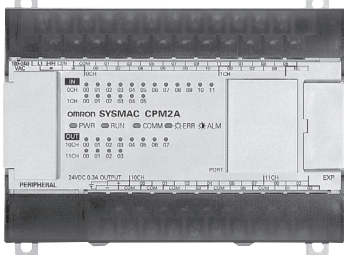


Compact PLC series

# CPM2A

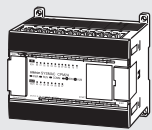
An extensive line-up lets you easily configure machines and production lines to meet your needs

## SYSMAC CPM2A

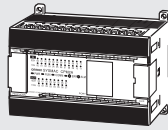


Every CPM2A CPU comes equipped with an RS-232C interface as standard, e.g. to provide easy connection with a Programmable Terminal for fast and easy machine monitoring, temperature setting, etc. Simple positioning with the pulse I/O function is another example of the many advanced functions and high added value that the CPM2A brings to compact machines. Removable terminal blocks ensure easy maintenance, and the CPM2A uses the same Expansion I/O Units as the CPM1A for easy and economical sharing of system components.

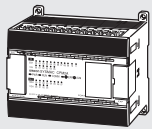
CPU Units with AC Power Supply Depth: 90 mm



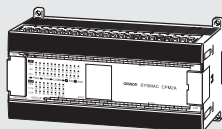
■ Relay Output CPU Unit  
CPM2A-20CDR-A  
● Input points: 12, DC input  
● Output points: 8



■ Relay Output CPU Unit  
CPM2A-40CDR-A  
● Input points: 24, DC input  
● Output points: 16

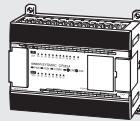


■ Relay Output CPU Unit  
CPM2A-30CDR-A  
● Input points: 18, DC input  
● Output points: 12

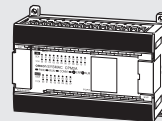


■ Relay Output CPU Unit  
CPM2A-60CDR-A  
● Input points: 36, DC input  
● Output points: 24

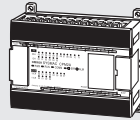
CPU Units with DC Power Supply Depth: 55 mm



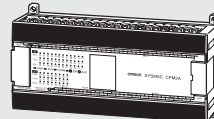
■ Relay Output CPU Unit  
CPM2A-20CDR-D  
■ Transistor Output CPU Units  
CPM2A-20CDT-D (Sink)  
CPM2A-20CDT1-D (Source)  
● Input points: 12, DC input  
● Output points: 8



■ Relay Output CPU Unit  
CPM2A-40CDR-D  
■ Transistor Output CPU Units  
CPM2A-40CDT-D (Sink)  
CPM2A-40CDT1-D (Source)  
● Input points: 24, DC input  
● Output points: 16

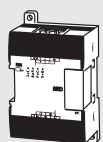


■ Relay Output CPU Unit  
CPM2A-30CDR-D  
■ Transistor Output CPU Units  
CPM2A-30CDT-D (Sink)  
CPM2A-30CDT1-D (Source)  
● Input points: 18, DC input  
● Output points: 12

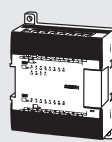


■ Relay Output CPU Unit  
CPM2A-60CDR-D  
■ Transistor Output CPU Units  
CPM2A-60CDT-D (Sink)  
CPM2A-60CDT1-D (Source)  
● Input points: 36, DC input  
● Output points: 24

Expansion I/O Units

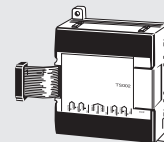


CPM1A-8ED  
● Input points: 8, DC input  
CPM1A-8ER  
Output points: 8, RY output  
CPM1A-8ET  
● Output points: 8, TR output (Sink)  
CPM1A-8ET1  
● Output points: 8, TR output (Source)



CPM1A-20EDR1  
● Input points: 12, DC input  
● Output points: 8, RY output  
CPM1A-20EDT  
● Input points: 12, DC input  
● Output points: 8, TR output (Sink)  
CPM1A-20EDT1  
● Input points: 12, DC input  
● Output points: 8, TR output (Source)

Temperature Sensor Units



CPM1A-TS001  
● Thermocouple inputs: 2  
CPM1A-TS002  
● Thermocouple inputs: 4  
CPM1A-TS101  
● Pt100 inputs: 2  
CPM1A-TS-101-DA  
● Pt100 inputs: 2, Analog inputs: 1  
CPM1A-TS102  
● Pt100 inputs: 4

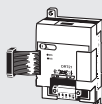
Analog I/O Units

CPM1A-MAD01 (Resolution: 256)  
CPM1A-MAD11 (Resolution: 6,000)  
2 inputs + 1 output  
CPM1A-AD041 (4 inputs)  
CPM1A-DA041 (4 outputs)



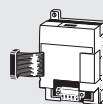
DeviceNet

CPM1A-DRT21  
● I/O Link inputs: 32  
● I/O Link outputs: 32



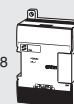
PROFIBUS-DP

CPM1A-PRT21  
● I/O Link inputs: 16  
● I/O Link outputs: 16



CompoBus/S

CompoBus/S I/O Unit  
CPM1A-SRT21  
● I/O Link inputs: 8  
● I/O Link outputs: 8



**Specifications**

**General**

| Item   |  | CPU Units with 20 I/O points                                   | CPU Units with 30 I/O points | CPU Units with 40 I/O points | CPU Units with 60 I/O points |
|--|--|--|------------------------------|------------------------------|------------------------------|
| Supply voltage                                 | AC power   | 100 to 240 V AC, 50/60 Hz                                      |                              |                              |                              |
|  | DC power   | 24 V DC  |                              |                              |                              |
| Operating voltage range                        | AC power   | 85 to 264 V AC   |                              |                              |                              |
|  | DC power   | 20.4 to 26.4 V DC  |                              |                              |                              |
| Power consumption                              | AC power   | 60 VA max.   |                              |                              |                              |
|  | DC power   | 20 W max. (See separate table following this one for details.) |                              |                              |                              |
| Inrush current                                 | AC power   | 60 A max.  |                              |                              |                              |
|  | DC power   | 20 A max.  |                              |                              |                              |
| External power supply (AC power supplies only) | Supply voltage   | 24 V DC  |                              |                              |                              |
|  | Output capacity  | 300 mA (See note)  |                              |                              |                              |
| Insulation resistance                          | 20 MΩ min. (at 500 V DC) between the external AC terminals and protective earth terminals  |  |                              |                              |                              |
| Dielectric strength                            | 2,300 V AC 50/60 Hz for 1 min between the external AC and protective earth terminals, leakage current: 10 mA max.  |  |                              |                              |                              |
| Noise immunity                                 | Conforms to IEC61000-4-4, 2 kV (power lines)   |  |                              |                              |                              |
| Vibration resistance                           | 10 to 57 Hz, 0.075-mm amplitude, 57 to 150 Hz, acceleration: 9.8 m/s <sup>2</sup> in X, Y, and Z directions for 80 minutes each<br>(Time coefficient; 8 minutes × coefficient factor 10 = total time 80 minutes)   |  |                              |                              |                              |
| Shock resistance                               | 147 m/s <sup>2</sup> three times each in X, Y, and Z directions  |  |                              |                              |                              |
| Ambient temperature                            | Operating: 0° to 55° C<br>Storage: -20° to 75° C   |  |                              |                              |                              |
| Humidity                                       | 10% to 90% (with no condensation)  |  |                              |                              |                              |
| Atmosphere                                     | Must be free from corrosive gas  |  |                              |                              |                              |
| Terminal screw size                            | M3   |  |                              |                              |                              |
| Power interrupt time                           | AC power supply: 10 ms min.<br>DC power supply: 2 ms min.  |  |                              |                              |                              |
| CPU Unit weight                                | AC power   | 650 g max.   | 700 g max.                   | 800 g max.                   | 1,000 g max.                 |
|  | DC power   | 550 g max.   | 600 g max.                   | 700 g max.                   | 900 g max.                   |
| Expansion Unit weight                          | Units with 20 I/O Points: 300 g max.<br>Units with 8 Output Points: 250 g max.<br>Units with 8 Input Points: 200 g max.<br>MAD01 Analog I/O Unit: 150 g max.<br>MAD11 Analog I/O Unit: 250 g max.<br>AD041/DA041 Analog I/O units: 200 g max.<br>Temperature Sensor Units: 250 g max.<br>CompoBus/S I/O Link Units: 200 g max.<br>DeviceNet I/O Link Unit: 200 g max.<br>PROFIBUS-DP I/O Link Unit: 150 g max. |  |                              |                              |                              |

**Note:** Use the external power supply as the power supply for input devices only. (It cannot be used as to drive output devices.) If the external power supply current exceeds the rated current, or there is a short-circuit, the external power supply voltage will drop and PC operation will stop. If there are 3 CPM1A-MAD11 Units mounted to a CPM2A-60CDR-A, the current for the external power supply must not exceed 200 mA.

**Power Consumption for CPM2A CPU Units with DC Power Supplies**

Use the following information when computing CPM2A power capacities.

| CPM2A CPU Unit   | Power consumption (W) |
|------------------|-----------------------|
| CPM2A-20CDR-D    | 4                     |
| CPM2A-30CDR-D    | 4.5                   |
| CPM2A-40CDR-D    | 6                     |
| CPM2A-60CDR-D    | 7.5                   |
| CPM2A-20CDT/T1-D | 3.5                   |
| CPM2A-30CDT/T1-D | 4                     |
| CPM2A-40CDT/T1-D | 4.5                   |
| CPM2A-60CDT/T1-D | 5                     |

| CPM1A Expansion I/O Unit or Expansion Unit | Power consumption (W) |
|--|-----------------------|
| CPM1A-20EDR1                               | 2.5                   |
| CPM1A-20EDT/T1                             | 1.5                   |
| CPM1A-8ED                                  | 1                     |
| CPM1A-8ER                                  | 2                     |
| CPM1A-8ET/T1                               | 1                     |
| CPM1A-DRT21                                | 1                     |
| CPM1A-SRT21                                | 1                     |
| CPM1A-MAD01/MAD11                          | 3.5                   |
| CPM1A-TS001/TS101                          | 3                     |
| CPM1A-TS002/TS102                          | 3                     |
| CPM1A-PRT21                                | 1                     |
| CPM1A-TS101-DA                             | 1.5                   |
| CPM1A-AD041                                | 3                     |
| CPM1A-DA041                                | 3.3                   |

**Note:** When calculating the total power consumption, it is also necessary to include the power consumption of Programming Consoles, RS-232C Adapter Units, and other devices.

**CPM2A Characteristics**

| Item                                  |                                 | Specification   |                |                 |                 |
|---------------------------------------|---------------------------------|---|----------------|-----------------|-----------------|
| Control method                        |                                 | Stored program method   |                |                 |                 |
| I/O control method                    |                                 | Cyclic scan with direct output (Immediate refreshing can be performed with IORF(97).)   |                |                 |                 |
| Programming language                  |                                 | Ladder diagram  |                |                 |                 |
| Instruction length                    |                                 | 1 step per instruction, 1 to 5 words per instruction  |                |                 |                 |
| Instructions                          |                                 | Basic instructions: 14<br>Special instructions: 105 instructions, 185 variations  |                |                 |                 |
| Execution time                        |                                 | Basic instructions: 0.64 μs (LD instruction)<br>Special instructions: 7.8 μs (MOV instruction)  |                |                 |                 |
| Program capacity                      |                                 | 4,096 words   |                |                 |                 |
| I/O capacity                          | CPU Unit only                   | 20 points   | 30 points      | 40 points       | 60 points       |
|                                       | With Expansion I/O Units        | 80 points max.  | 90 points max. | 100 points max. | 120 points max. |
| Input bits                            |                                 | IR 00000 to IR 00915 (Words not used for input bits can be used for work bits.)   |                |                 |                 |
| Output bits                           |                                 | IR 01000 to IR 01915 (Words not used for output bits can be used for work bits.)  |                |                 |                 |
| Work bits                             |                                 | 928 bits: IR 02000 to IR 04915 (Words IR 020 to IR 049) and IR 20000 to IR 22715 (Words IR 200 to IR 227)   |                |                 |                 |
| Special bits (SR area)                |                                 | 448 bits: SR 22800 to SR 25515 (Words IR 228 to IR 255)   |                |                 |                 |
| Temporary bits (TR area)              |                                 | 8 bits (TR0 to TR7)   |                |                 |                 |
| Holding bits (HR area)                |                                 | 320 bits: HR 0000 to HR 1915 (Words HR 00 to HR 19)   |                |                 |                 |
| Auxiliary bits (AR area)              |                                 | 384 bits: AR 0000 to AR 2315 (Words AR 00 to AR 23)   |                |                 |                 |
| Link bits (LR area)                   |                                 | 256 bits: LR 0000 to LR 1515 (Words LR 00 to LR 15)   |                |                 |                 |
| Timers/Counters                       |                                 | 256 timers/counters (TIM/CNT 000 to TIM/CNT 255)<br>1-ms timers: TMH(—)<br>10-ms timers: TIMH(15)<br>100-ms timers: TIM<br>1-s/10-s timers: TIML(—)<br>Decrementing counters: CNT<br>Reversible counters: CNTR(12)  |                |                 |                 |
| Data memory                           |                                 | Read/Write: 2,048 words (DM 0000 to DM 2047)*<br>Read-only: 456 words (DM 6144 to DM 6599)<br>PC Setup: 56 words (DM 6600 to DM 6655)<br>*The Error Log is contained in DM 2000 to DM 2021.   |                |                 |                 |
| Basic interrupts                      | Interrupt processing            | External interrupts: 4<br>(Shared by the external interrupt inputs (counter mode) and the quick-response inputs.)   |                |                 |                 |
|                                       | Interval timer interrupts       | 1 (Scheduled Interrupt Mode or Single Interrupt Mode)   |                |                 |                 |
| High-speed counter                    | High-speed counter              | One high-speed counter: 20 kHz single-phase or 5 kHz two-phase (linear count method)<br>Counter interrupt: 1 (set value comparison or set-value range comparison)   |                |                 |                 |
|                                       | Interrupt Inputs (counter mode) | Four inputs (Shared with external interrupt inputs (counter mode) and quick-response inputs.)<br>Counter interrupts: 4 (Shared by the external interrupt inputs and quick-response inputs.)   |                |                 |                 |
| Pulse output                          |                                 | Two points with no acceleration/deceleration, 10 Hz to 10 kHz each, and no direction control.<br>One point with waveform acceleration/deceleration, 10 Hz to 10 kHz, and direction control.<br>Two points with variable duty-ratio outputs using PWM(—).<br>(Pulse outputs can be used with transistor outputs only, they cannot be used with relay outputs.) |                |                 |                 |
| Synchronized pulse control            |                                 | One point:<br>A pulse output can be created by combining the high-speed counter with the pulse output and multiplying the frequency of the input pulses from the high-speed counter by a fixed factor.<br>(This output is possible with transistor outputs only, it cannot be used with relay outputs.)   |                |                 |                 |
| Quick-response inputs                 |                                 | Four points (Min. input pulse width: 50 μs min.)  |                |                 |                 |
| Analog controls                       |                                 | 2 controls, setting range: 0 to 200   |                |                 |                 |
| Input time constant                   |                                 | Can be set for all input points.<br>(1 ms, 2 ms, 3 ms, 5 ms, 10 ms, 20 ms, 40 ms, or 80 ms; default setting: 10 ms)   |                |                 |                 |
| Clock function                        |                                 | Shows the year, month, day of the week, day, hour, minute, and second. (Battery backup)   |                |                 |                 |
| Communications functions              |                                 | Built-in peripheral port:<br>Supports host link, peripheral bus, no-protocol, or Programming Console connections.<br>Built-in RS-232C port:<br>Supports host link, no-protocol, 1:1 Slave Unit link, 1:1 Master Unit link, or 1:1 NT Link connections.  |                |                 |                 |
| Functions provided by Expansion Units |                                 | Analog I/O Unit: Provides 2 analog inputs and 1 analog output.<br>CompoBus/S I/O Link Unit: Provides 8 inputs and 8 outputs as a CompoBus/S Slave.<br>Temperature Sensor Units: Provide 2 or 4 thermocouple inputs, or 2 or 4 temperature-resistance thermometer inputs.  |                |                 |                 |
| Memory protection                     |                                 | HR area, AR area, program contents, read/write DM area contents, and counter values maintained during power interruptions.  |                |                 |                 |
| Memory backup                         |                                 | Flash memory:<br>Program, read-only DM area, and PC Setup<br>Battery backup:<br>The read/write DM area, HR area, AR area, and counter values are backed up by a battery. (Battery life is approximately 5 years at an ambient temperature of 25° C.)  |                |                 |                 |
| Self-diagnostic functions             |                                 | CPU Unit failure (watchdog timer), I/O bus error, and memory failure, battery error   |                |                 |                 |
| Program checks                        |                                 | No END instruction and programming errors are checked at the start of operation.  |                |                 |                 |

### 3. CPM2A Output Specifications (CPU Units and Expansion I/O Unit)

#### Relay Output

| Item                    | Specification   | Circuit configuration |
|-------------------------|---|-----------------------|
| Max. switching capacity | 2 A, 250 V AC ( $\cos\phi = 1$ )<br>2 A, 24 V DC<br>(4 A/common)  |                       |
| Min. switching capacity | 10 mA, 5 V DC   |                       |
| Service life of relay   | Electrical: 150,000 operations<br>(24-V DC resistive load)<br>100,000 operations<br>(240-V AC inductive load, $\cos\phi = 4$ )<br>Mechanical: 20,000,000 operations |                       |
| ON delay                | 15 ms max.  |                       |
| OFF delay               | 15 ms max.  |                       |

#### Transistor Output (Sinking)

| Item                    | Specification  |                            |                            |                            |                            |   |
|-------------------------|--|----------------------------|----------------------------|----------------------------|----------------------------|---|
|                         | CPM2A-20CDT-D  | CPM2A-30CDT-D              | CPM2A-40CDT-D              | CPM2A-60CDT-D              | CPM1A-8ET                  | CPM1A-20EDT   |
| Max. switching capacity | OUT01000, 01001: 4.5 to 30 V DC, 0.2 A/output<br>OUT01002 and up: 4.5 to 30 V DC, 0.3 A/output   |                            |                            |                            |                            | 24 V DC <sup>+10%/−5%</sup> ,<br>0.3 A/output               |
|                         | 0.8 A/common<br>1.6 A/Unit   | 0.8 A/common<br>2.4 A/Unit | 0.8 A/common<br>3.2 A/Unit | 0.8 A/common<br>4.8 A/Unit | 0.9 A/common<br>1.8 A/Unit | 0.9 A/common<br>1.8 A/Unit                                  |
| Leakage current         | 0.1 mA max.  |                            |                            |                            |                            |   |
| Residual voltage        | 1.5 V max.   |                            |                            |                            |                            |   |
| ON delay                | OUT01000 and OUT01001: 20 μs max.<br>OUT01002 and up: 0.1 ms max.  |                            |                            |                            |                            | 0.1 ms max.   |
| OFF delay               | OUT01000 and OUT01001: 40 μs max. (4.5 to 26.4 V, 10 to 100 mA)<br>0.1 ms max. (4.5 to 30 V, 10 to 200 mA)<br>OUT01002 and up: 1 ms max. (4.5 to 30 V, 10 to 300 mA) |                            |                            |                            |                            | 1 ms max.<br>(24 V DC <sup>+10%/−5%</sup> ,<br>5 to 300 mA) |
| Fuse (see note)         | 1 fuse/output  |                            |                            |                            |                            |   |
| Circuit configuration   | 4.5 to 30 VDC, 0.3 A/output  |                            |                            |                            |                            |   |

**Note:** Cannot be replaced by the user.

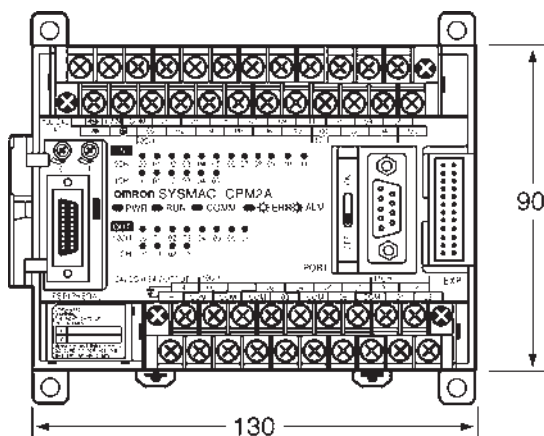
#### Transistor Output (Sourcing)

| Item                    | Specification  |                            |                            |                            |                            |   |
|-------------------------|--|----------------------------|----------------------------|----------------------------|----------------------------|---|
|                         | CPM2A-20CDT1-D   | CPM2A-30CDT1-D             | CPM2A-40CDT1-D             | CPM2A-60CDT1-D             | CPM1A-8ET1                 | CPM1A-20DET1  |
| Max. switching capacity | OUT01000, 01001: 4.5 to 30 V DC, 0.2 A/output<br>OUT01002 and up: 4.5 to 30 V DC, 0.3 A/output   |                            |                            |                            |                            | 24 V DC <sup>+10%/−5%</sup> ,<br>0.3 A/output               |
|                         | 0.8 A/common<br>1.6 A/Unit   | 0.8 A/common<br>2.4 A/Unit | 0.8 A/common<br>3.2 A/Unit | 0.8 A/common<br>4.8 A/Unit | 0.9 A/common<br>1.8 A/Unit | 0.9 A/common<br>1.8 A/Unit                                  |
| Leakage current         | 0.1 mA max.  |                            |                            |                            |                            |   |
| Residual voltage        | 1.5 V max.   |                            |                            |                            |                            |   |
| ON delay                | OUT01000 and OUT01001: 20 μs max.<br>OUT01002 and up: 0.1 ms max.  |                            |                            |                            |                            | 0.1 ms max.   |
| OFF delay               | OUT01000 and OUT01001: 40 μs max. (4.5 to 26.4 V, 10 to 100 mA)<br>0.1 ms max. (4.5 to 30 V, 10 to 200 mA)<br>OUT01002 and up: 1 ms max. (4.5 to 30 V, 10 to 300 mA) |                            |                            |                            |                            | 1 ms max.<br>(24 V DC <sup>+10%/−5%</sup> ,<br>5 to 300 mA) |
| Fuse (see note)         | 1 fuse/output  |                            |                            |                            |                            |   |
| Circuit configuration   | 4.5 to 30 VDC, 0.3 A/output  |                            |                            |                            |                            |   |

**Note:** Cannot be replaced by the user.

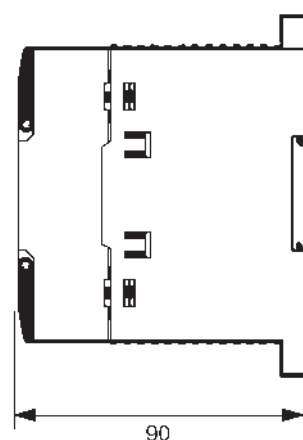
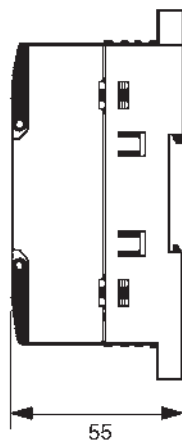
# Dimensions

## CPM2A-20CD□-□/30CD□-□ CPU Units

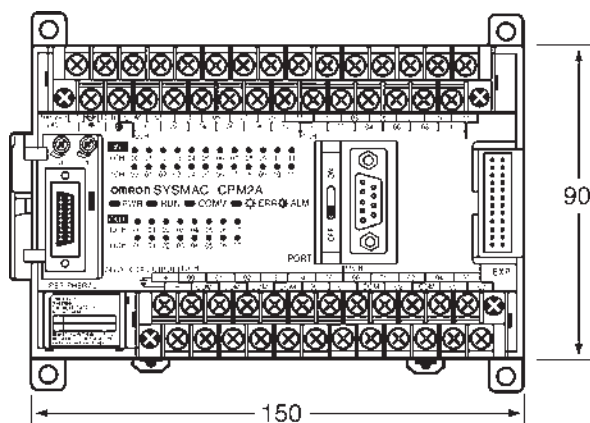


CPU Units with DC Power

CPU Units with AC Power

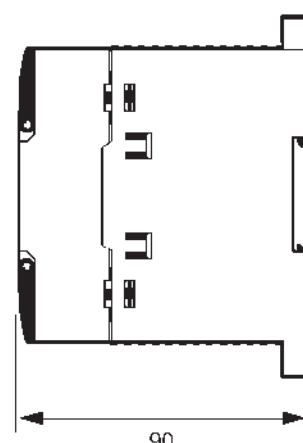
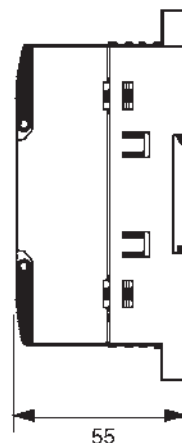


## CPM2A-40CD□-□ CPU Units

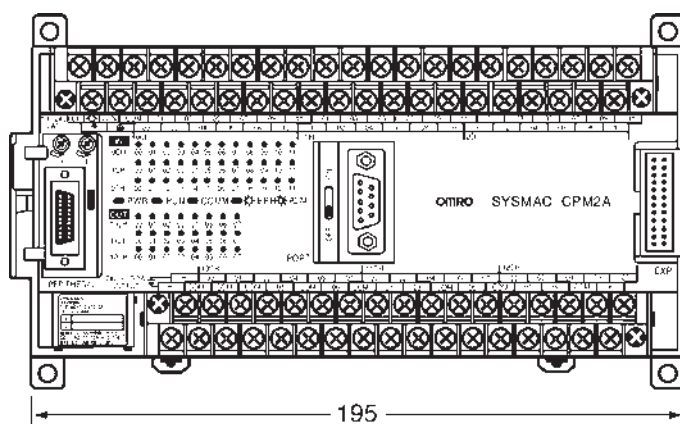


CPU Units with DC Power

CPU Units with AC Power

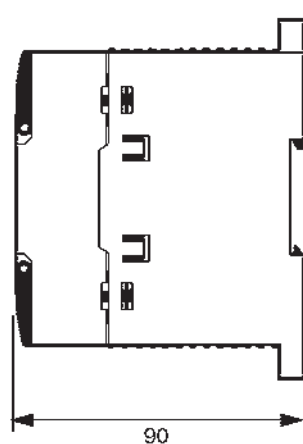
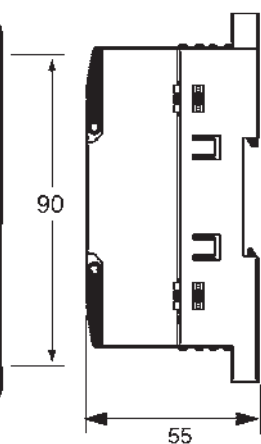


## CPM2A-60CD□-□ CPU Units



CPU Units with DC Power

CPU Units with AC Power



Note: All dimensions are in mm.

# CPM2A Ordering Information

## International Standards

The products shown in the attached tables are those that conform to the UL, CSA, cULus, cUL, NK, Lloyd's Register, and EC Directives as of September 2003.

(U: UL, C: CSA, UC: cULus, CU: cUL, N: NK, L: Lloyd, CE: EC Directives)

Please contact OMRON representative for application conditions.

## CPM2A CPU Units

| CPU Unit      | Power supply | Output type           | Inputs | Outputs | Model          | Standards      |
|---------------|--------------|-----------------------|--------|---------|----------------|----------------|
| 20 I/O points | AC           | Relay                 | 12     | 8       | CPM2A-20CDR-A  | U, C, CE, N, L |
|               | DC           | Relay                 |        |         | CPM2A-20CDR-D  | U, C, CE, N, L |
|               |              | Transistor (sinking)  |        |         | CPM2A-20CDT-D  | U, C, CE, N, L |
|               |              | Transistor (sourcing) |        |         | CPM2A-20CDT1-D | U, C, CE, N, L |
| 30 I/O points | AC           | Relay                 | 18     | 12      | CPM2A-30CDR-A  | U, C, CE, N, L |
|               | DC           | Relay                 |        |         | CPM2A-30CDR-D  | U, C, CE, N, L |
|               |              | Transistor (sinking)  |        |         | CPM2A-30CDT-D  | U, C, CE, N, L |
|               |              | Transistor (sourcing) |        |         | CPM2A-30CDT1-D | U, C, CE, N, L |
| 40 I/O points | AC           | Relay                 | 24     | 16      | CPM2A-40CDR-A  | U, C, CE, N, L |
|               | DC           | Relay                 |        |         | CPM2A-40CDR-D  | U, C, CE, N, L |
|               |              | Transistor (sinking)  |        |         | CPM2A-40CDT-D  | U, C, CE, N, L |
|               |              | Transistor (sourcing) |        |         | CPM2A-40CDT1-D | U, C, CE, N, L |
| 60 I/O points | AC           | Relay                 | 36     | 24      | CPM2A-60CDR-A  | U, C, CE, N, L |
|               | DC           | Relay                 |        |         | CPM2A-60CDR-D  | U, C, CE, N, L |
|               |              | Transistor (sinking)  |        |         | CPM2A-60CDT-D  | U, C, CE, N, L |
|               |              | Transistor (sourcing) |        |         | CPM2A-60CDT1-D | U, C, CE, N, L |

## Expansion Units and Expansion I/O Units

| Unit                      | Input/Output type  | Inputs                                       | Outputs | Model                 | Standards      |                |
|---------------------------|--|--|---------|-----------------------|----------------|----------------|
| Expansion I/O Units       | Relay  | 24   | 16      | CPM1A-40EDR           | CE, N          |                |
|                           | Transistor (sinking)   |  |         | CPM1A-40EDT           | CE, N          |                |
|                           | Transistor (sourcing)  |  |         | CPM1A-40EDT1          | CE, N          |                |
|                           | Relay  | 12   | 8       | CPM1A-20EDR1          | U, C, CE, N, L |                |
|                           |  |  |         | Transistor (sinking)  | CPM1A-20EDT    | U, C, CE, N, L |
|                           |  |  |         | Transistor (sourcing) | CPM1A-20EDT1   | U, C, CE, N, L |
|                           | ---  | 8  | ---     | CPM1A-8ED             | U, C, CE, N, L |                |
|                           | Relay  | ---  | 8       | CPM1A-8ER             | U, C, CE, N, L |                |
|                           | Transistor (sinking)   | ---  | 8       | CPM1A-8ET             | U, C, CE, N, L |                |
|                           |  |  |         | CPM1A-8ET1            | U, C, CE, N, L |                |
| Analog I/O Unit           | Analog (resolution: 1/256)   | 2  | 1       | CPM1A-MAD01           | U, C, CE       |                |
|                           | Analog (resolution: 1/6,000)   | 2  | 1       | CPM1A-MAD11           | U, C, CE       |                |
|                           | Analog (resolution 1/6000)   | 4  | ---     | CPM1A-AD041           | U, C, CE       |                |
|                           | Analog (resolution 1/6000)   | ---  | 4       | CPM1A-DA041           | U, C, CE       |                |
| DeviceNet I/O Link Unit   | ---  | I/O Link of 32 input bits and 32 output bits |         | CPM1A-DRT21           | U, C, CE       |                |
| PROFIBUS-DP I/O Link Unit | ---  | I/O Link of 16 input bits and 16 output bits |         | CPM1A-PRT21           | CE             |                |
| CompoBus/S I/O Link Unit  | ---  | I/O Link of 8 input bits and 8 output bits   |         | CPM1A-SRT21           | U, C, CE, N, L |                |
| Temperature Sensor Units  | 2 thermocouple inputs  |  |         | CPM1A-TS001           | U, C, CE, N, L |                |
|                           | 4 thermocouple inputs  |  |         | CPM1A-TS002           | U, C, CE, N, L |                |
|                           | 2 platinum resistance thermometer inputs   |  |         | CPM1A-TS101           | U, C, CE, N, L |                |
|                           | 4 platinum resistance thermometer inputs   |  |         | CPM1A-TS102           | U, C, CE, N, L |                |
|                           | 2 Platinum resistance thermometer inputs (-40 to 250 °C) and one output (-10 to 10V, 4 to 20 mA) |  |         | CPM1A-TS101-DA        | U, C, CE, N, L |                |