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With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

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CP-series CP1E CPU Units CP1E-E□□SD□-□ CP1E-N□□S□D-□-□ CP1E-E□□D□-□ CP1E-N□□D□-□/NA20D□-□

The CP1E Programmable Controller: Economical, Easy to use, and Efficient

- The E□□(S)-type Basic CPU Units provide cost performance and easy application with only basic functionality.
- The N□□(S□) and NA-types Application CPU Units support Programmable Terminal connection, position control, and inverter connection



CP1E-E20SDR-A



CP1E-N40S1DR-A

Features

- New CP1E CPU Units now available.
 - Lineup including CPU Units with built-in three ports: USB, RS-232C, RS-485.
 - The depth of CPU Units with RS-232C connectors is reduced by 20 mm. (N30/40/60S(1))
- Easy connection with computers using commercially available USB cables.
- With E30/40/60(S), N30/40/60(S□) or NA20 CPU Units, Add I/O, Analog I/O or Temperature Inputs by Connecting Expansion Units or Expansion I/O Units.
- Input interrupts
- Complete High-speed Counter Functionality.
- Versatile pulse control for Transistor Output for N14/20/30/40/60(S□) or NA20 CPU Units.
- PWM Outputs for Transistor Output for N14/20/30/40/60(S□) or NA20 CPU Units.
- Mounting Serial Option Boards, Ethernet Option Board and Analog Option Board to N30/40/60 or NA20 CPU Units.
- Built-in analog I/O, two inputs and one output, for NA-type CPU Units.

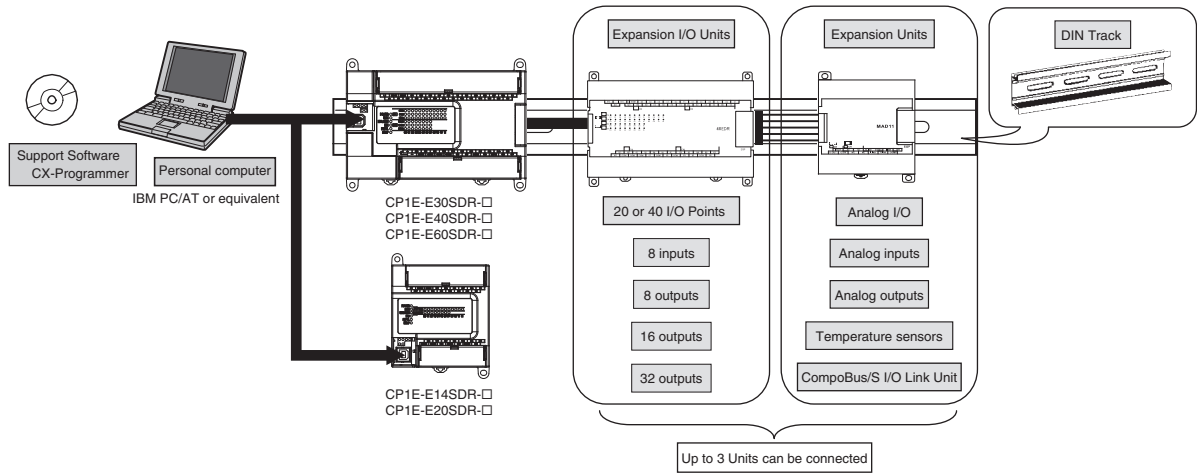
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 The product photographs and figures that are used in this catalog may vary somewhat from the actual products.

CP1E-E□□(S)D□-□ CP1E-N□□(S□)D□-□/NA20D□-□

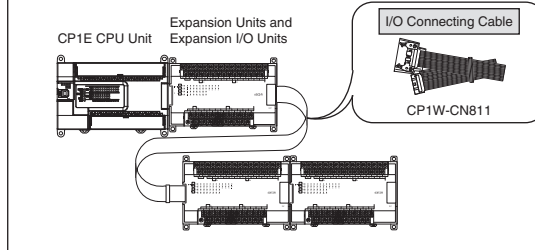
System Configuration

Basic Model

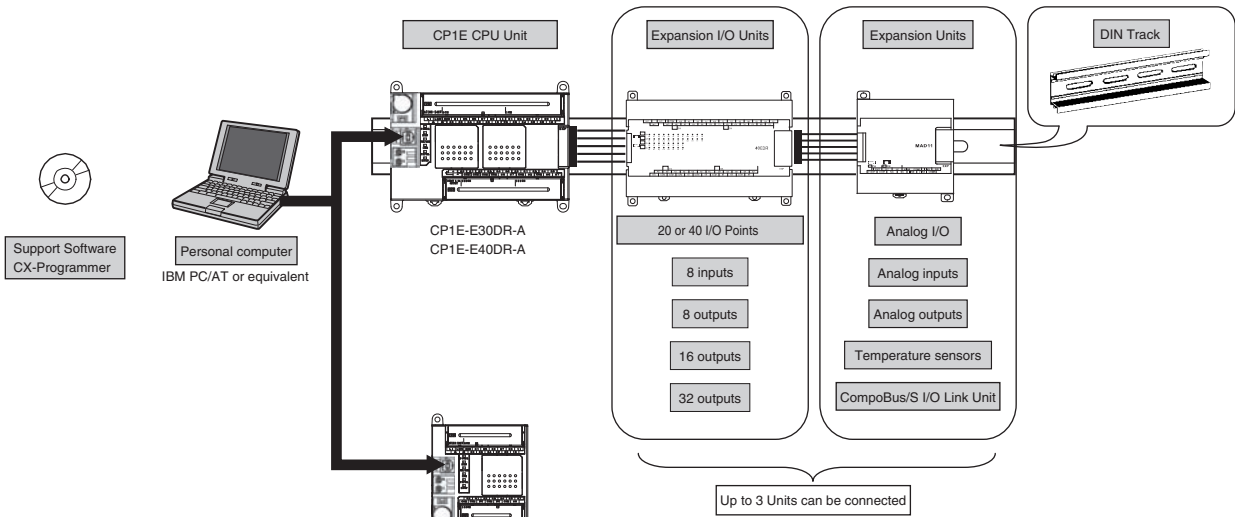
Basic System Configuration Using an E□□S-type CPU Unit



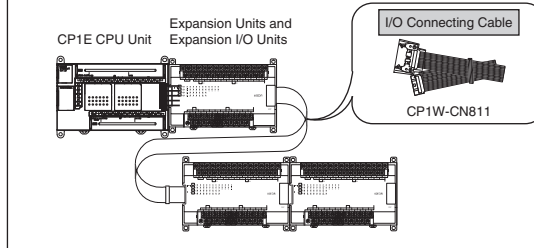
•When a two level layout is created by expansion and distance is required



Basic System Configuration Using an E□□-type CPU Unit

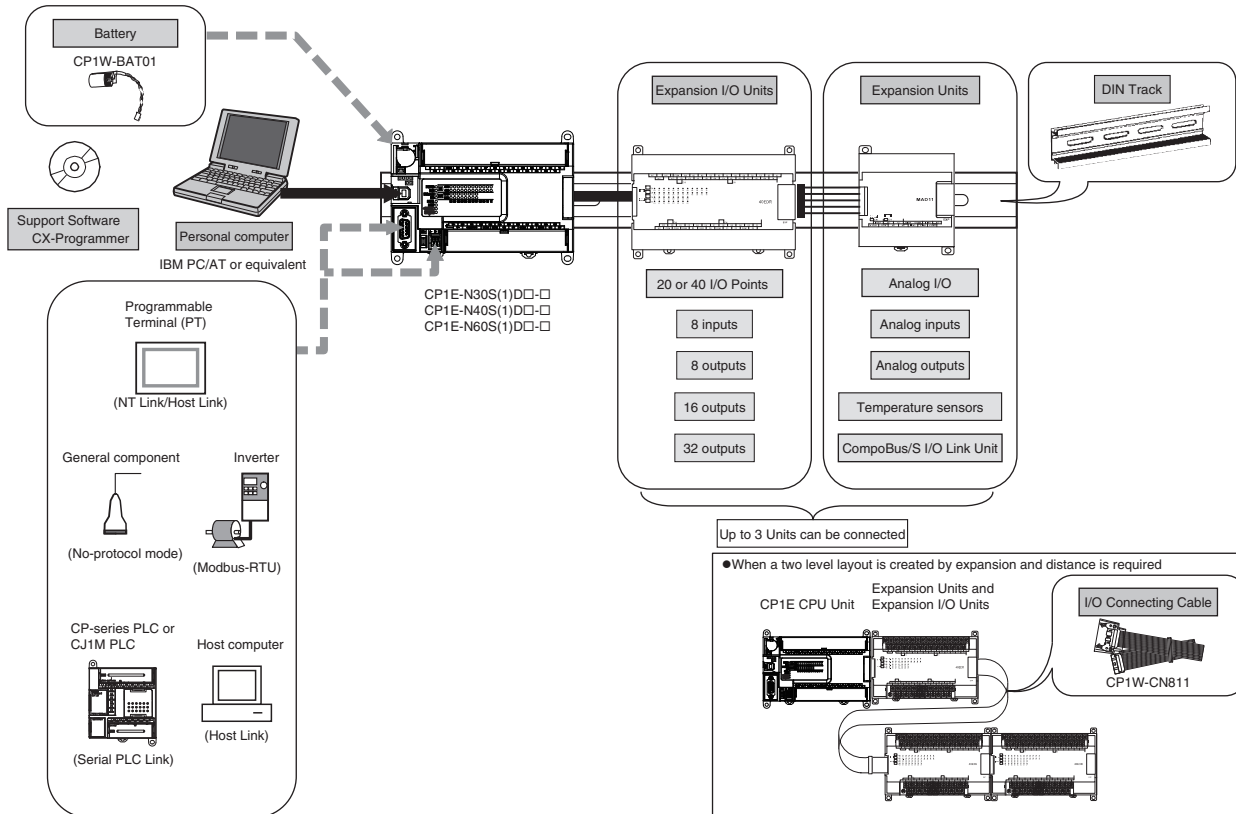


•When a two level layout is created by expansion and distance is required

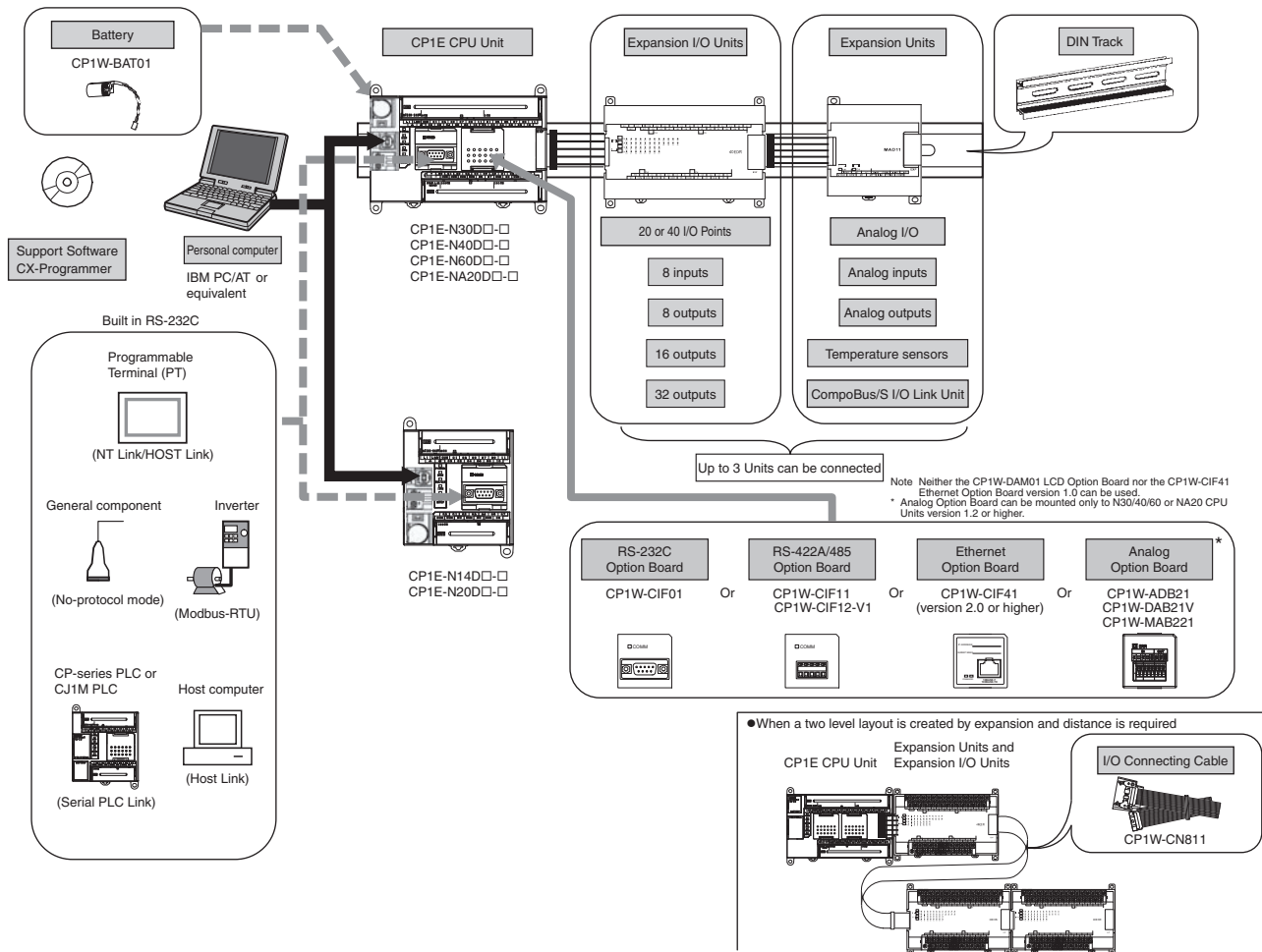


Application Model

Basic System Configuration Using an N/NA□□S(1)-type CPU Unit



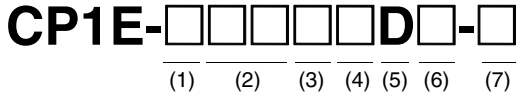
Basic System Configuration Using an N/NA-type CPU Unit



CP1E-E□□(S)D□-□ CP1E-N□□(S□)D□-□/NA20D□-□

Model Number Structure

■ Model Number Legend (Not all models that can be represented with the model number legend can necessarily be produced.)

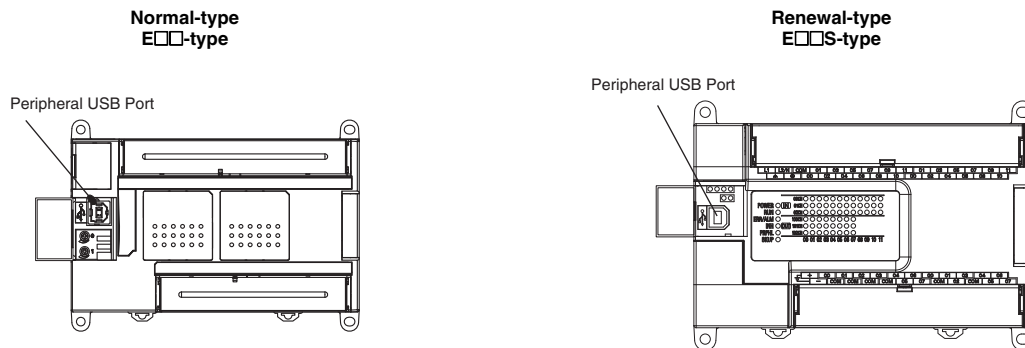


- | | | |
|---|---|---|
| <p>1. Class
E : Basic model
N : Application model
NA : Application model with built-in analog</p> <p>2. I/O capacity
10 : 10 I/O points (6 inputs, 4 outputs)
14 : 14 I/O points (8 inputs, 6 outputs)
20 : 20 I/O points (12 inputs, 8 outputs)
30 : 30 I/O points (18 inputs, 12 outputs)
40 : 40 I/O points (24 inputs, 16 outputs)
60 : 60 I/O points (36 inputs, 24 outputs)</p> | <p>3. Unit type
S : Renewal
None : Normal</p> <p>4. Built-in RS-485 port
1 : RS-485
None : -</p> <p>5. Input type
D : DC inputs</p> | <p>6. Output type
R : Relays outputs
T : Transistor outputs, sinking
T1 : Transistor outputs, sourcing</p> <p>7. Power supply
A : AC power supply
D : DC power supply</p> |
|---|---|---|

Difference between E/N/NA□□-type and E/N□□S(1)-type

Basic Model

E□□(S)-type CPU Units



Difference in Characteristics and Functions

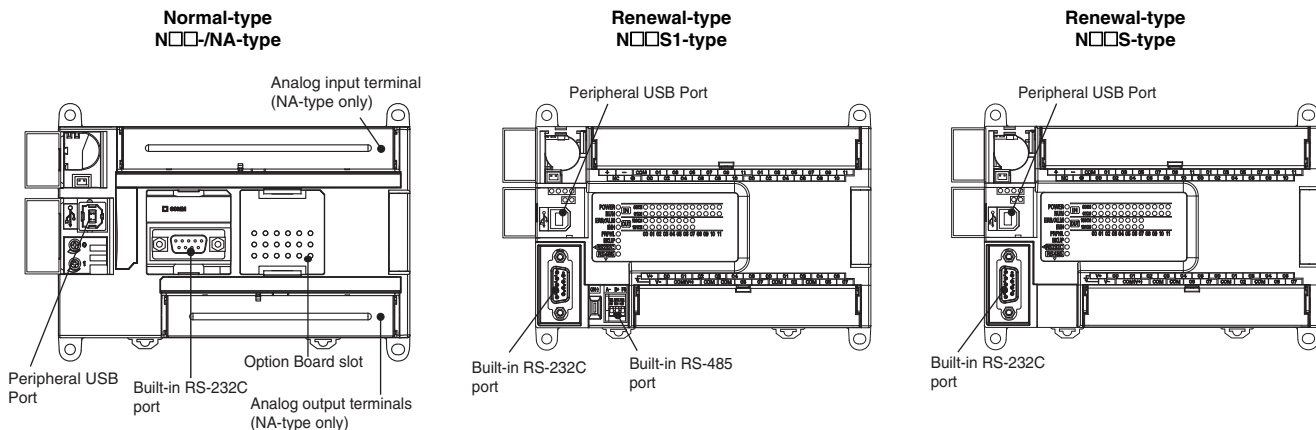
Function	E□□-type (Normal)	E□□S-type (Renewal)
Analog adjusters	2 adjusters (Setting range: 0 to 255)	None The analog adjuster PV in A642/A643 is fixed on 0000.

Product Lineup

	E□□ CPU Unit (Normal)				E□□S CPU Unit (Renewal)				
	Power supply	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 Model

N/NA□□(S)-type CPU Units



Difference in Characteristics and Functions

Function	N/NA□□-type (Normal)	N□□S(1)-type (Renewal)
Analog adjusters	2 adjusters (Setting range: 0 to 255)	None The analog adjuster PV in A642/A643 is fixed on 0000.
Built-in RS-232C port	6 signals are supported: SD, RD, RS, CS, DR and ER.	4 signals are supported: SD, RD, RS and CS. DR (pin 7) and ER (pin 8) are not supported.
Option board	1 port (N30/40/60, NA20 CPU Unit only)	Cannot be mounted There is no slot for an option board.
Built-in RS-485 port	None	1 port (N30/40/60S1 CPU Unit only) With 2-wire connections, it can only communicate in half duplex. Terminating resistance ON/OFF can be set by DIP switch.
Terminal Arrangements (Transistor outputs only)	COM allocation	COM allocation
	Power supply for transistor outputs	Power supply for transistor outputs

COM allocation

NC	00	01	02
NC	COM	COM	COM
			03

CIO 100.00 and CIO 100.01 are different COM.

COM allocation

V+	00	01	02
V-	COM(V-)	COM	03

CIO 100.00 and CIO 100.01 are the same COM.

Product Lineup

	Normal-type						Renewal-type							
	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)	
	Power supply	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)	○	--	--	○	--	--	--	--	--	--	--	--	--	

* 30, 40 and 60 I/O points only.

CP1E-E□□(S)D□-□ CP1E-N□□(S□)D□-□/NA20D□-□

Ordering Information





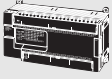
International Standards

- 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, KC: KC Registration, and CE: EU Directives.
- Contact your OMRON representative for further details and applicable conditions for these standards.

Basic Model






●Renewal-type

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

Product name	Specifications						External power supply (24 VDC) (A)	Current consumption (A)		Model	Standards
	Power Supply	Inputs	Outputs	Output type	Program capacity	Data memory capacity		5 V	24 V		
E□□S-type CPU Units with 14 I/O Points 	100 to 240 VAC	8	6	Relay	2K steps	2K words	--	0.16	0.07	CP1E-E14SDR-A	CE, KC
E□□S-type CPU Units with 20 I/O Points 	100 to 240 VAC	12	8	Relay	2K steps	2K words	--	0.17	0.08	CP1E-E20SDR-A	CE, KC
E□□S-type CPU Units with 30 I/O Points 	100 to 240 VAC	18	12	Relay	2K steps	2K words	0.30	0.17	0.07	CP1E-E30SDR-A	CE, KC
E□□S-type CPU Units with 40 I/O Points 	100 to 240 VAC	24	16	Relay	2K steps	2K words	0.30	0.17	0.09	CP1E-E40SDR-A	CE, KC
E□□S-type CPU Units with 60 I/O Points 	100 to 240 VAC	36	24	Relay	2K steps	2K words	0.30	0.17	0.13	CP1E-E60SDR-A	CE, KC

●Normal-type

■E□□-type CP1E CPU Units (Built-in USB port)




Product name	Specifications						External power supply (24 VDC) (A)	Current consumption (A)		Model	Standards
	Power Supply	Inputs	Outputs	Output type	Program capacity	Data memory capacity		5 V	24 V		
E□□-type CPU Units with 10 I/O Points 	100 to 240 VAC	6	4	Relay	2K steps	2K words	--	0.08	0.04	CP1E-E10DR-A	UC1, N, L, CE, KC
				Transistor (sinking)			--	0.11	--	CP1E-E10DT-A	
				Transistor (sourcing)			--	0.11	--	CP1E-E10DT1-A	
	24 VDC			Relay			--	0.08	0.04	CP1E-E10DR-D	
				Transistor (sinking)			--	0.11	--	CP1E-E10DT-D	
				Transistor (sourcing)			--	0.11	--	CP1E-E10DT1-D	
E□□-type CPU Units with 14 I/O Points 	100 to 240 VAC	8	6	Relay	2K steps	2K words	--	0.16	0.07	CP1E-E14DR-A	UC1, N, L, CE, KC
E□□-type CPU Units with 20 I/O Points 	100 to 240 VAC	12	8	Relay	2K steps	2K words	--	0.17	0.08	CP1E-E20DR-A	UC1, N, L, CE, KC
E□□-type CPU Units with 30 I/O Points 	100 to 240 VAC	18	12	Relay	2K steps	2K words	0.30	0.17	0.07	CP1E-E30DR-A	UC1, N, L, CE, KC
E□□-type CPU Units with 40 I/O Points 	100 to 240 VAC	24	16	Relay	2K steps	2K words	0.30	0.17	0.09	CP1E-E40DR-A	UC1, N, L, CE, KC

CP1E-E□□(S)D□-□ CP1E-N□□(S□)D□-□/NA20D□-□




Application Model

●Renewal-type

■N□□S1-type CP1E CPU Units (Built-in RS-232C, RS-485, USB ports)





Product name	Specifications						External power supply (24 VDC) (A)	Current consumption (A)		Model	Standards
	Power Supply	Inputs	Outputs	Output type	Program capacity	Data memory capacity		5 V	24 V		
N□□S1-type CPU Units with 30 I/O Points 	100 to 240 VAC	18	12	Relay	8K steps	8K words	0.30	0.21	0.07	CP1E-N30S1DR-A	CE, KC
	DC24V			Transistor (sinking)			--	0.27	0.02	CP1E-N30S1DT-D	
				Transistor (sourcing)			--	0.27	0.02	CP1E-N30S1DT1-D	
N□□S1-type CPU Units with 40 I/O Points 	100 to 240 VAC	24	16	Relay	8K steps	8K words	0.30	0.21	0.09	CP1E-N40S1DR-A	CE, KC
	DC24V			Transistor (sinking)			--	0.31	0.02	CP1E-N40S1DT-D	
				Transistor (sourcing)			--	0.31	0.02	CP1E-N40S1DT1-D	
N□□S1-type CPU Units with 60 I/O Points 	100 to 240 VAC	36	24	Relay	8K steps	8K words	0.30	0.21	0.13	CP1E-N60S1DR-A	CE, KC
	DC24V			Transistor (sinking)			--	0.31	0.02	CP1E-N60S1DT-D	
				Transistor (sourcing)			--	0.31	0.02	CP1E-N60S1DT1-D	

■N□□S-type CP1E CPU Units (Built-in RS-232C, USB ports)



Product name	Specifications						External power supply (24 VDC) (A)	Current consumption (A)		Model	Standards
	Power Supply	Inputs	Outputs	Output type	Program capacity	Data memory capacity		5 V	24 V		
N□□S-type CPU Units with 30 I/O Points 	100 to 240 VAC	18	12	Relay	8K steps	8K words	0.30	0.21	0.07	CP1E-N30SDR-A	CE
	DC24V			Transistor (sinking)			--	0.27	0.02	CP1E-N30SDT-D	
				Transistor (sourcing)			--	0.27	0.02	CP1E-N30SDT1-D	
N□□S-type CPU Units with 40 I/O Points 	100 to 240 VAC	24	16	Relay	8K steps	8K words	0.30	0.21	0.09	CP1E-N40SDR-A	CE
	DC24V			Transistor (sinking)			--	0.31	0.02	CP1E-N40SDT-D	
				Transistor (sourcing)			--	0.31	0.02	CP1E-N40SDT1-D	
N□□S-type CPU Units with 60 I/O Points 	100 to 240 VAC	36	24	Relay	8K steps	8K words	0.30	0.21	0.13	CP1E-N60SDR-A	CE
	DC24V			Transistor (sinking)			--	0.31	0.02	CP1E-N60SDT-D	
				Transistor (sourcing)			--	0.31	0.02	CP1E-N60SDT1-D	

●Normal-type

■N/NA□□-type CP1E CPU Units (Built-in RS-232C, USB ports)


Product name	Specifications						External power supply (24 VDC) (A)	Current consumption (A)		Model	Standards
	Power Supply	Inputs	Outputs	Output type	Program capacity	Data memory capacity		5 V	24 V		
N□□-type CPU Units with 14 I/O Points 	100 to 240 VAC	8	6	Relay	8K steps	8K words	--	0.17	0.07	CP1E-N14DR-A	UC1, N, L, CE, KC
				Transistor (sinking)			--	0.22	0.02	CP1E-N14DT-A	
				Transistor (sourcing)			--	0.22	0.02	CP1E-N14DT1-A	
	24 VDC			Relay			--	0.17	0.07	CP1E-N14DR-D	
				Transistor (sinking)			--	0.22	0.02	CP1E-N14DT-D	
				Transistor (sourcing)			--	0.22	0.02	CP1E-N14DT1-D	
N□□-type CPU Units with 20 I/O Points 	100 to 240 VAC	12	8	Relay	8K steps	8K words	--	0.18	0.08	CP1E-N20DR-A	UC1, N, L, CE, KC
				Transistor (sinking)			--	0.23	0.02	CP1E-N20DT-A	
				Transistor (sourcing)			--	0.23	0.02	CP1E-N20DT1-A	
	24 VDC			Relay			--	0.18	0.08	CP1E-N20DR-D	
				Transistor (sinking)			--	0.23	0.02	CP1E-N20DT-D	
				Transistor (sourcing)			--	0.23	0.02	CP1E-N20DT1-D	
N□□-type CPU Units with 30 I/O Points 	100 to 240 VAC	18	12	Relay	8K steps	8K words	0.30	0.21	0.07	CP1E-N30DR-A	UC1, N, L, CE, KC
				Transistor (sinking)			0.30	0.27	0.02	CP1E-N30DT-A	
				Transistor (sourcing)			0.30	0.27	0.02	CP1E-N30DT1-A	
	24 VDC			Relay			--	0.21	0.07	CP1E-N30DR-D	
				Transistor (sinking)			--	0.27	0.02	CP1E-N30DT-D	
				Transistor (sourcing)			--	0.27	0.02	CP1E-N30DT1-D	
N□□-type CPU Units with 40 I/O Points 	100 to 240 VAC	24	16	Relay	8K steps	8K words	0.30	0.21	0.09	CP1E-N40DR-A	UC1, N, L, CE, KC
				Transistor (sinking)			0.30	0.31	0.02	CP1E-N40DT-A	
				Transistor (sourcing)			0.30	0.31	0.02	CP1E-N40DT1-A	
	24 VDC			Relay			--	0.21	0.09	CP1E-N40DR-D	
				Transistor (sinking)			--	0.31	0.02	CP1E-N40DT-D	
				Transistor (sourcing)			--	0.31	0.02	CP1E-N40DT1-D	

CP1E-E□□(S)D□-□ CP1E-N□□(S□)D□-□/NA20D□-□

Product name	Specifications						External power supply (24 VDC) (A)	Current consumption (A)		Model	Standards		
	Power Supply	Inputs	Outputs	Output type	Program capacity	Data memory capacity		5 V	24 V				
 N□□-type CPU Units with 60 I/O Points	100 to 240 VAC	36	24	Relay	8K steps	8K words	0.30	0.21	0.13	CP1E-N60DR-A	UC1, N, L, CE, KC		
				Transistor (sinking)			0.30	0.31	0.02	CP1E-N60DT-A			
				Transistor (sourcing)			0.30	0.31	0.02	CP1E-N60DT1-A			
	24 VDC			(Built-in analog inputs: 2)			(Built-in analog outputs: 1)	Relay	--	0.21		0.13	CP1E-N60DR-D
	Transistor (sinking)							--	0.31	0.02		CP1E-N60DT-D	
	Transistor (sourcing)							--	0.31	0.02		CP1E-N60DT1-D	
 NA-type CPU Units with 20 I/O Points (Built-in analog)	100 to 240 VAC	12	8	Relay	8K steps	8K words	0.30	0.18	0.11	CP1E-NA20DR-A	UC1, N, L, CE, KC		
	24 VDC			Transistor (sinking)			--	0.23	0.09	CP1E-NA20DT-D			
				Transistor (sourcing)			--	0.23	0.09	CP1E-NA20DT1-D			








Optional Products

Battery Set

Product name	Specifications	Model	Standards
 Battery Set	For N/NA□□(S□)-type CP1E CPU Units Note: Mount a Battery to an N/NA□□(S□)-type CPU Unit if the data in the following areas must be backed up for power interruptions. <ul style="list-style-type: none"> 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 Board (for CP1E N30/40/60 or NA20 CPU Units)

The Options cannot be used for CP1E N14/20, N30/40/60S(1), E10/14/20/30/40/60(S) CPU Units.











Product name	Specifications	Model	Standards
 RS-232C Option Board	One RS-232C Option Board can be mounted to the Option Board slot.	CP1W-CIF01	UC1, N, L, CE, KC
 RS-422A/485 Option Board		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-V1	
 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 higher. 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.

* Support is provided with CP1E CPU Unit version 1.2 and later.

Expansion I/O Units and Expansion Units (for CP1E E30/40/60(S), N30/40/60(S□), or NA20 CPU Units)

CP1E E10/14/20(S) or N14/20 CPU Units do not support Expansion I/O Units and Expansion Units.

Unit type	Product name	Specifications			Current consumption (A)		Model	Standards		
		Inputs	Outputs	Output type	5 V	24 V				
CP1W Expansion I/O Units	 Input Unit	8	--	24 VDC Input	0.018	--	CP1W-8ED	U, C, N, L, CE, KC		
	 Output Units	--	8	Relay	0.026	0.044	CP1W-8ER			
				Transistor (sinking)	0.075	--	CP1W-8ET			
				Transistor (sourcing)	0.075	--	CP1W-8ET1			
	 Output Units	--	16	Relay	0.042	0.090	CP1W-16ER	N, L, CE, KC		
				Transistor (sinking)	0.076	--	CP1W-16ET			
				Transistor (sourcing)	0.076	--	CP1W-16ET1			
	 Output Units	--	32	Relay	0.049	0.131	CP1W-32ER	N, L, CE, KC		
				Transistor (sinking)	0.113	--	CP1W-32ET			
				Transistor (sourcing)	0.113	--	CP1W-32ET1			
	 I/O Units	12	8	Relay	0.103	0.044	CP1W-20EDR1	U, C, N, L, CE, KC		
				Transistor (sinking)	0.130	--	CP1W-20EDT			
				Transistor (sourcing)	0.130	--	CP1W-20EDT1			
		24	16	Relay	0.080	0.090	CP1W-40EDR	N, L, CE, KC		
Transistor (sinking)				0.160	--	CP1W-40EDT				
Transistor (sourcing)				0.160	--	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	0.100	0.090	CP1W-AD041	UC1, N, L, CE, KC	
					Resolution: 1/12000	0.100	0.050	CP1W-AD042	UC1, N, CE, KC	
	 Analog Output Unit	--	2CH	4CH	Output range: 1 to 5 V, 0 to 10 V, ±10 V, 0 to 20 mA, or 4 to 20 mA.	Resolution: 1/6000	0.040	0.095	CP1W-DA021	UC1, N, L, CE, KC
						Resolution: 1/6000	0.080	0.124	CP1W-DA041	
						Resolution: 1/12000	0.070	0.160	CP1W-DA042	
	 Analog I/O Unit	4CH	4CH	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. Output range: 1 to 5 V, 0 to 10 V, ±10 V, 0 to 20 mA, or 4 to 20 mA.	Resolution: 1/12000	0.120	0.170	CP1W-MAD44	UC1, N, CE, KC
						Resolution: 1/12000	0.120	0.120	CP1W-MAD42	
						Resolution: 1/6000	0.083	0.110	CP1W-MAD11	
	 Temperature Sensor Unit	2CH	--	--	Sensor type: Thermocouple (J or K)	0.040	0.059	CP1W-TS001	UC1, N, L, CE, KC	
						0.040	0.059	CP1W-TS002		
		2CH	--	--	Sensor type: Platinum resistance thermometer (Pt100 or JPt100)	0.054	0.073	CP1W-TS101		
						0.054	0.073	CP1W-TS102		
		4CH	--	--	Sensor type: Thermocouple (J or K) 2channels can be used as analog input. Input range: 1 to 5 V, 0 to 10 V, 4-20 mA	Resolution: 1/12000	0.070	0.030		CP1W-TS003
						0.080	0.050	CP1W-TS004		
 CompoBus/S I/O Link Unit	8	8	8	CompoBus/S slave	0.029	--	CP1W-SRT21	UC1, N, L, CE, KC		

I/O Connecting Cable

Product name	Specifications	Model	Standards
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.

■DIN Track Accessories

Name	Specifications	Model	Standards
DIN Track	Length: 0.5 m; Height: 7.3 mm	PFP-50N	---
	Length: 1 m; Height: 7.3 mm	PFP-100N	
	Length: 1 m; Height: 16 mm	PFP-100N2	
End Plate	A stopper to secure the Units on the DIN Track.	PFP-M	

Programming Devices

Software

Product name	Specifications	Specifications		Model	Standards
		Number of licenses	Media		
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) / Windows 10 (32-bit/64-bit version) CX-One Lite Ver. 4.□ includes Micro PLC Edition CX-Programmer Ver.9.□.	1 license	DVD	CXONE-LT01D-V4	--
FA Integrated Tool Package CX-One Package 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) / Windows 10 (32-bit/64-bit version) CX-One Ver. 4.□ includes CX-Programmer Ver. 9.□.	1 license *	DVD	CXONE-AL01D-V4	--

Note: 1. The E20/30/40(S), N20/N30/N40(S) CPU Units are supported by CX-Programmer version 8.2 or higher.
The E10, E14, N14, N60, 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.
The E60S 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.

2. The CX-One and CX-One Lite cannot be simultaneously installed on the same computer.

* Multi licenses (3, 10, 30, or 50 licenses) and DVD media without licenses are also available for the CX-One.

The following tables lists the Support Software that can be installed from CX-One

Support Software in CX-One		CX-One Lite Ver.4.□	CX-One Ver.4.□	Support Software in CX-One		CX-One Lite Ver.4.□	CX-One Ver.4.□
Micro PLC Edition CX-Programmer	Ver.9.□	Yes	No	CX-Drive	Ver.1.□	Yes	Yes
CX-Programmer	Ver.9.□	No	Yes	CX-Process Tool	Ver.5.□	No	Yes
CX-Integrator	Ver.2.□	Yes	Yes	Faceplate Auto-Builder for NS	Ver.3.□	No	Yes
Switch Box Utility	Ver.1.□	Yes	Yes	CX-Designer	Ver.3.□	Yes	Yes
CX-Protocol	Ver.1.□	No	Yes	NV-Designer	Ver.1.□	Yes	Yes
CX-Simulator	Ver.1.□	Yes	Yes	CX-Thermo	Ver.4.□	Yes	Yes
CX-Position	Ver.2.□	No	Yes	CX-ConfiguratorFDT	Ver.1.□	Yes	Yes
CX-Motion-NCF	Ver.1.□	No	Yes	CX-FLnet	Ver.1.□	No	Yes
CX-Motion-MCH	Ver.2.□	No	Yes	Network Configurator	Ver.3.□	Yes	Yes
CX-Motion	Ver.2.□	No	Yes	CX-Server	Ver.4.□	Yes	Yes

Note: For details, refer to the CX-One Catalog (Cat. No. R134).

Unit Versions

Units	Model numbers	Unit version
CP1E CPU Units	CP1E-E□□SDR-A CP1E-N□□S□D□-□ CP1E-E□□D□-□ CP1E-N□□D□-□ CP1E-NA□□D□-□	Unit version 1.□

Unit Versions and Programming Devices

The following tables show the relationship between unit versions and CX-Programmer versions.

CPU Unit	Functions	Required Programming Device *1						
		CX-Programmer			Micro PLC Edition CX-Programmer			CX-Programmer for CP1E
		Ver.8.2 or higher	Ver.9.03 or higher	Ver.9.42 or higher	Ver.8.2 or higher	Ver.9.03 or higher	Ver.9.42 or higher	Ver.1.0
CP1E-E20/30/40(S)D□-A CP1E-N20/30/40(S□)D□-□	Unit version 1.□ functions	Yes *3	Yes *2	Yes *2	Yes *3	Yes *2	Yes *2	Yes *2
CP1E-E10D□-□ CP1E-□14(S)D□-□ CP1E-N60(S□)D□-□ CP1E-NA20D□-□	Unit version 1.□ functions	No	Yes *2	Yes *2	No	Yes *2	Yes *2	No
CP1E-E60SDR-A	Unit version 1.□ functions	No	No	Yes *2	No	No	Yes *2	No

Note: 1. To update the CX-Programmer, the CX-One version 3/version 4 auto-update must be installed.

2. Use the CX-Programmer version 9.12 or higher, when the CP1W-CIF41 is applied.

* 1 A Programming Console cannot be used.

* 2 Supports Smart Input function.

* 3 Does not support Smart Input function.

CP1E-E□□(S)D□-□ CP1E-N□□(S□)D□-□/NA20D□-□

General Specifications

Type	AC power supply models		DC power supply models
Model	CP1E-□□□S□D□-A CP1E-□□□D□-A		CP1E-□□□S□D□-D CP1E-□□□D□-D
Enclosure	Mounted in a panel		
Dimensions (H × D × W)	E/N/NA□□-type CPU Unit with 10 I/O points (CP1E-E10D□-□): 90mm *1 × 85mm *2 × 66 mm CPU Unit with 14 or 20 I/O points (CP1E-□14D□-□/□20D□-□): 90mm *1 × 85mm *2 × 86 mm CPU Unit with 30 I/O points (CP1E-□30D□-□): 90mm *1 × 85mm *2 × 130 mm CPU Unit with 40 I/O points (CP1E-□40D□-□): 90mm *1 × 85mm *2 × 150 mm CPU Unit with 60 I/O points (CP1E-N60D□-□): 90mm *1 × 85mm *2 × 195 mm CPU Unit with 20 I/O points and built-in analog (CP1E-NA20D□-□): 90mm *1 × 85mm *2 × 130 mm E/N/□□S(1)-type CPU Unit with 14 or 20 I/O points (CP1E-□14SD□-□/□20SD□-□): 90mm *1 × 79mm *2 × 86 mm CPU Unit with 30 I/O points (CP1E-□30S(1)D□-□): 90mm *1 × 79mm *2 × 130 mm CPU Unit with 40 I/O points (CP1E-□40S(1)D□-□): 90mm *1 × 79mm *2 × 150 mm CPU Unit with 60 I/O points (CP1E-□60S(1)D□-□): 90mm *1 × 79mm *2 × 195 mm		
Weight	CPU Unit with 10 I/O points (CP1E-E10D□-□): 300g max. CPU Unit with 14 I/O points (CP1E-□14(S)D□-□): 360g max. CPU Unit with 20 I/O points (CP1E-□20(S)D□-□): 370g max. CPU Unit with 30 I/O points (CP1E-□30(S□)D□-□): 600g max. CPU Unit with 40 I/O points (CP1E-□40(S□)D□-□): 660g max. CPU Unit with 60 I/O points (CP1E-□60(S□)D□-□): 850g max. CPU Unit with 20 I/O points and built-in analog (CP1E-NA20D□-□): 680g max.		
Electrical specifications	Supply voltage	100 to 240 VAC 50/60 Hz	24 VDC
	Operating voltage range	85 to 264 VAC	20.4 to 26.4 VDC
	Power consumption	15 VA/100 VAC max. 25 VA/240 VAC max. (CP1E-E10D□-A/□14(S)D□-A/□20(S)D□-A)	9 W max. (CP1E-E10D□-D) 13 W max. (CP1E-N14D□-D/N20D□-D)
		50 VA/100 VAC max. 70 VA/240 VAC max. (CP1E-NA20D□-A/□30(S□)D□-A/□40(S□)D□-A/ N60(S□)D□-A)	20 W max. (CP1E-NA20D□-D/N30(S□)D□-D/N40(S□)D□-D/ N60(S□)D□-D) *4
	Inrush current	120 VAC, 20 A for 8 ms max. for cold start at room temperature 240 VAC, 40 A for 8 ms max. for cold start at room temperature	24 VDC, 30 A for 20 ms max. for cold start at room temperature
	External power supply *3	Not provided. (CP1E-E10D□-A/□14(S)D□-A/□20(S)D□-A) 24 VDC, 300 mA (CP1E-NA20D□-A/□30D□-A/□40D□-A/□60D□-A/ □30SDR-A/□40SDR-A/□60SDR-A)	Not provided
	Insulation resistance	20 MΩ min. (at 500 VDC) between the external AC terminals and GR terminals	Except between DC primary current and DC secondary current
	Dielectric strength	2,300 VAC 50/60Hz for 1 min between AC external and GR terminals Leakage current: 5 mA max.	Except between DC primary current and DC secondary current
Power OFF detection time	10 ms min.	2 ms min.	
Application environment	Ambient operating temperature	0 to 55 °C	
	Ambient humidity	10% to 90%	
	Atmosphere	No corrosive gas.	
	Ambient storage temperature	-20 to 75 °C (excluding battery)	
	Altitude	2,000 m max.	
	Pollution degree	2 or less: Conforms to JIS B3502 and IEC 61131-2.	
	Noise resistance	2 kV on power supply line (Conforms to IEC61000-4-4.)	
	Overvoltage category	Category II: Conforms to JIS B3502 and IEC 61131-2.	
	EMC Immunity Level	Zone B	
Vibration resistance	Conforms to JIS 60068-2-6. 5 to 8.4 Hz with 3.5-mm amplitude, 8.4 to 150 Hz Acceleration of 9.8 m/s ² for 100 min in X, Y, and Z directions (10 sweeps of 10 min each = 100 min total)		
Shock resistance	Conforms to JIS 60068-2-27. 147 m/s ² , 3 times in X, Y, and Z directions		
Terminal block	Fixed (not removable)		
Terminal screw size	M3		
Applicable standards	Conforms to EC Directive		
Grounding method	Ground to 100 Ω or less.		

* 1 Total of 110 mm with mounting brackets.

* 2 Excluding cables.

* 3 Use the external power supply to power input devices. Do not use it to drive output devices.

* 4 This is the rated value for the maximum system configuration. Use the following formula to calculate power consumption for CPU Units with DC power.
 Formula: DC power consumption = (5V current consumption × 5 V/70% (internal power efficiency) + 24V current consumption) × 1.1 (current fluctuation factor)

The above calculation results show that a DC power supply with a greater capacity is required.

Performance Specifications

Item		CP1E-E□□SD□-□ CP1E-□□D□-□	CP1E-N□□S□D□-□ CP1E-N□□D□-□ CP1E-NA□□D□-□	
Program capacity		2 K steps (8 Kbytes) including the symbol table, comments, and program indices of the CX-Programmer	8 K steps (32 Kbytes) including the symbol table, comments, and program indices of the CX-Programmer	
Control method		Stored program method		
I/O control method		Cyclic scan with immediate refreshing		
Program language		Ladder diagram		
Instructions		Approximately 200		
Processing speed	Overhead processing time	0.4 ms		
	Instruction execution times	Basic instructions (LD): 1.19 μs min. Special instructions (MOV): 7.9 μs min.		
Number of CP1W-series Expansion Units connected		CP1E-E10D□-□/□14(S)D□-□/□20(S)D□-□: None CP1E-□30(S□)D□-□/□40(S□)D□-□/□60(S□)D□-□/NA20(S□)D□-□: 3 units		
Maximum number of I/O points		CP1E-E10D□-□ : 10 CP1E-□14(S)D□-□: 14 CP1E-□20(S)D□-□: 20 CP1E-□30(S□)D□-□: 150 (30 built in, 40 × 3 expansion) CP1E-□40(S□)D□-□: 160 (40 built in, 40 × 3 expansion) CP1E-□60(S□)D□-□: 180 (60 built in, 40 × 3 expansion) CP1E-NA20D□-□: 140 (20 built in, 40 × 3 expansion)		
Built-in I/O		CP1E-E10D□-□ : 10 (6 inputs, 4 outputs) CP1E-□14(S)D□-□: 14 (8 inputs, 6 outputs) CP1E-□20(S)D□-□: 20 (12 inputs, 8 outputs) CP1E-□30(S□)D□-□: 30 (18 inputs, 12 outputs) CP1E-□40(S□)D□-□: 40 (24 inputs, 16 outputs) CP1E-□60(S□)D□-□: 60 (36 inputs, 24 outputs) CP1E-NA20D□-□: 20 (12 inputs, 8 outputs)		
Built-in input functions	High-speed counters	High-speed counter mode/maximum frequency	Incremental Pulse Inputs 10 kHz: 6 counters 5 counters (only for 10 I/O points) Up/Down Inputs 10 kHz: 2 counters Pulse + Direction Inputs 10 kHz: 2 counters Differential Phase Inputs (4x) 5 kHz: 2 counters	Incremental Pulse Inputs 100 kHz: 2 counters, 10 kHz: 4 counters Up/Down Inputs 100 kHz: 1 counters, 10 kHz: 1 counters Pulse + Direction Inputs 100 kHz: 2 counters Differential Phase Inputs (4x) 50 kHz: 1 counter, 5 kHz: 1 counter
		Counting mode	Linear mode Ring mode	
		Count value	32 bits	
		Counter reset modes	Phase Z and software reset (excluding increment pulse input) Software reset	
	Control method	Target Matching Range Comparison		
	Input interrupts	6 inputs (4 inputs only for 10 I/O points) Interrupt input pulse width: 50 μs min.		
	Quick-response Inputs	6 inputs (4 inputs only for 10 I/O points) Input pulse width: 50 μs min.		
Normal input	Input constants	Delays can be set in the PLC Setup (0 to 32 ms, default: 8 ms). Set values: 0, 1, 2, 4, 8, 16, or 32 ms		
Built-in output functions	Pulse outputs (Models with transistor outputs only)	Pulse output method and output frequency		Pulse + Direction Mode 1 Hz to 100 kHz: 2 outputs
		Output mode		Continuous mode (for speed control) Independent mode (for position control)
		Number of output pulses		Relative coordinates: 0000 0000 to 7FFF FFFF hex (0 to 2147483647) Absolute coordinates: 8000 0000 to 7FFF FFFF hex (-2147483647 to 2147483647)
		Acceleration/deceleration curves		Trapezoidal acceleration and deceleration (Cannot perform S-curve acceleration and deceleration.)
		Changing SVs during instruction execution		Only target position can be changed.
		Origin searches		Included
	Pulse outputs (Models with transistor outputs only)	Frequency		2.0 to 6,553.5 Hz (in increments of 0.1 Hz) with 1 output or 2 Hz to 32,000 Hz (in increments of 1 Hz) with 1 output
	Duty factor	PWM output function not included	0.0% to 100.0% (in increments of 0.1%) Accuracy: +1%/-0% at 2 Hz to 10,000 Hz and +5%/-0% at 10,000 Hz to 32,000 kHz	
	Output mode		Continuous Mode	
Built-in analog	Analog input	Analog function not included		
	Analog output	Setting range: 0 to 6,000 (2 channels only for NA-type) Setting range: 0 to 6,000 (1 channels only for NA-type)		
Analog adjusters		E/N/NA□□-type: 2 adjusters (Setting range: 0 to 255) E/N□□S(1)-type: None		

CP1E-E□□(S)D□-□ CP1E-N□□(S□)D□-□/NA20D□-□

Item		CP1E-E□□SD□-□ CP1E-E□□D□-□	CP1E-N□□S□D□-□ CP1E-N□□D□-□ CP1E-NA□□D□-□	
Communications	B-type Peripheral USB Port	Conforming to USB 2.0 B type connector		
		Transmission distance	5 m max.	
	Built-in RS-232C port	No built-in RS-232C port	Interface: Conforms to EIA RS-232C.	
			Communications method	Half duplex
			synchronization	Start-stop
			Baud rate	1.2, 2.4, 4.8, 9.6, 19.2, 38.4, 57.6, or 115.2 kbps
			Transmission distance	15 m max.
		Supported protocol	<ul style="list-style-type: none"> • Host Link • 1:N NT Link • No-protocol mode • Serial PLC Links (master, slave) • Modbus-RTU Easy Master 	
	Built-in RS-485 port	No built-in RS-485 port	N30/40/60S1-type only Interface: Conforms to EIA RS-485. 2-wire sensors No isolation	
			Communications method	Half duplex
	synchronization		Start-stop	
	Baud rate		1.2, 2.4, 4.8, 9.6, 19.2, 38.4, 57.6, or 115.2 kbps	
	Transmission distance		50 m max.	
	Supported protocol	<ul style="list-style-type: none"> • Host Link • 1:N NT Link • No-protocol mode • Serial PLC Links (master, slave) • Modbus-RTU Easy Master 		
Serial Option port	Option Board cannot be mounted.	N30/40/60 and NA20-type only 1 port		
		Mountable Option Boards	<ul style="list-style-type: none"> • One RS-232C port: CP1W-CIF01 • One RS-422A/485 port (not isolated): CP1W-CIF11 • One RS-422A/485 port (isolated): CP1W-CIF12-V1 • One Ethernet port: CP1W-CIF41 	
		Communications method	Depends on Option Board.	
		synchronization	Depends on Option Board.	
		Baud rate	1.2, 2.4, 4.8, 9.6, 19.2, 38.4, 57.6, or 115.2 kbps	
	Compatible protocols	<ul style="list-style-type: none"> • Host Link • 1:N NT Link • No-protocol mode • Serial PLC Links (master, slave) • Modbus-RTU Easy Master 		
Number of tasks	17 <ul style="list-style-type: none"> • One cyclic execution task • One scheduled interrupt task (always interrupt task 1) • Six input interrupt tasks (interrupt tasks 2 to 7) • Sixteen high-speed counter interrupt tasks (interrupt tasks 1 to 16) 			
Maximum subroutine number	128			
Maximum jump number	128			
Scheduled interrupt tasks	1 interrupt task			
Clock	Clock function not included. The time of error occurrence displays 01-01-01 01:01:01 Sunday		Included. Accuracy (monthly deviation): -4.5 min to -0.5 min at ambient temperature of 55°C, -2.0 min to +2.0 min at ambient temperature of 25°C, -2.5 min to +1.5 min at ambient temperature of 0°C	
Memory backup	Built-in EEPROM	Ladder programs and parameters are automatically saved to built-in EEPROM A section of the Data Memory Area can be saved to the built-in EEPROM.		
	Battery backup With CP1W-BAT01 Battery (Sold separately)	Battery cannot be mounted.	CP1W-BAT01 can be used. Maximum battery service life: 5 years Backup Time Guaranteed value (ambient temperature: 55°C): 13,000 hours (approx. 1.5 years) Effective value (ambient temperature: 25°C): 43,000 hours (approx. 5 years)	
CIO Area	Input Bits	1,600 bits (100 words): CIO 0.00 to CIO 99.15 (CIO 00 to CIO 99)		
	Output Bits	1,600 bits (100 words): CIO 100.00 to CIO 199.15 (CIO 100 to CIO 199)		
	Serial PLC Link Words	1,440 bits (90 words): CIO 200.00 to CIO 289.15 (words CIO 200 to CIO 289)		
Work Area (W)	1,600 bits (100 words): W0.00 to W99.15 (W0 to W99)			
Holding Area (H)	800 bits (50 words): H0.00 to H49.15 (H0 to H49) Bits in this area maintain their ON/OFF status when operating mode is changed.			
Auxiliary Area (A)	Read-only: 7,168 bits (448 words) A0 to A447 Read/write: 4,896 bits (306 words) in words A448 to A753			
Temporary Relay Area (TR) (TR Area)	16 bits: TR0 to TR15			
Timer Area (T)	256 timer numbers (T0 to T255 (separate from counters))			
Counter Area (C)	256 counter numbers (C0 to C255 (separate from timers))			

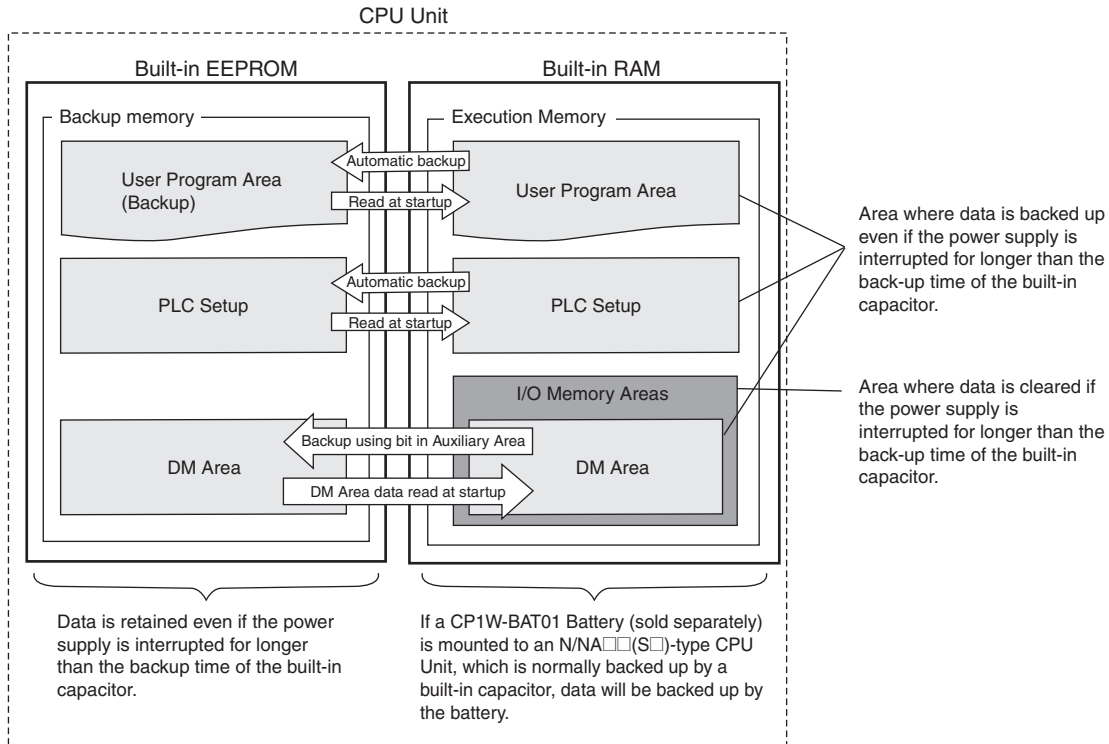
CP1E-E□□(S)D□-□ CP1E-N□□(S□)D□-□/NA20D□-□

Item	CP1E-E□□SD□-□ CP1E-E□□D□-□	CP1E-N□□S□D□-□ CP1E-N□□D□-□ CP1E-NA□□D□-□
Data Memory Area (D)	2 Kwords: D0 to D2047 Of these, 1,500 words can be saved to the backup memory (built-in EEPROM) using settings in the Auxiliary Area.	8 Kwords: D0 to D8191 Of these, 7,000 words can be saved to the backup memory (built-in EEP-ROM) using settings in the Auxiliary Area
Operating modes	PROGRAM mode: Program execution is stopped. Preparations can be executed prior to program execution in this mode. MONITOR mode: Programs are executed. Some operations, such as online editing, and changes to present values in I/O memory, are enabled in this mode. RUN mode: Programs are executed. This is the normal operating mode.	

Internal Memory in the CPU Units

CPU Unit Memory Backup Structure

The internal memory in the CPU Unit consists of built-in RAM and built-in EEPROM. The built-in RAM is used as execution memory and the built-in EEPROM is used as backup memory.

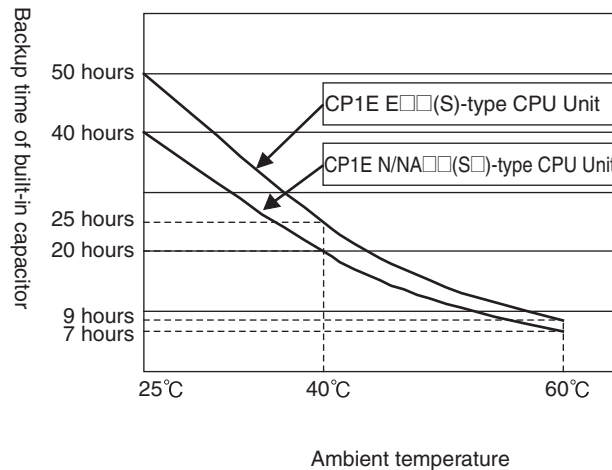


●Precautions for Correct Use

Create a system and write the ladder programs so that problems will not occur in the system if the data in these area may be unstable.

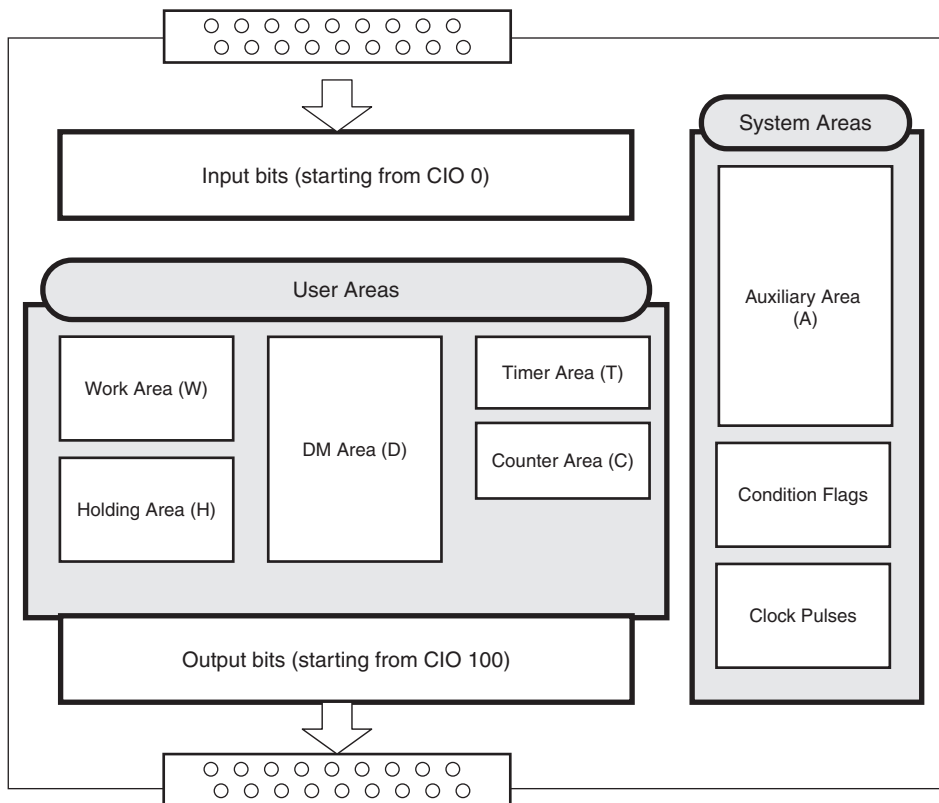
- Data in areas such as the DM area (D), Holding Area (H), the Counter Present Values (C) and the status of Counter Completion Flags (C), which is retained by the battery, may be unstable when the power supply is turned off (Except for the DM area that are retained by the built-in EEPROM using the Auxilliary Area bit.)
- The error log, and clock data (N/NA□□(S□)-type CPU Unit only) in the Auxiliary Area will become unstable. Other words and bits in the Auxiliary Area will be cleared to their default values.

The built-in capacitor's backup time varies with the ambient temperature as shown in the following graph.



I/O Memory Areas

Data can be read and written to I/O memory from the ladder programs. I/O memory consists of an area for I/O with external devices, user areas, and system areas.



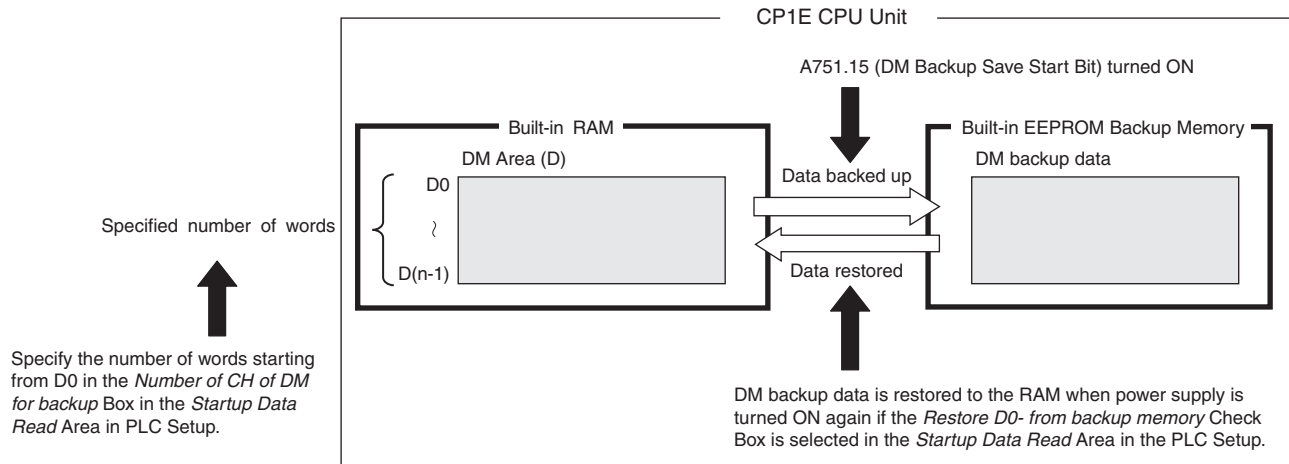
I/O Memory Areas

Name		No. of bits	Word addresses	Remarks
CIO Area	Input Bits	1,600 bits (100 words)	CIO 0 to CIO 99	For NA-type, CIO90, CIO91 is occupied by analog input 0, 1.
	Output Bits	1,600 bits (100 words)	CIO 100 to CIO 199	For NA-type, CIO190 is occupied by analog output 0.
	Serial PLC Link Words	1,440 bits (90 words)	CIO 200 to CIO 289	--
Work Area (W)		1,600 bits (100 words)	W0 to W99	--
Holding Area (H)		800 bits (50 words)	H0 to H49	Data in this area is retained during power interruptions if a Battery Set (sold separately) is mounted to an N/NA□□(S□)-type CPU Unit.
Data Memory Area (D)	E□□(S)-type CPU Unit	2K words	D0 to D2047	Data in specified words of the DM Area can be retained in the built-in EEPROM in the backup memory by using a bit in the Auxiliary Area. Applicable words: D0 to D1499 (One word can be specified at a time.)
	N/NA□□(S□)-type CPU Unit	8K words	D0 to D8191	Data in specified words of the DM Area can be retained in the built-in EEPROM in the backup memory by using a bit in the Auxiliary Area. Applicable words: D0 to D6999 (One word can be specified at a time.)
Timer Area (T)	Present values	256	T0 to T255	--
	Timer Completion Flags	256		--
Counter Area (C)	Present values	256	C0 to C255	Data in this area is retained during power interruptions if a Battery Set (sold separately) is mounted to an N/NA□□(S□)-type CPU Unit.
	Counter Completion Flags	256		--
Auxiliary Area (A)	Read only	7168 bits (448 words)	A0 to A447	Data in this area is retained during power interruptions if a Battery Set (sold separately) is mounted to an N/NA□□(S□)-type CPU Unit.
	Read-write	4,896 bits (306 words)	A448 to A753	

Backing Up and Restoring DM Area Data

The contents of the DM Area (D) will become unstable if the power supply is interrupted for longer than the backup time of the built-in capacitor (50 hours for an E□□(S)-type CPU Unit, 40 hours for an N/NA□□(S□)-type CPU Unit without a Battery).

The contents of the specified words in the DM Area data can be backed up from RAM to the built-in EEPROM backup memory during operation by turning ON a bit in the Auxiliary Area. The number of DM Area words to back up is specified in the Number of CH of DM for backup Box in the PLC Setup. If the Restore D0- from backup memory Check Box is selected in the PLC Setup, the backup data will automatically be restored to RAM when the power is turned back ON so that data is not lost even if power is interrupted.



Conditions for Executing Backup

Specified words starting from D0 in the RAM can be saved to the built-in EEPROM backup memory by turning ON A751.15. (These words are called the DM backup words and the data is called the DM backup data.)

A751.15 (DM Backup Save Start Bit) can be used in any operating mode (RUN, MONITOR, or PROGRAM mode).

Words That Can Be Backed Up

- E□□(S)-type CP1E CPU Units: D0 to D1499
- N/NA□□(S□)-type CP1E CPU Units: D0 to D6999

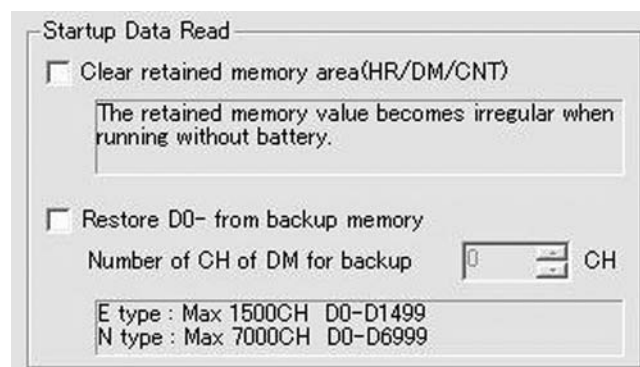
Number of Words To Back Up

The number of words to back up starting from D0 is set in the Number of CH of DM for backup Box in the Startup Data Read Area in the PLC Setup.

Restoring DM Backup Data to RAM When Power Is Turned ON

The DM backup data can be restored to RAM when power is turned ON by selecting the Restore D0- from backup memory Check Box in the Startup Data Read Area in the PLC Setup.

The DM backup data will be read from the backup memory even if the Clear retained memory area (HR/DM/CNT) Check Box is selected in the PLC Setup.

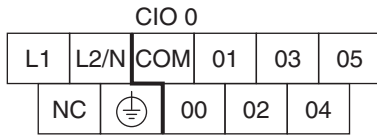


Built-in Inputs

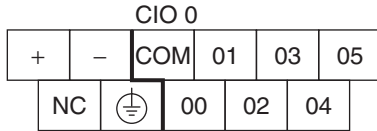
Terminal Arrangements

● **Input Terminal Arrangement for CPU Unit with 10 I/O Points**

AC power supply models

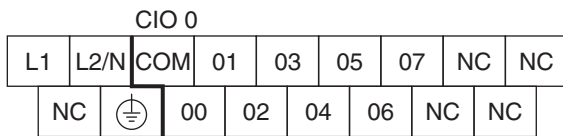


DC power supply models

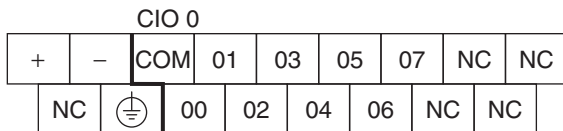


● **Input Terminal Arrangement for CPU Unit with 14 I/O Points**

AC power supply models

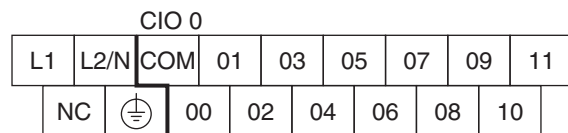


DC power supply models

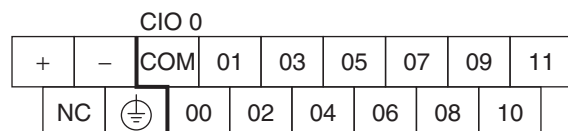


● **Input Terminal Arrangement for CPU Unit with 20 I/O Points**

AC power supply models

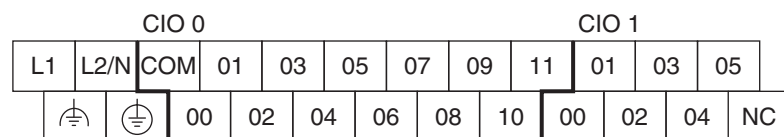


DC power supply models

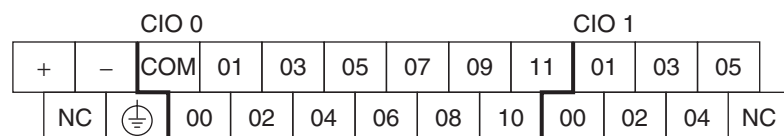


● **Input Terminal Arrangement for CPU Unit with 30 I/O Points**

AC power supply models



DC power supply models



CP1E-E□□(S)D□-□ CP1E-N□□(S□)D□-□/NA20D□-□

●Input Terminal Arrangement for CPU Unit with 40 I/O Points

AC power supply models

CIO 0											CIO 1					
L1	L2/N	COM	01	03	05	07	09	11	01	03	05	07	09	11		
			00	02	04	06	08	10	00	02	04	06	08	10		

DC power supply models

CIO 0											CIO 1					
+	-	COM	01	03	05	07	09	11	01	03	05	07	09	11		
NC			00	02	04	06	08	10	00	02	04	06	08	10		

●Input Terminal Arrangement for CPU Unit with 60 I/O Points

AC power supply models

CIO 0											CIO 1						CIO 2					
L1	L2/N	COM	01	03	05	07	09	11	01	03	05	07	09	11	01	03	05	07	09	11		
			00	02	04	06	08	10	00	02	04	06	08	10	00	02	04	06	08	10		

DC power supply models

CIO 0											CIO 1						CIO 2					
+	-	COM	01	03	05	07	09	11	01	03	05	07	09	11	01	03	05	07	09	11		
NC			00	02	04	06	08	10	00	02	04	06	08	10	00	02	04	06	08	10		

●Input Terminal Arrangement for CPU Unit with 20 I/O Points and Built-in Analog

AC power supply models

CIO 0											CIO 90		CIO 91	
L1	L2/N	COM	01	03	05	07	09	11	I IN0	AG	I IN1			
			00	02	04	06	08	10	VIN0	COM0	VIN1	COM1		

DC power supply models

CIO 0											CIO 90		CIO 91	
+	-	COM	01	03	05	07	09	11	I IN0	AG	I IN1			
NC			00	02	04	06	08	10	VIN0	COM0	VIN1	COM1		

Allocating Built-in Inputs to Functions

Input terminals are allocated functions by setting parameters in the PLC Setup. Set the PLC Setup so that each terminal is used for only one function.

CPU Unit with I/O Points	Input terminal block		Settings in PLC Setup							
			Interrupt input setting on Built-in Input Tab Page			High-speed counter 0 to 3 setting on Built-in Input Tab Page			Origin search settings on Pulse Output 0/1 Tab Page	
	Terminal block label	Terminal number	Normal	Interrupt	Quick	Single-phase (increment pulse input)	Two-phase (differential phase x4 or up/down)	Two-phase (pulse/direction)	CPU Unit with 20 to 60 points	CPU Unit with 14 I/O points
			Normal input	Input interrupt	Quick-response input					
10	CIO 0	00	Normal input 0	--	--	Counter 0, increment input	Counter 0, phase A or up input	Counter 0, pulse input	--	--
		01	Normal input 1	--	--	Counter 1, increment input	Counter 0, phase B or down input	Counter 1, pulse input	--	--
		02	Normal input 2	Interrupt input 2	Quick-response input 2	Counter 2, increment input	Counter 1, phase A or up input	Counter 0, direction	--	--
		03	Normal input 3	Interrupt input 3	Quick-response input 3	--	Counter 1, phase B or down input	Counter 1, direction	--	Pulse 0, Origin proximity input signal
		04	Normal input 4	Interrupt input 4	Quick-response input 4	Counter 3, increment input	Counter 0, phase Z or reset input	Counter 0, reset input	--	--
		05	Normal input 5	Interrupt input 5	Quick-response input 5	Counter 4, increment input	Counter 1, phase Z or reset input	Counter 1, reset input	--	Pulse 1, Origin proximity input signal
		06	Normal input 6	Interrupt input 6	Quick-response input 6	Counter 5, increment input	--	--	Pulse 0: Origin input signal	Pulse 0, Origin input signal
		07	Normal input 7	Interrupt input 7	Quick-response input 7	--	--	--	Pulse 1: Origin input signal	Pulse 1, Origin input signal
		08	Normal input 8	--	--	--	--	--	--	--
		09	Normal input 9	--	--	--	--	--	--	--
		10	Normal input 10	--	--	--	--	--	Pulse 0: Origin proximity input signal	--
14	CIO 0	11	Normal input 11	--	--	--	--	--	Pulse 1: Origin proximity input signal	--
		00 to 05	Normal input 12 to 17	--	--	--	--	--	--	--
20	CIO 0	06 to 11	Normal input 18 to 23	--	--	--	--	--	--	--
		00 to 11	Normal input 24 to 35	--	--	--	--	--	--	--
30	CIO 1	00 to 05	Normal input 12 to 17	--	--	--	--	--	--	--
40		06 to 11	Normal input 18 to 23	--	--	--	--	--	--	--
60	CIO 2	00 to 11	Normal input 24 to 35	--	--	--	--	--	--	--

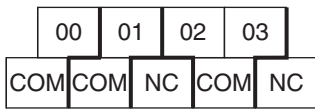
These functions are supported only by N/NA□□(S□)-type CPU Units with transistor outputs.

Built-in Outputs

Terminal Arrangements

●Output Terminal Arrangement for CPU Unit with 10 I/O Points

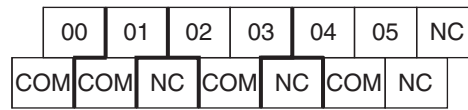
AC power supply model
DC power supply model



CIO 100

●Output Terminal Arrangement for CPU Unit with 14 I/O Points

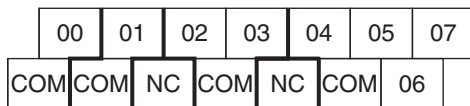
AC power supply model
DC power supply model



CIO 100

●Output Terminal Arrangement for CPU Unit with 20 I/O Points

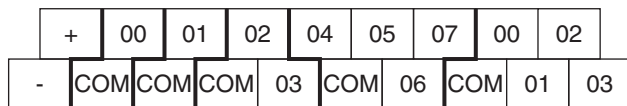
AC power supply model
DC power supply model



CIO 100

●Output Terminal Arrangement for CPU Unit with 30 I/O Points

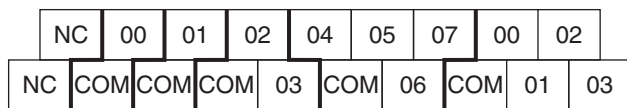
AC power supply model
E/N30(S□)D□-A



CIO 100

CIO 101

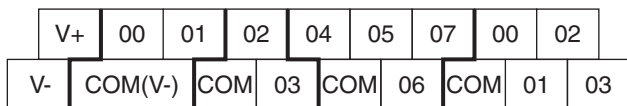
DC power supply model
N30D□-D



CIO 100

CIO 101

N30S(1)DT-D

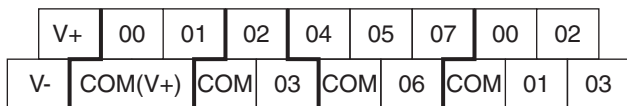


100 CH

101 CH

Note: V- and COM(V-) are internally connected.

N30S(1)DT1-D



100 CH

101 CH

Note: V+ and COM(V+) are internally connected.

●Output Terminal Arrangement for CPU Unit with 40 I/O Points

AC power supply model

E/N40(S□)D□-A

+	00	01	02	03	04	06	00	01	03	04	06
-	COM	COM	COM	COM	05	07	COM	02	COM	05	07
CIO 100						CIO 101					

DC power supply model

N40D□-D

NC	00	01	02	03	04	06	00	01	03	04	06
NC	COM	COM	COM	COM	05	07	COM	02	COM	05	07
CIO 100						CIO 101					

N40S(1)DT-D

V+	00	01	02	03	04	06	00	01	03	04	06
V-	COM(V-)	COM	COM	05	07	COM	02	COM	05	07	
100 CH						101 CH					

Note: V- and COM(V-) are internally connected.

N40S(1)DT1-D

V+	00	01	02	03	04	06	00	01	03	04	06
V-	COM(V+)	COM	COM	05	07	COM	02	COM	05	07	
100 CH						101 CH					

Note: V+ and COM(V+) are internally connected.

●Output Terminal Arrangement for CPU Unit with 60 I/O Points

AC power supply model

E/N60(S□)D□-A

+	00	01	02	04	05	07	00	02	04	05	07	00	02	04	05	07
-	COM	COM	COM	03	COM	06	COM	01	03	COM	06	COM	01	03	COM	06
CIO 100					CIO 101						CIO 102					

DC power supply model

N60D□-D

NC	00	01	02	04	05	07	00	02	04	05	07	00	02	04	05	07
NC	COM	COM	COM	03	COM	06	COM	01	03	COM	06	COM	01	03	COM	06
CIO 100					CIO 101						CIO 102					

N60S(1)DT-D

V+	00	01	02	04	05	07	00	02	04	05	07	00	02	04	05	07
V-	COM(V-)	COM	03	COM	06	COM	01	03	COM	06	COM	01	03	COM	06	
100 CH					101 CH						102 CH					

Note: V- and COM(V-) are internally connected.

N60S(1)DT1-D

V+	00	01	02	04	05	07	00	02	04	05	07	00	02	04	05	07
V-	COM(V+)	COM	03	COM	06	COM	01	03	COM	06	COM	01	03	COM	06	
100 CH					101 CH						102 CH					

Note: V+ and COM(V+) are internally connected.