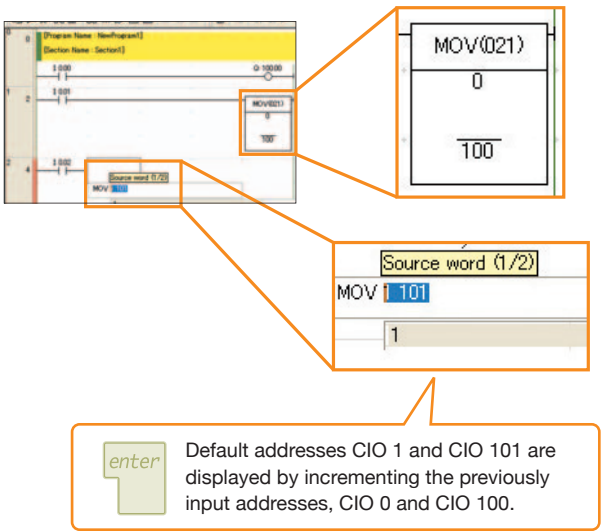
Easy Input Editor

Instruction and Address Input Assist Functions

When you begin typing an instruction from the keyboard while in the Ladder Editor Window, suggested instructions are displayed. All you have to do is select the instruction from the list for easy input even if you do not remember the entire mnemonic.

Instruction names are displayed as guidance.

M When you type "M," a list of instructions starting with M is displayed.
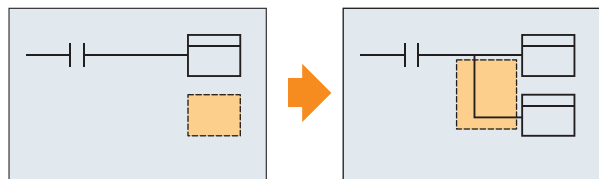
Address Incrementing

The address of the next operand, including input bits and output bits, is incremented by one and displayed as the default. This enables easily inputting consecutive addresses.

enter Default addresses CIO 1 and CIO 101 are displayed by incrementing the previously input addresses, CIO 0 and CIO 100.

User-friendly Ladder Program Input

Automatic Connecting Line Insertion

With the automatic connecting line insertion function the necessary connection is added automatically based on the curser position.

When an instruction is input at the curser, a connecting line is automatically inserted.

Automatic Column Insertion When Inserting Instructions

The column is automatically inserted when an instruction is added even if the curser is above another instruction.


When an instruction is input at the curser, a column is automatically inserted for the instruction.
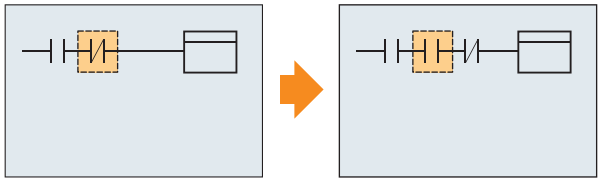
Intuitive control with "Smart Input."

Easy to reuse ladder programming

### Copying with Address Incrementing

To create the same group of ladder instructions more than once with the address addition copy function, the instructions can be reused simply by inputting an address offset.

Offset set to 5 bits …
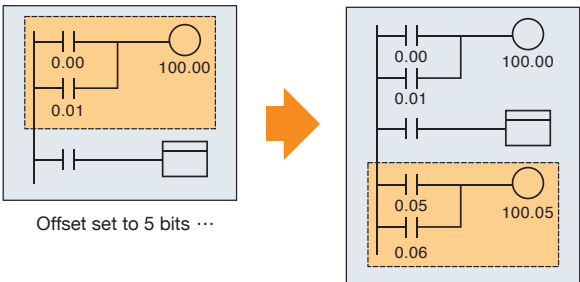
## Intuitive Menu Structure

Intuitive Menu Display

An intuitively designed menu structure makes it easy to see the overall system simply by looking at the menu for smooth operation without referring to a manual.

The function required for process is grouping.
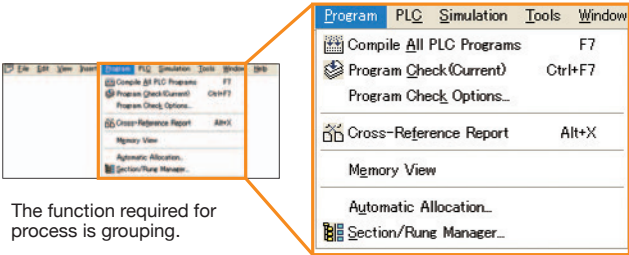
▊ Only commercially available USB cables required

All Models

All CP1E CPU Units use high-speed USB for the peripheral port. Support software (computers) can be connected using commercially available USB cables. Without the need for USB conversion cables or special cables, connection is easier and cable cost is low.

Support Software

Commercially available USB cable
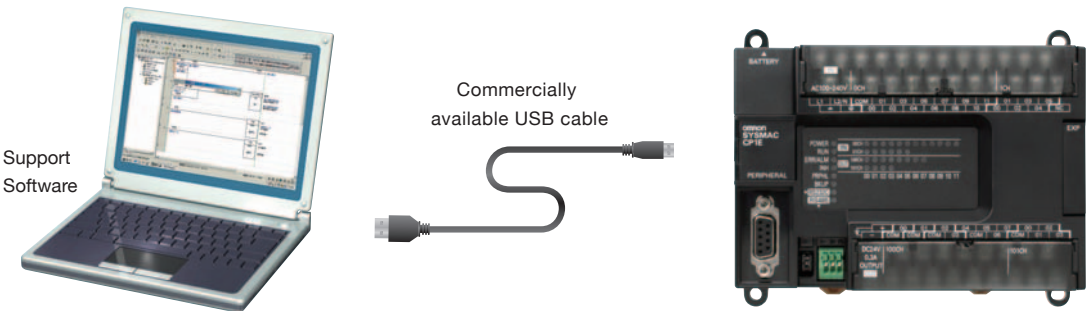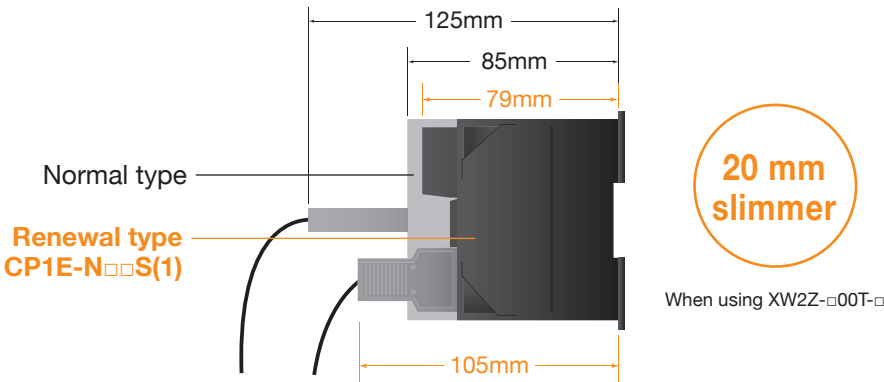
▊ The depth of CPU Units with RS-232C connectors is reduced by 20 mm

Renewal type

6 mm slimmer than the normal type.

125mm
85mm
79mm

Normal type

Renewal type CP1E-N□□S(1)

20 mm slimmer

When using XW2Z-□00T-□

105mm

5

Efficient and Effective

▌More Applications with AdvancedControl Capabilities and Functionality

Application Models

The Application Models (CP1E-N□□ /N□□S(1)) are equipped with high-speed counters, pulse outputs, and a built-in serial port(s).
In addition, using the Expansion Unit and Option Board, you can control a wide range of devices.
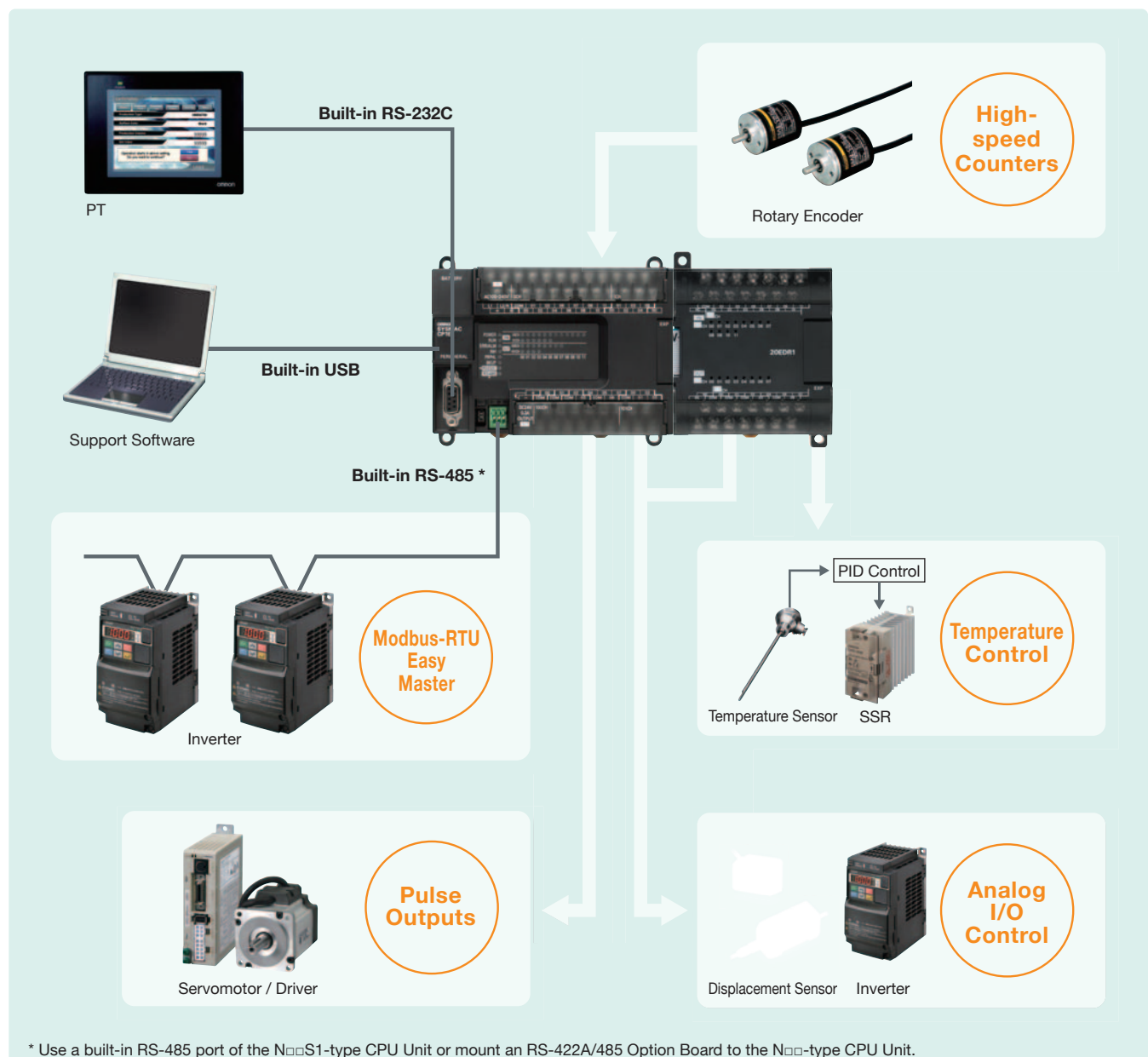
Built-in RS-232C

PT

High-speed Counters

Rotary Encoder

Built-in USB

Support Software

Built-in RS-485 *

Modbus-RTU Easy Master

Inverter

PID Control

Temperature Control

Temperature Sensor   SSR

Pulse Outputs

Servomotor / Driver

Analog I/O Control

Displacement Sensor   Inverter

* Use a built-in RS-485 port of the N□□S1-type CPU Unit or mount an RS-422A/485 Option Board to the N□□-type CPU Unit.

Flexibly handle even small-scale systems. Various Option Units available for increased expandability.

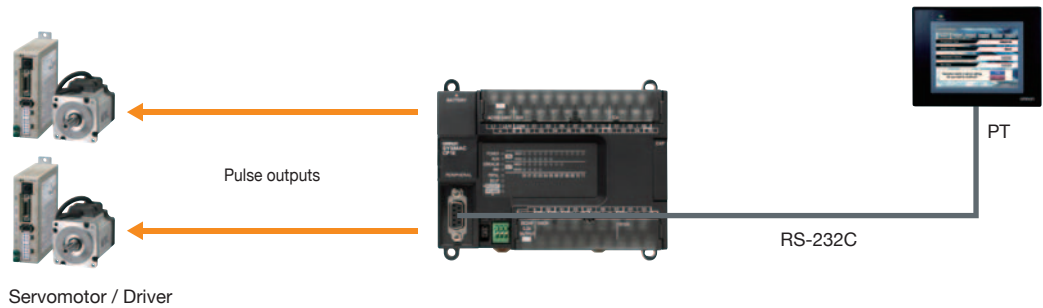## Pulse Outputs

Models with transistor Output

Two 100kHz pulse outputs for high-precision position control.

Pulse outputs

Servomotor / Driver

PT

RS-232C

High-speed Counters*

Control multiple axes with one PLC using the two 100kHz and four 10kHz, single-phase high-speed counters.

* The Basic Models are equipped with six 10kHz, single-phase high-speed counters.

PT

High-speed counter

Rotary encoder

RS-232C
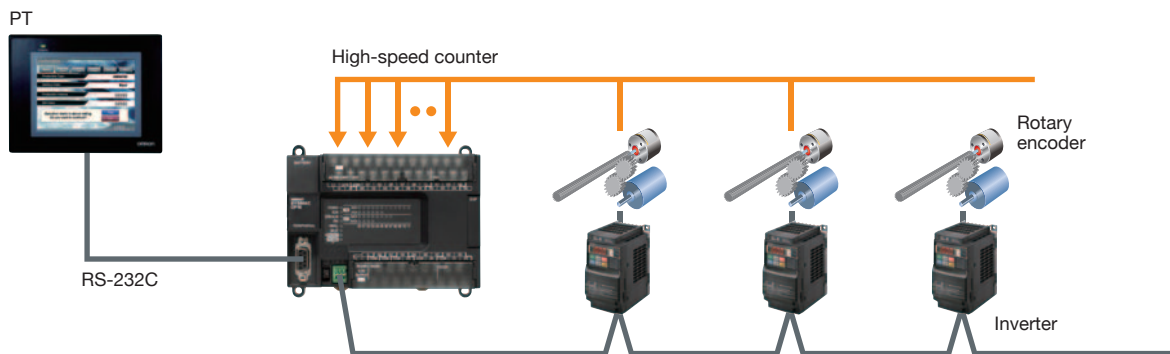
Inverter

Modbus-RTU easy master

Specify Inverter speeds via RS-485

High-speed counter

Rotary encoder

RS-485

Inverter

General-purpose motor

Efficient and Effective

Analog I/O Control

High-accuracy analog I/O control with a resolution 1/12,000.
You can add up to 4 analog I/O by mounting an Analog Option Board and up to 24 analog I/O by connecting Expansion Units.

Analog Input

Displacement Sensor

Pressure Sensor

Analog Output

Inverter

Valve
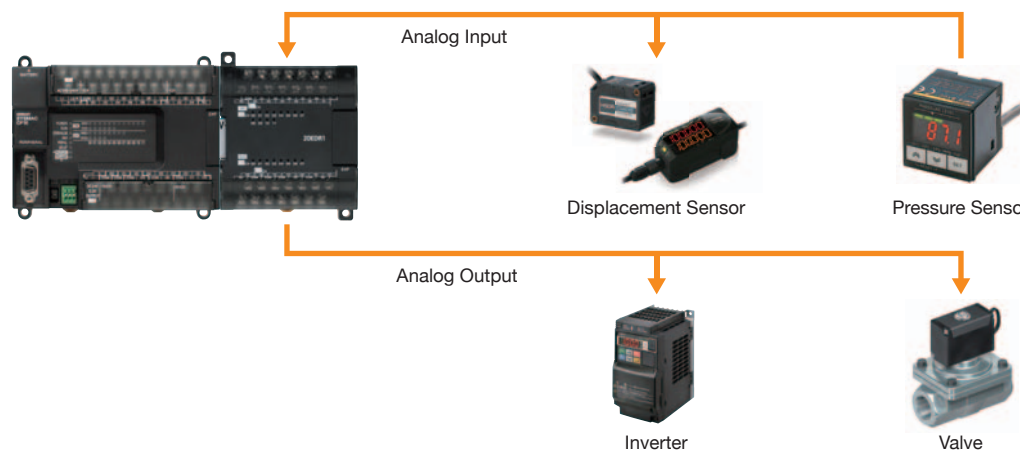
Temperature Control

The combination of the Temperature Input Unit with the PID instructions enables temperature control.
Up to 12 thermocouple inputs per Unit for CP1W-TS004.

The CP1W-TS003 has two inputs that can be used for temperature sensor or analog inputs.
Both temperature sensor and analog inputs can be achieved with only one Unit.

PID instructions
with autotuning

PIDAT
S
C
D
TPO
S
C
R

PT

RS-232C

Heater   SSR

Temperature Sensor

CP1W-TS003

CH1   CH2   CH3   CH4

CH1:Temperature Sensor Input
CH2:Temperature Sensor Input
CH3:Temperature Sensor/Analog Input
CH4:Temperature Sensor/Analog Input

Temperature Sensor   Analog Sensor
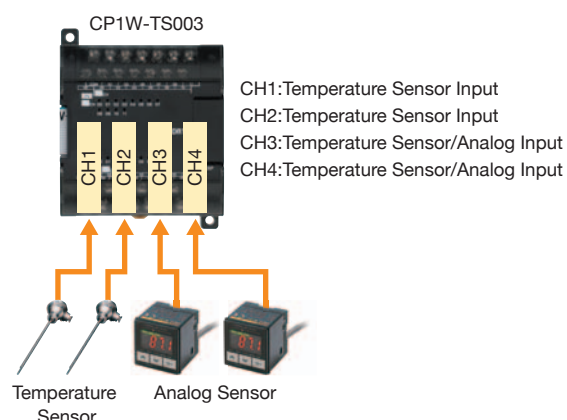
Serial PLC Links

Link data with up to 10 words between up to nine CP1E-N CPU Units when controlling a device with multiple CP1E-N PLCs.
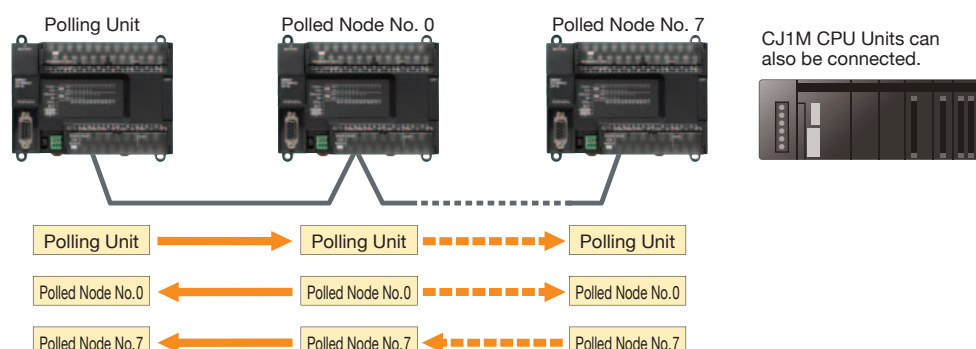
Polling Unit

Polled Node No. 0

Polled Node No. 7

CJ1M CPU Units can also be connected.

Polling Unit	→	Polling Unit	⇢	Polling Unit
Polled Node No.0	←	Polled Node No.0	⇠	Polled Node No.0
Polled Node No.7	←	Polled Node No.7	⇠	Polled Node No.7

Flexibly handle even small-scale systems. Various Option Units available for increased expandability.

Ethernet Communications

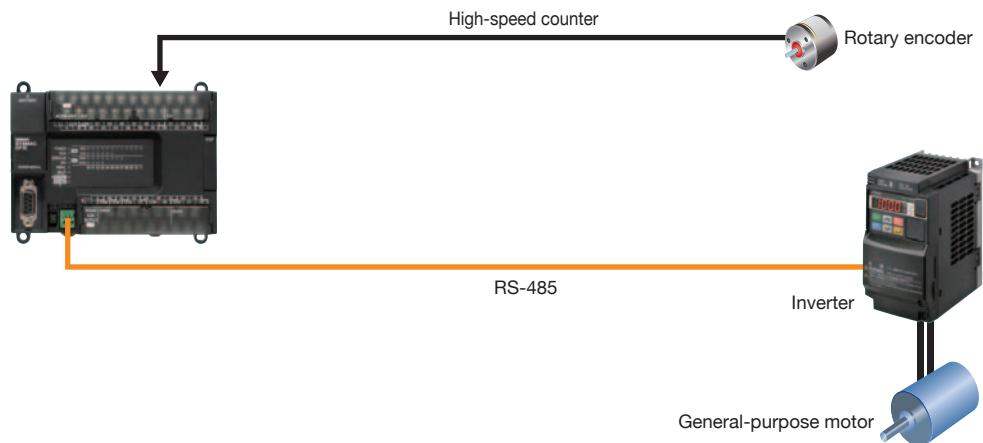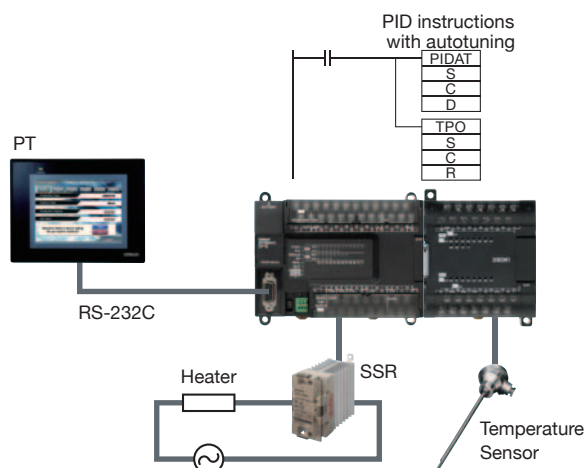Mount a CP1W-CIF41 Ethernet Option Board to an option board slot on the CP1E-N/NA type CPU Unit.
Perform monitoring and programming with CX-Programmer,or communicate with a host computer via Ethernet.(server function only)

Computer (server function only)

FINS-UDP
FINS-TCP
protocol

Industrial switching hub
W4S1

CP1E

CP1H / CP1L

▎Optional units for more flexibility

An option board for an additional Serial or Ethernet communication port can be added to the N30/40/60 and NA20 CPU Unit. Three expansion units are available. * The Option Board cannot be mounted to the CP1E-N□□S/N□□S1.
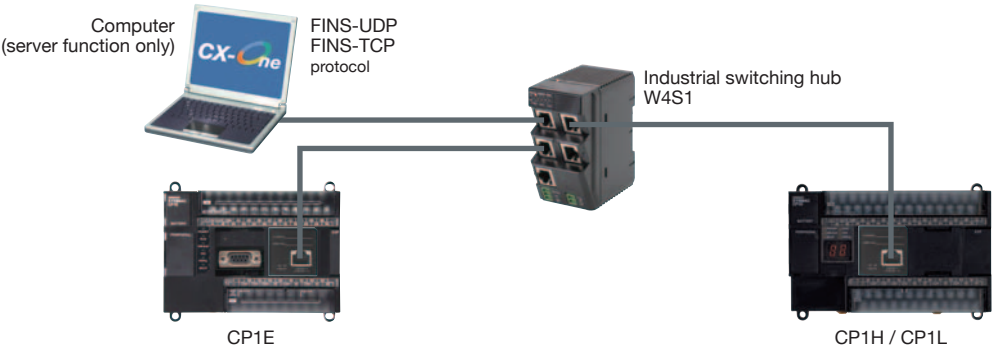
N30/40/60, NA20 CPU unit

Option Board

RS-232C Option Board
CP1W-CIF01

RS-422A/485 Option Board
CP1W-CIF11
(Maximum transmission distance: 50m)

RS-422A/485 Option Board
(Isolated-type)
CP1W-CIF12
(Maximum transmission distance: 500m)

Ethernet Option Board
CP1W-CIF41
(CP1E PLCs are supported by CP1W-CIF41 version 2.0 or later.)

NEW
Analog Input Option Board
CP1W-ADB21
(For CPU Unit version 1.2 or later)

NEW
Analog Output Option Board
CP1W-DAB21V
(For CPU Unit version 1.2 or later)

NEW
Analog I/O Option Board
CP1W-MAB221
(For CPU Unit version 1.2 or later)

30/40/60, NA20 CPU unit

Expansion Units and Expansion I/O Units

Expansion I/O Units

Units with 40 I/O
CP1W-40EDR / CP1W-40EDT / CP1W-40EDT1
Units with 20 I/O
CP1W-20EDR1 / CP1W-20EDT / CP1W-20EDT1
Units with 32 Outputs
CP1W-32ER / CP1W-32ET / CP1W-32ET1

Units with 16 Outputs
CP1W-16ER / CP1W-16ET / CP1W-16ET1
Units with 8 Outputs
CP1W-8ER / CP1W-8ET / CP1W-8ET1
Unit with 8 Inputs
CP1W-8ED

Analog I/O Units

Analog I/O Unit
CP1W-MAD11
CP1W-MAD42 *NEW*
CP1W-MAD44 *NEW*
Analog Input Unit
CP1W-AD041
CP1W-AD042 *NEW*
Analog Output Unit
CP1W-DA021
CP1W-DA041
CP1W-DA042 *NEW*

Temperature Sensor Units

Temperature Sensor Units (Thermocouples)
CP1W-TS001
CP1W-TS002
CP1W-TS003 *NEW*
CP1W-TS004 *NEW*

Temperature Sensor Units (Platinum Resistance Thermometers)
CP1W-TS101
CP1W-TS102

CompoBus/S I/O Link Unit

CompoBus/S Slave
CP1W-SRT21

Line up/Variation

▌Selecting the best CPU Unit for your system helps minimize and optimize costs.

Line up

Program capacity

8K steps

2K steps

N□□-type CP1E CPU Units Application Models (Option Slot, Built-in 2 ports : RS-232C, USB)

Models with flexible communication ports: RS-232C port and one more additional port using option board

Built-in Analog I/O type

Normal type

N30D□-□   N40D□-□   N60D□-□   NA20D□-□

N□□S1-type CP1E CPU Units Application Models (Built-in 3 ports : RS-232C, RS-485, USB)

Models with built-in RS-232C and RS-485 ports to connect with both Inverters and Temperature Controllers

Renewal type

N30S1D□-□   N40S1D□-□   N60S1D□-□

N□□S-type CP1E CPU Units Application Models (Built-in 2 ports : RS-232C, USB)

Standard models with built-in RS-232C port

N14D□-□   N20D□-□   N30SD□-□   N40SD□-□   N60SD□-□

E□□(S)-type CP1E CPU Units Basic Models (Built-in USB port)

Basic models suitable for basic I/O control

E10D□-□   E14SDR-A   E20SDR-A   E30SDR-A   E40SDR-A   E60SDR-A

Number of I/O   10   14   20   30   40   60   20 (Built-in analog : 2 inputs / 1 output)

Basic Models

Power supply	E□□ CPU Unit				E□□S CPU Unit			
	Relay outputs		Transistor outputs (sinking/sourcing)		Relay outputs		Transistor outputs (sinking/sourcing)	
	AC	DC	AC	DC	AC	DC	AC	DC
10 I/O points	●	●	●	●	—	—	—	—
14 I/O points	●	—	—	—	●	—	—	—
20 I/O points	●	—	—	—	●	—	—	—
30 I/O points	●	—	—	—	●	—	—	—
40 I/O points	●	—	—	—	●	—	—	—
60 I/O points	—	—	—	—	●	—	—	—

Application Models

Power supply	N□□ CPU Unit RS-232C+1 option slot *				N□□S CPU Unit Built-in RS-232C				N□□S1 CPU Unit Built-in RS-232C+RS-485			
	Relay outputs		Transistor outputs (sinking/sourcing)		Relay outputs		Transistor outputs (sinking/sourcing)		Relay outputs		Transistor outputs (sinking/sourcing)	
	AC	DC	AC	DC	AC	DC	AC	DC	AC	DC	AC	DC
10 I/O points	—	—	—	—	—	—	—	—	—	—	—	—
14 I/O points	●	●	●	●	—	—	—	—	—	—	—	—
20 I/O points	●	●	●	●	—	—	—	—	—	—	—	—
30 I/O points	●	●	●	●	●	—	—	●	●	—	—	●
40 I/O points	●	●	●	●	●	—	—	●	●	—	—	●
60 I/O points	●	●	●	●	●	—	—	●	●	—	—	●
20 I/O points (Built-in Analog)	●	—	—	●	—	—	—	—	—	—	—	—

* Only N30/40/60 has option slot.

Variation

	Basic Models		Application Models			
	Renewal type	**Normal type**	**Renewal type**		**Normal type**	**Normal type (Built-in Analog)**
Model	E□□S	E□□	N□□S	N□□S1	N□□	NA20
Program capacity	2K steps	2K steps	8K steps	8K steps	8K steps	8K steps
DM Area capacity	2K words	2K words	8K words	8K words	8K words	8K words
USB port	USB	USB	USB	USB	USB	USB
Built-in Serial port	—	—	RS-232C	RS-232C RS-485	RS-232C	RS-232C
Option Board *1	—	—	—	—	RS-232C RS-422A RS-485 Ethernet Analog	RS-232C RS-422A RS-485 Ethernet Analog
Battery *2 (Optional)	—	—	Battery	Battery	Battery	Battery
Clock	—	—	Clock	Clock	Clock	Clock
High-speed counters (Single-phase)	10kHz ×6	10kHz ×6	100kHz ×2 10kHz ×4	100kHz ×2 10kHz ×4	100kHz ×2 10kHz ×4	100kHz ×2 10kHz ×4
High-speed counters (Differential Phase)	5kHz ×2	5kHz ×2	50kHz ×1 5kHz ×1	50kHz ×1 5kHz ×1	50kHz ×1 5kHz ×1	50kHz ×1 5kHz ×1
Pulse outputs (transistor output type)	—	—	100kHz ×2	100kHz ×2	100kHz ×2	100kHz ×2
Analog adjusters	—	Analog adjusters	—	—	Analog adjusters	Analog adjusters
Built-in analog	—	—	—	—	—	AD 2 DA 1

*1. For CP1E N30/40/60 or NA20 CPU Units only.
*2. The CP1W-BAT01 Battery (sold separately) can be mounted

Ordering information

International Standards

· The standards are abbreviated as follows: U: UL, U1: UL(Class I Division 2 Products for Hazardous Locations), C: CSA, UC: cULus, UC1: cULus
(Class I Division 2 Products for Hazardous Locations), CU: cUL, N: NK, L: Lloyd, and CE: EC Directives.
· Contact your OMRON representative for further details and applicable conditions for these standards.

Application models

■Renewal type (N□□S1-type) CP1E CPU Units: Built-in 3 ports

Product name	Specifications						Model	Standards
	Power Supply	Inputs	Outputs	Output type	Program capacity	Data memory capacity		
N□□S1-type with 30 I/O Points	100 to 240 VAC	18	12	Relay	8K steps	8K words	CP1E-N30S1DR-A	CE
	24VDC			Transistor (sinking)			CP1E-N30S1DT-D	
				Transistor (sourcing)			CP1E-N30S1DT1-D	
N□□S1-type with 40 I/O Points	100 to 240 VAC	24	16	Relay			CP1E-N40S1DR-A	
	24VDC			Transistor (sinking)			CP1E-N40S1DT-D	
				Transistor (sourcing)			CP1E-N40S1DT1-D	
N□□S1-type with 60 I/O Points	100 to 240 VAC	36	24	Relay			CP1E-N60S1DR-A	
	24VDC			Transistor (sinking)			CP1E-N60S1DT-D	
				Transistor (sourcing)			CP1E-N60S1DT1-D	

■Renewal type (N□□S-type) CP1E CPU Units: Built-in 2 ports

Product name	Specifications						Model	Standards
	Power Supply	Inputs	Outputs	Output type	Program capacity	Data memory capacity		
N□□S-type with 30 I/O Points	100 to 240 VAC	18	12	Relay	8K steps	8K words	CP1E-N30SDR-A	CE
	24VDC			Transistor (sinking)			CP1E-N30SDT-D	
				Transistor (sourcing)			CP1E-N30SDT1-D	
N□□S-type with 40 I/O Points	100 to 240 VAC	24	16	Relay			CP1E-N40SDR-A	
	24VDC			Transistor (sinking)			CP1E-N40SDT-D	
				Transistor (sourcing)			CP1E-N40SDT1-D	
N□□S-type with 60 I/O Points	100 to 240 VAC	36	24	Relay			CP1E-N60SDR-A	
	24VDC			Transistor (sinking)			CP1E-N60SDT-D	
				Transistor (sourcing)			CP1E-N60SDT1-D	

■Normal type (N/NA□□-type) CP1E CPU Units

Product name	Specifications						Model	Standards
	Power Supply	Inputs	Outputs	Output type	Program capacity	Data memory capacity		
N□□-type with 14 I/O Points	100 to 240 VAC	8	6	Relay	8K steps	8K words	CP1E-N14DR-A	UC1, N, L, CE
				Transistor (sinking)			CP1E-N14DT-A	
				Transistor (sourcing)			CP1E-N14DT1-A	
	24VDC			Relay			CP1E-N14DR-D	
				Transistor (sinking)			CP1E-N14DT-D	
				Transistor (sourcing)			CP1E-N14DT1-D	
N□□-type with 20 I/O Points	100 to 240 VAC	12	8	Relay	8K steps	8K words	CP1E-N20DR-A	
				Transistor (sinking)			CP1E-N20DT-A	
				Transistor (sourcing)			CP1E-N20DT1-A	
	24VDC			Relay			CP1E-N20DR-D	
				Transistor (sinking)			CP1E-N20DT-D	
				Transistor (sourcing)			CP1E-N20DT1-D	
N□□-type with 30 I/O Points	100 to 240 VAC	18	12	Relay	8K steps	8K words	CP1E-N30DR-A	
				Transistor (sinking)			CP1E-N30DT-A	
				Transistor (sourcing)			CP1E-N30DT1-A	
	24VDC			Relay			CP1E-N30DR-D	
				Transistor (sinking)			CP1E-N30DT-D	
				Transistor (sourcing)			CP1E-N30DT1-D	
N□□-type with 40 I/O Points	100 to 240 VAC	24	16	Relay	8K steps	8K words	CP1E-N40DR-A	
				Transistor (sinking)			CP1E-N40DT-A	
				Transistor (sourcing)			CP1E-N40DT1-A	
	24VDC			Relay			CP1E-N40DR-D	
				Transistor (sinking)			CP1E-N40DT-D	
				Transistor (sourcing)			CP1E-N40DT1-D	
N□□-type with 60 I/O Points	100 to 240 VAC	36	24	Relay	8K steps	8K words	CP1E-N60DR-A	
				Transistor (sinking)			CP1E-N60DT-A	
				Transistor (sourcing)			CP1E-N60DT1-A	
	24VDC			Relay			CP1E-N60DR-D	
				Transistor (sinking)			CP1E-N60DT-D	
				Transistor (sourcing)			CP1E-N60DT1-D	
NA-type with 20 I/O Points (Billt-in analog)	100 to 240 VAC	12 (Built-in analog inputs : 2)	8 (Built-in analog outputs : 1)	Relay	8K steps	8K words	CP1E-NA20DR-A	
	24VDC			Transistor (sinking)			CP1E-NA20DT-D	
				Transistor (sourcing)			CP1E-NA20DT1-D	

Basic models

■Renewal type (E□□S-type) CP1E CPU Units

Product name	Specifications						Model	Standards
	Power Supply	Inputs	Outputs	Output type	Program capacity	Data memory capacity		
E□□S-type with 14 I/O Points		8	6	Relay			**CP1E-E14SDR-A**	
E□□S-type with 20 I/O Points		12	8	Relay			**CP1E-E20SDR-A**	
E□□S-type with 30 I/O Points	100 to 240 VAC	18	12	Relay	2K steps	2K words	**CP1E-E30SDR-A**	CE
E□□S-type with 40 I/O Points		24	16	Relay			**CP1E-E40SDR-A**	
E□□S-type with 60 I/O Points		36	24	Relay			**CP1E-E60SDR-A**	

■Normal type (E□□-type) CP1E CPU Units

Product name	Specifications						Model	Standards
	Power Supply	Inputs	Outputs	Output type	Program capacity	Data memory capacity		
E□□-type with 10 I/O Points	100 to 240 VAC	6	4	Relay	2K steps	2K words	**CP1E-E10DR-A**	UC1, N, L, CE
				Transistor (sinking)			**CP1E-E10DT-A**	
				Transistor (sourcing)			**CP1E-E10DT1-A**	
	24VDC			Relay			**CP1E-E10DR-D**	
				Transistor (sinking)			**CP1E-E10DT-D**	
				Transistor (sourcing)			**CP1E-E10DT1-D**	
E□□-type with 14 I/O Points	100 to 240 VAC	8	6	Relay			**CP1E-E14DR-A**	
E□□-type with 20 I/O Points		12	8	Relay			**CP1E-E20DR-A**	
E□□-type with 30 I/O Points		18	12	Relay			**CP1E-E30DR-A**	
E□□-type with 40 I/O Points		24	16	Relay			**CP1E-E40DR-A**	

Optional Products

■Battery Set

Product name	Specifications	Model	Standards
Battery Set	For N□□/NA-type CP1E CPU Units Note: Mount a Battery to an N□□/NA-type CP1E CPU Unit if the data in the following areas must be backed up for power interruptions. DM Area (D) (except backed up words in the DM Area), Holding Area (H), Counter Completion Flags (C), Counter Present Values (C), Auxiliary Area (A) , and Clock Function.(Use batteries within two years of manufacture.)	**CP1W-BAT01**	—

■Option Boards (for CP1E N30/40/60 or NA20 CPU Units)

Product name	Specifications	Model	Standards
RS-232C Option Board	One RS-232C Option Board can be mounted to the Option Board slot. One RS-232C connector is included.	**CP1W-CIF01**	UC1, N, L, CE
RS-422A/485 Option Board	One RS-422A/485 Option Board can be mounted to the Option Board slot.	**CP1W-CIF11**	
RS-422A/485 Isolated-type Option Board	One RS-422A/485 Option Board can be mounted to the Option Board slot.	**CP1W-CIF12**	
Ethernet Option Board	One Ethernet Option Board can be mounted to the Option Board slot. CP1E CPU Units are supported by CP1W-CIF41 version 2.0 or later. When using CP1W-CIF41, CX-Programmer version 9.12 or higher is required.	**CP1W-CIF41**	
Analog Input Option Board	Can be mounted in CPU Unit Option Board slot. 2 analog inputs. 0-10V(Resolution:1/4000), 0-20mA (Resolution:1/2000).	**CP1W-ADB21***	
Analog Output Option Board	Can be mounted in CPU Unit Option Board slot. 2 analog outputs. 0-10V (Resolution:1/4000).	**CP1W-DAB21V***	
Analog I/O Option Board	Can be mounted in CPU Unit Option Board slot. 2 analog inputs. 0-10V(Resolution:1/4000), 0-20mA(Resolution:1/2000). 2 analog outputs. 0-10V (Resolution:1/4000).	**CP1W-MAB221***	

Note: It is not possible to use a CP-series Ethernet Option Board version 1.0 (CP1W-CIF41), LCD Option Board (CP1W-DAM01), or Memory Card (CP1W-ME05M) with a CP1E CPU Unit.
*. For CP1E CPU Unit version 1.2 or later

Ordering information

Optional Products

■Expansion I/O Units and Expansion Units (for CP1E N30/40/60 or NA20 CPU Units)

Unit type	Product name	Inputs	Outputs	Specifications		Model	Standards
CP1W Expansion I/O Units	Input Unit	8	—	DC24V Input		**CP1W-8ED**	U, C, N, L, CE
	Output Units	—	8	Relay		**CP1W-8ER**	U, C, N, L, CE
				Transistor(sinking)		**CP1W-8ET**	
				Transistor(sourcing)		**CP1W-8ET1**	
		—	16	Relay		**CP1W-16ER**	N, L, CE
				Transistor(sinking)		**CP1W-16ET**	
				Transistor(sourcing)		**CP1W-16ET1**	
		—	32	Relay		**CP1W-32ER**	
				Transistor(sinking)		**CP1W-32ET**	
				Transistor(sourcing)		**CP1W-32ET1**	
	I/O Units	12	8	Relay		**CP1W-20EDR1**	U, C, N, L, CE
				Transistor(sinking)		**CP1W-20EDT**	
				Transistor(sourcing)		**CP1W-20EDT1**	
		24	16	Relay		**CP1W-40EDR**	N, L, CE
				Transistor(sinking)		**CP1W-40EDT**	
				Transistor(sourcing)		**CP1W-40EDT1**	
CP1W Expansion Units	Analog Input Unit	4CH	—	Input range: 0 to 5 V, 1 to 5 V, 0 to 10 V, ±10 V, 0 to 20 mA, or 4 to 20 mA.	Resolution: 1/6000	**CP1W-AD041**	UC1, N, L, CE
					Resolution: 1/12000	**CP1W-AD042**	UC1, CE
	Analog Output Unit	—	2CH	Output range: 1 to 5 V, 0 to 10 V, ±10 V, 0 to 20 mA, or 4 to 20 mA.	Resolution: 1/6000	**CP1W-DA021**	UC1, N, L, CE
		—	4CH		Resolution: 1/6000	**CP1W-DA041**	
					Resolution: 1/12000	**CP1W-DA042**	UC1, CE
	Analog I/O Unit	2CH	1CH	Input range: 0 to 5 V, 1 to 5 V, 0 to 10 V, ±10 V, 0 to 20 mA, or 4 to 20 mA.	Resolution: 1/6000	**CP1W-MAD11**	UC1, N, L, CE
		4CH	2CH	Output range: 1 to 5 V, 0 to 10 V, ±10 V, 0 to 20 mA, or 4 to 20 mA.	Resolution: 1/12000	**CP1W-MAD42**	UC1, CE
		4CH	4CH		Resolution: 1/12000	**CP1W-MAD44**	CE
	Temperature Sensor Unit	2CH	—	Sensor type: Thermocouple (J or K)		**CP1W-TS001**	UC1, N, L, CE
		4CH	—	Sensor type: Thermocouple (J or K)		**CP1W-TS002**	
		2CH	—	Sensor type: Platinum resistance thermometer (Pt100 or JPt100)		**CP1W-TS101**	
		4CH	—	Sensor type: Platinum resistance thermometer (Pt100 or JPt100)		**CP1W-TS102**	
		4CH	—	Sensor type: Thermocouple (J or K) 2 analog inputs* Input range: 1 to 5 V, 0 to 10 V, 4 to 20 mA.	Resolution: 1/12000	**CP1W-TS003**	UC1, CE
		12CH	—	Sensor type: Thermocouple (J or K)		**CP1W-TS004**	UC1, CE
	CompoBus/S I/O Link Unit	8	8	CompoBus/S slave		**CP1W-SRT21**	UC1, N, L, CE
I/O Connecting Cable				80 cm (for CP1W Expansion I/O Units and Expansion Units) Only one I/O Connecting Cable can be used in each PLC.		**CP1W-CN811**	UC1, N, L, CE

Note: An I/O Connecting Cable (approx. 6 cm) for horizontal connection is provided with CP1W Expansion I/O Units and Expansion Units.
* Only last two channels can be used as analog input.

Programming Devices

■Support Software

Product name	Specifications	Number of licenses	Media	Model	Standards
FA Integrated Tool Package CX-One Lite Ver.4.□	CX-One Lite is a subset of the complete CX-One package that provides only the Support Software required for micro PLC applications. CX-One Lite runs on the following OS. OS: Windows XP (Service Pack 3 or higher, 32-bit version) / Windows Vista (32-bit/64-bit version) / Windows 7 (32-bit/64-bit version) / Windows 8 (32-bit/64-bit version) / Windows 8.1 (32-bit/64-bit version). CX-One Lite Ver. 4.□ includes Micro PLC Edition CXProgrammer Ver.9.□.	1 license	CD	**CXONE-LT01C-V4**	—
FA Integrated Tool Package CX-One Ver.4.□	CX-One is a comprehensive software package that integrates Support Software for OMRON PLCs and components. CX-One runs on the following OS. OS: Windows XP (Service Pack 3 or higher, 32-bit version) / Windows Vista (32-bit/64-bit version) / Windows 7 (32-bit/64-bit version) / Windows 8 (32-bit/64-bit version) / Windows 8.1 (32-bit/64-bit version). CX-One Ver. 4.□ includes CX-Programmer Ver. 9.□.	1 license*1	DVD*2	**CXONE-AL01D-V4**	—

Note: 1. CP1E-E60SDR-A CPU Units are supported by CX-Programmer version 9.42 or higher. When Micro PLC Edition CX-Programmer is used, you need version 9.42 or higher.
       The E20/30/40(S) , N20/30/40(S□) CPU Units are supported by CX-Programmer version 8.2 or higher.
       The E10/14(S), N14/60(S□), and NA20 CPU Units are supported by CX-Programmer version 9.03 or higher.
       When Micro PLC Edition CX-Programmer is used, you need version 9.03 or higher.
     2. When using CP1W-CIF41, CX-Programmer version 9.12 or higher is required. N30/40/60, NA20 only.
     3. The CX-One and CX-One Lite cannot be simultaneously installed on the same computer.

*1. Multi licenses are available for the CX-One (3, 10, 30 or 50 licenses).
*2. The CX-One is also available on CD (CXONE-AL□□C-V4).

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