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• Safety networks • Safety sensors • Safety units/relay units • Safety door/guard lock switches

CD_EN_01+CP1E+Brochure

CP1E PLC

The economic machine controller

» Easy to use
» **Economical**
» Efficient

realizing

Industrial automation
Elincom Group
European Union: www.elinco.eu
Russia: www.elinc.ru

Compact & cost-effective

The CP1E delivers an exceptional solution for automating small and compact machines, and is part of Omron's Lean Automation concept. Lean Automation fits into stand-alone machines or modules within a larger machine. Its merit lies in its simplicity, compactness and economically attractive solutions.

Know one ... know them all

Since the CP1E series shares the same architecture as all Omron's PLCs -but with a smaller yet powerful instruction set- programs are compatible across platforms and allow for easy upward migration.

Fitting your needs...exactly

Program capacity

N-type CP1E CPU Units - Application Models

8K steps

BxDxH 86x85x90
CP1E-N20D□-□

BxDxH 130x85x90
CP1E-N30D□-□

BxDxH 150x85x90
CP1E-N40D□-□

E-type CP1E CPU Units - Basic Models

2K steps

BxDxH 86x85x90
CP1E-E20DR-A

BxDxH 130x85x90
CP1E-E30DR-A

BxDxH 150x85x90
CP1E-E40DR-A

20 30 40 Number of I/O points

All CPUs offer high- speed USB connection for easy connection and "Easy Input Editor" for faster programming by using an intuitive predictive ladder editor. Standard USB cables can be used for that purpose.
Two different families are available: CP1E-E is the economical yet powerful model, while the CP1E-N has a built-in real time clock, motion control capabilities, and an intelligent RS-232 port for connection to an HMI, bar code reader, robot or other serial device. Several option units are available to increase the functionality.

N-type

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

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

Option Battery

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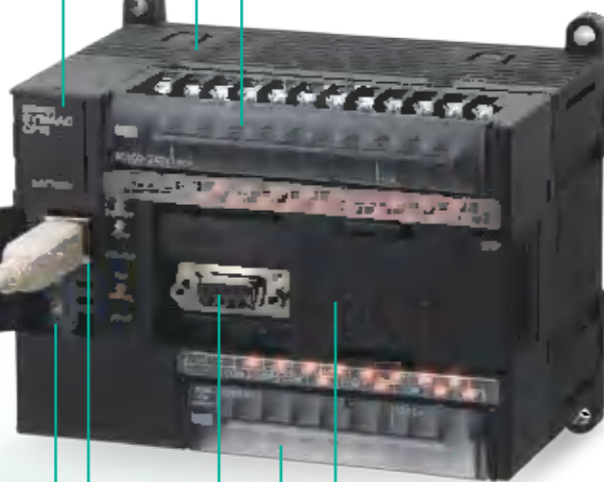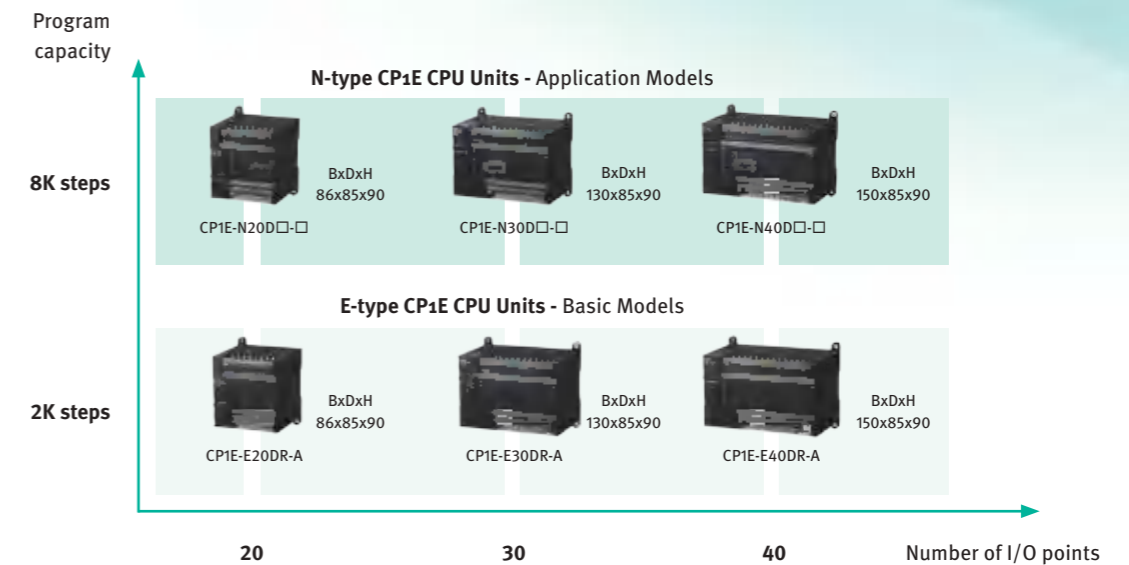
Program capacity : 2 Ksteps
DM Area capacity : 2 Kwords
Timers/Counters : 256 each

High-speed counters :
10 kHz × 6 inputs

Peripheral USB port

Peripheral USB port

Serial Option port : 1 port[*1]

Pulse outputs : 100kHz x 2 outputs[*2]

Serial communications port : RS-232C
[*1] : Models with 30 or 40 I/O points.
[*2] : Models with transistor outputs.

Analog adjusters :
2 adjusters

Analog adjusters : 2 adjusters

Simple and user friendly

Easy to use input editor with smart input function

When you begin typing an instruction in ladder editor mode, suggested instructions are displayed.
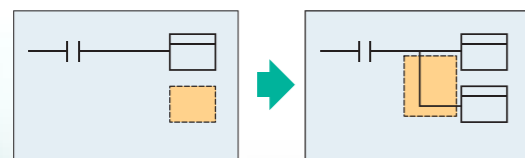
Smart Input Function

Guidance display

enter Select the desired instruction and the addresses will be set to one higher than the addresses M that were previously entered.

enter Enter the operands. I/O comments can also be entered at the same time.

M When you begin typing an instruction in ladder editor mode, suggested instructions are displayed.

User-friendly ladder program input

Automatic connecting line insertions
With the Automatic connecting line insertions function the necessary connection is added automatically based on the curser position.

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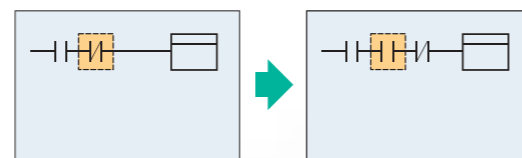
When an instruction is input at the curser, a column is automatically inserted for the instruction.

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.

0.00 100.00
0.01

0.00 100.00
0.01

0.05 100.05
0.06

Offset set to 5 bits...
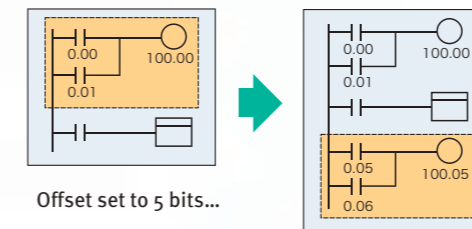
Intuitive menu structure

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.
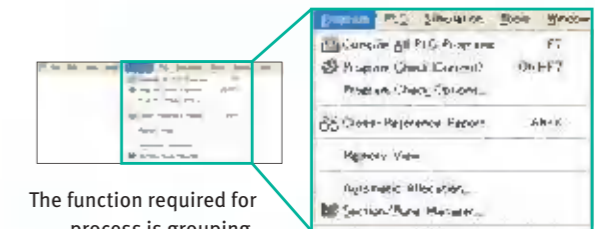
Only commercially available USB cables required

CP1E CPU Units use USB for the peripheral port. 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

I/O status at a glance

The terminal layout display features I/O indicators. The indicators are in the same position as the terminals to let you see the I/O status at a glance. You can easily identify I/O status or perform status checks at startup or during operation.

ON ON OFF ON

Sensors

Visible status
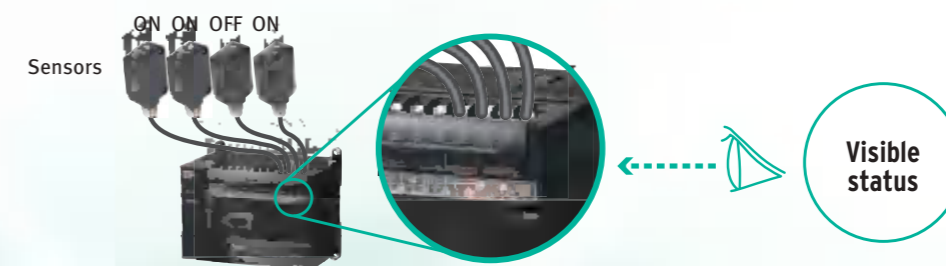
Efficient and effective

N-type only

The machine controller for Lean Automation solutions

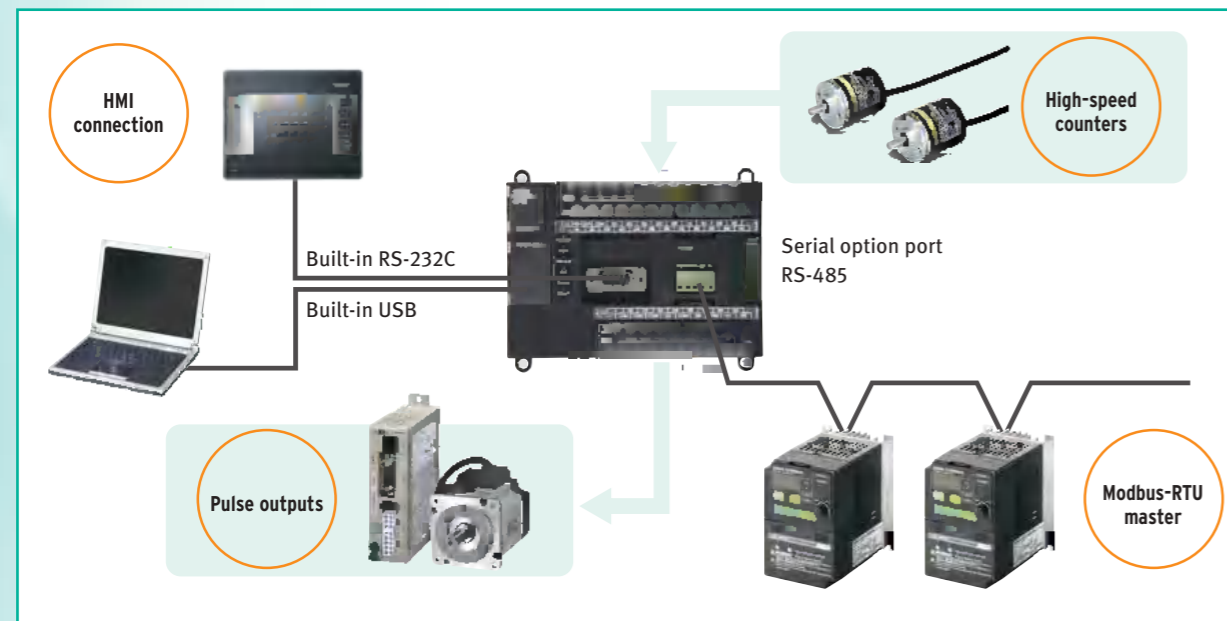The CP1E N-type CPU units are equipped with high-speed counters, pulse outputs, and a built-in serial port. These features enable control of a wide range of devices.
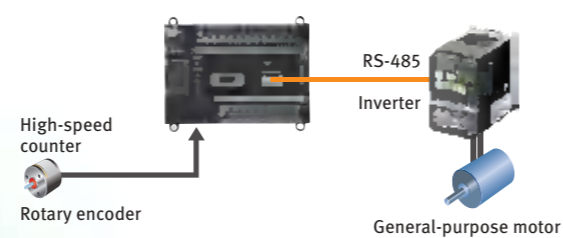

- HMI connection
- High-speed counters
- Built-in RS-232C
- Built-in USB
- Serial option port RS-485
- Pulse outputs
- Modbus-RTU master

Pulse outputs

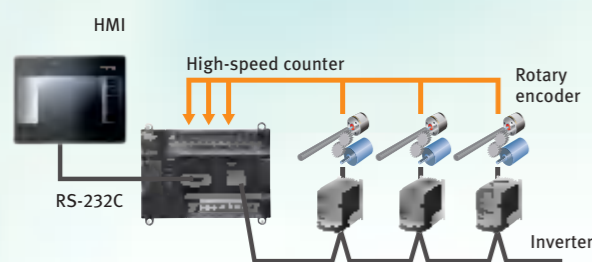Two 100kHz pulse outputs for high-precision position control. Note : models with transistor outputs.

- HMI
- Pulse outputs
- RS-232C
- Servomotor / driver
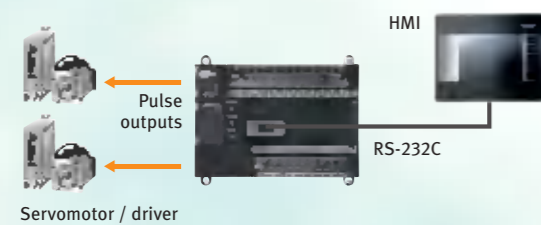
Modbus-RTU easy Master

Fast inverter control via RS-485.

- RS-485
- Inverter
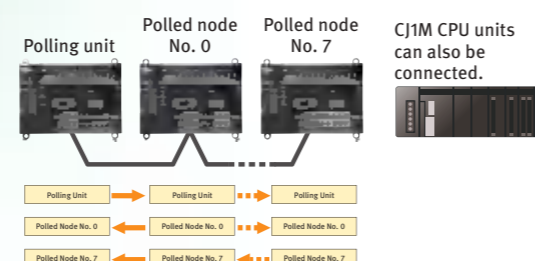- High-speed counter
- Rotary encoder
- General-purpose motor

High-speed counters

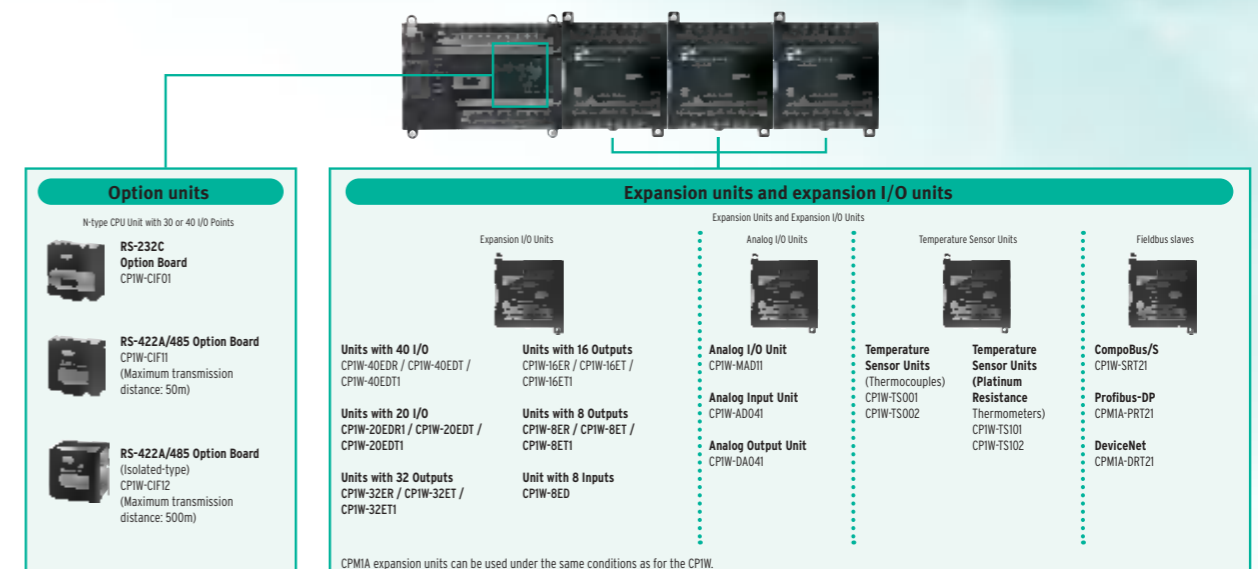Control multiple axes with one PLC using the two 100kHz and four 10kHz, single-phase high-speed counters.

- HMI
- High-speed counter
- Rotary encoder
- RS-232C
- Inverter

Serial PLC links

Link data with up to 10 words between up to nine CP1E-N CPU units.

- Polling unit
- Polled node No. 0
- Polled node No. 7
- CJ1M CPU units can also be connected.

Optional units for more flexibility

Three expansion units are available. An option board for an additional serial communication port can be added to N-type CPU unit.

Option units
N-type CPU Unit with 30 or 40 I/O Points

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)

Expansion units and expansion I/O units
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

Analog Input Unit
CP1W-AD041

Analog Output Unit
CP1W-DA041

Temperature Sensor Units

Temperature Sensor Units (Thermocouples)
CP1W-TS001
CP1W-TS002

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

Fieldbus slaves

CompoBus/S
CP1W-SRT21

Profibus-DP
CPM1A-PRT21

DeviceNet
CPM1A-DRT21

CPM1A expansion units can be used under the same conditions as for the CP1W.

E-type CP1E CPU Units (Basic Models)

Product Name	Specifications							Model
	Power supply	Inputs	Outputs	Output type		Program Capacity	Data memory capacity	
E-type with 20 I/O Points	100 to 240 VAC	12	8	Relay		2K steps	2K words	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

N-type CP1E CPU Units (Application Models)

Product Name	Specifications					Program Capacity	Data memory capacity	Model
	Power supply	Inputs	Outputs	Output type				
N-type with 20 I/O Points	100 to 240 VAC	12	8	Relay		8K steps	8K words	CP1E-N20DR-A
		12 Digital + 2 Analog*	8 Digital + 1 Analog*	Relay				CP1E-NA20DR-A*
		12	8	Transistor (sinking)				CP1E-N20DT-A
				Transistor (sourcing)				CP1E-N20DT1-A
	24 VDC	12	12	Relay				CP1E-N20DR-D
				Transistor (sinking)				CP1E-N20DT-D
				Transistor (sourcing)				CP1E-N20DT1-D
		12 Digital + 2 Analog*	8 Digital + 1 Analog*	Transistor (sinking)				CP1E-NA20DT-D*
				Transistor (sourcing)				CP1E-NA20DT1-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
	24 VDC			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
	24 VDC			Relay				CP1E-N40DR-D
				Transistor (sinking)				CP1E-N40DT-D
				Transistor (sourcing)				CP1E-N40DT1-D
Battery Set	For N-type CP1E CPU Units							CP1W-BAT01
	Note: Mount a Battery to an N-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.)							

Note: There are no accessories included with N-type CP1E CPU units. RS-232C connectors for the built-in RS-232C port and the battery (CP1W-BAT01) are not included.
*Note: CP1E-NA model available early 2010