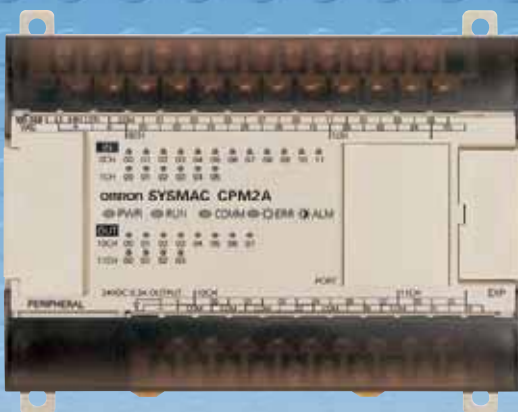


OMRON

The "Just Fit" PLCs

More Powerful
Micro PLCs

Advanced Micro PLCs
SYSMAC
CPM2A
Programmable Controllers



New Units Added to Series

Expansion I/O Unit
Analog I/O Unit

Downsize Control Panels
with the CPM2C

Ultra-slim Micro PLCs
SYSMAC
CPM2C
Programmable Controllers



realizing

Advanced Functions and High Performance in a Very Small Package.

Improved Capabilities and Higher Added Value for the Food Packaging Industry, Distribution Industry, and Compact Equipment Manufacturers

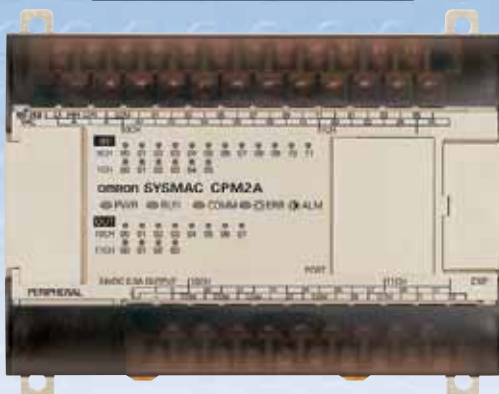
The CPM2A and CPM2C Provide a Wide Variety of Functions for More Advanced Systems.

- High-speed counters easily measure high-speed workpieces.
- Synchronized pulse control provides easy timing adjustments.
- High-speed processing with a high-speed scan and high-speed interrupts.
- An OMRON Programmable Terminal is easily connected to provide visual confirmation of machine operation.
- Pulse outputs handle a variety of basic positioning applications.
- Achieve distributed control and analog control.

Need advanced capabilities in
a compact PLC?

Advanced Micro PLCs

SYSMAC
CPM2A
Programmable Controllers



Surprisingly Low Prices

- The CPM2C adds value to equipment by providing advanced functions and high performance at very reasonable prices.

Compact Design - Fits into Just About Any Space

- Machinery downsizing is aided by the reduced PLC space requirements in the control panel or machine.

Need a thin PLC to
conserve space?

Ultra-slim Micro PLCs

SYSMAC
CPM2C
Programmable Controllers



Ultra-compact

Contents

Applications	3	CPM2A Dimensions	30
CPM2A Line-up	6	CPM2C Specifications	34
CPM2C Line-up	9	CPM2C Dimensions	56
CPM2A Communications	12	Functions	60
CPM2C Communications	13	Instructions	65
Programming	14	CPM2A Ordering Guide	68
Field Network	16	CPM2C Ordering Guide	72
CPM2A Specifications	18	CPM2C Peripheral Devices	82

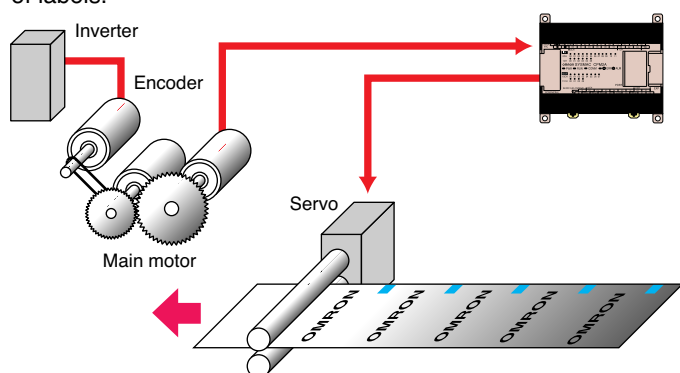
Downsizing and Multifunctional Capabilities for Small-scale Food Packaging Equipment

The CPM2A and CPM2C are equipped with advanced functions such as synchronized control and high-speed processing (quick-response inputs, interrupts, a 1-ms timer, and improved scanning speed), allowing faster line speeds as well as multi-product/small-lot production.



Synchronized Control

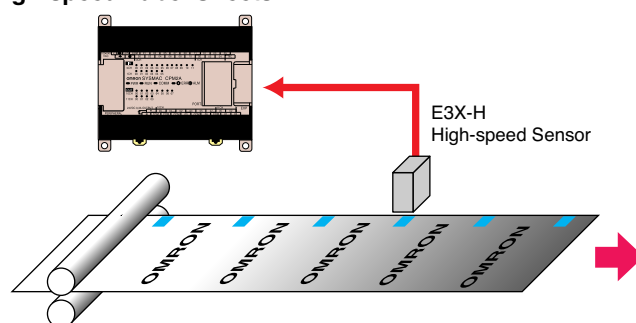
Synchronized pulse control multiplies the frequency of a pulse input by a preset scaling factor and generates a synchronized pulse output at that frequency. The scaling factor can be changed from the ladder program, so packaging can continue while adjusting the feed rate of packaging film or the position of labels.



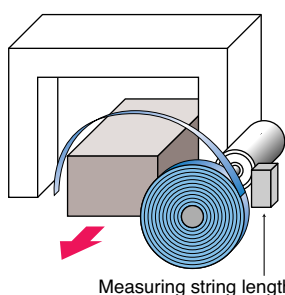
High-speed Processing

High-speed processing includes the 50- μ s quick-response inputs, improved scan time (up to 500 program steps in 1 ms), and interrupts. Improved processing can increase productivity; for example, the timing between detection of a label mark and detection of the product can be adjusted.

Detection of Label Marks on High-speed Label Sheets



High-speed Counters



The CPM2A and CPM2C support one-axis high-speed counters (20-kHz single-phase or 5-kHz two-phase) and four-axis high-speed counters (2-kHz single-phase only). The length of workpieces such as cardboard or string can be measured at high speed.

- Measure cardboard length.
- Measure string length.

Analog Control

Analog control is possible using the Analog I/O Unit.

- Input from pressure sensors.
- Output to inverters.
- Interfaces with a wide range of devices.

Distribution Industry

Conveyor Belts

Faster and More Flexible Conveyor Operation

The CPM2A allows line additions, faster operation, and reduced system startup time.

For efficient distributed line control, the CPM2A provides the following Units:

CompoBus/S I/O Link Unit (8 input and 8 output links)

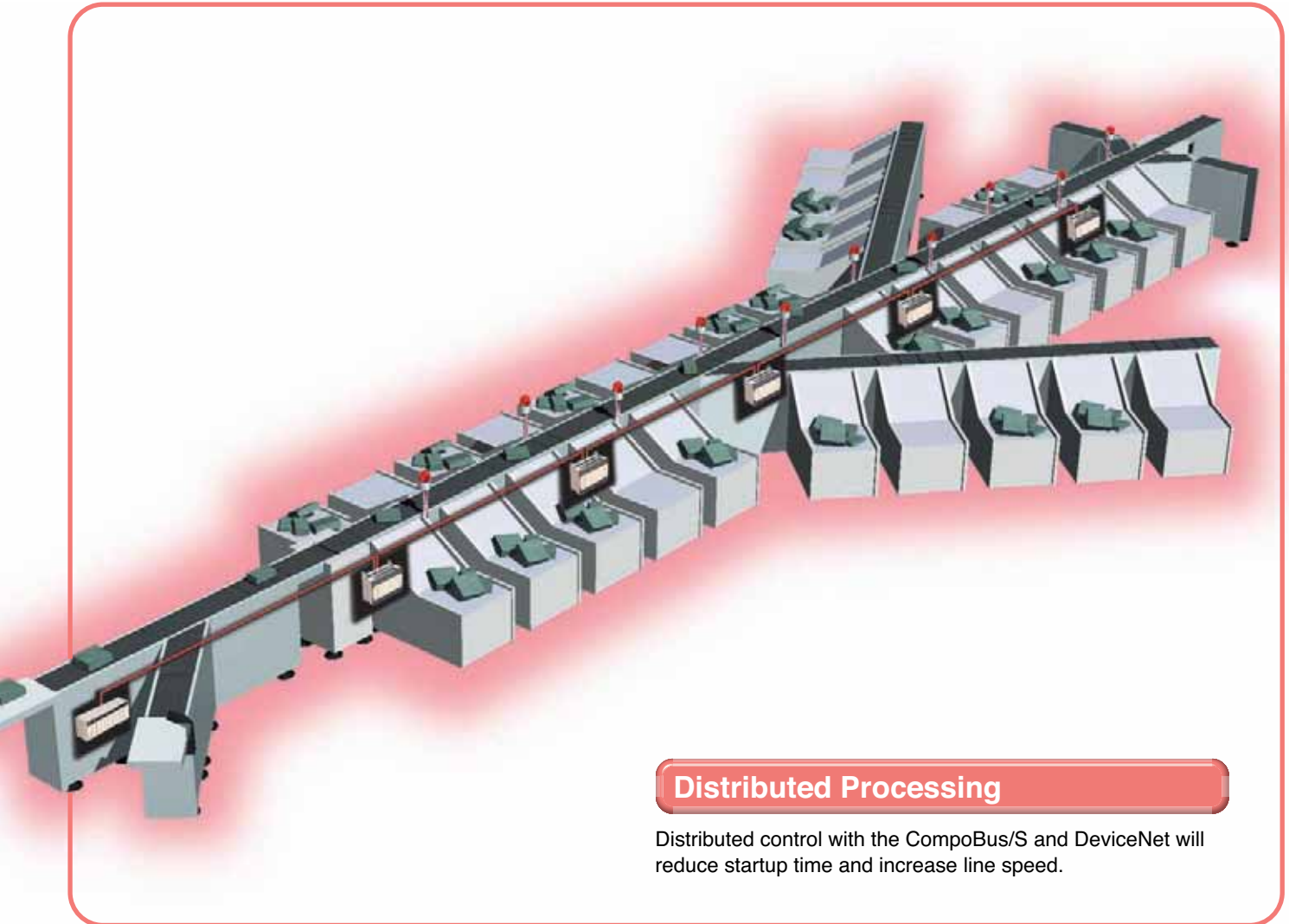
DeviceNet I/O Link Unit (32 input and 32 output links)

And the CPM2C provides the following Units:

CompoBus/S I/O Link Unit (8 input and 8 output links)

DeviceNet Programmable Slave (512 input and 512 output links)

With distributed control, the production line can be converted to modular systems for reduced startup time and higher line speeds.

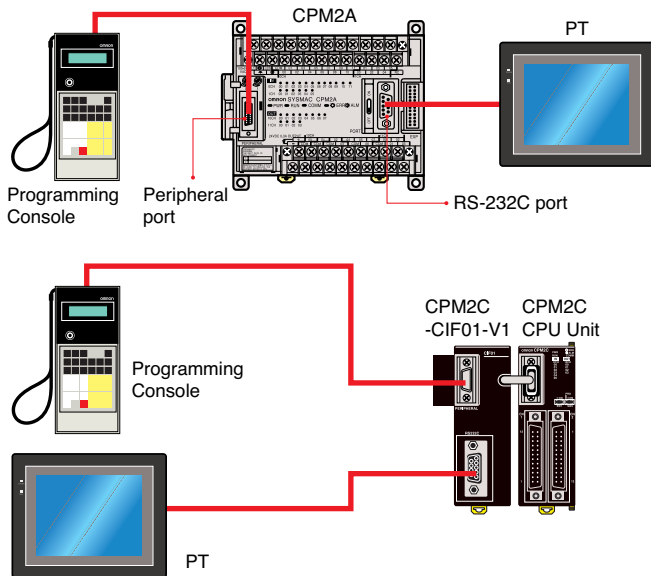


Distributed Processing

Distributed control with the CompoBus/S and DeviceNet will reduce startup time and increase line speed.

Supports Programmable Terminal Connections

The CPM2A and CPM2C provide a built-in RS-232C port to easily connect a Programmable Terminal for visual confirmation of operating conditions and debugging. A Programming Console can also be connected to program and monitor the CPM2A/CPM2C.

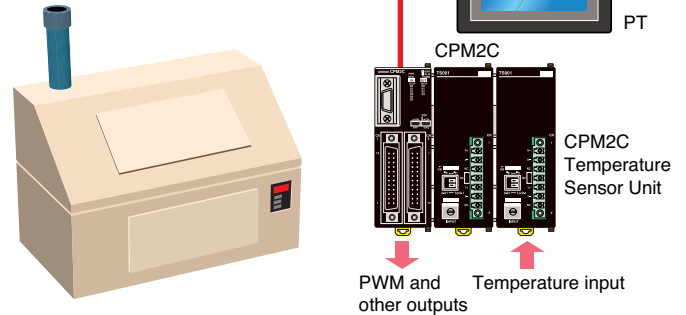


Example: Small Shrink-wrap Machine



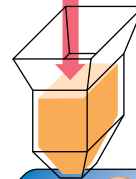
Monitoring and Controlling Temperature

Mount a Temperature Sensor Unit to monitor and control temperatures using PID instruction operands and ON/OFF output signals sent with the PWM instruction. Use in combination with a PT for simple temperature monitoring and setting.

Raw Waste Processing Equipment
(Processing Garbage from Meal Centers)

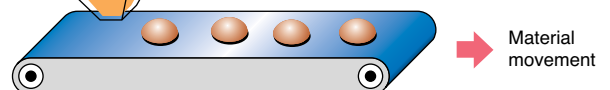
Position Control Functions

Adjust the Servomotor's feed rate.



Supports a one-axis pulse output (10 kHz) with trapezoidal acceleration and deceleration and two-axis simple pulse output.

- Material output (fixed quantity output)
- Adds a fixed quantity of the product.



Built-in Clock

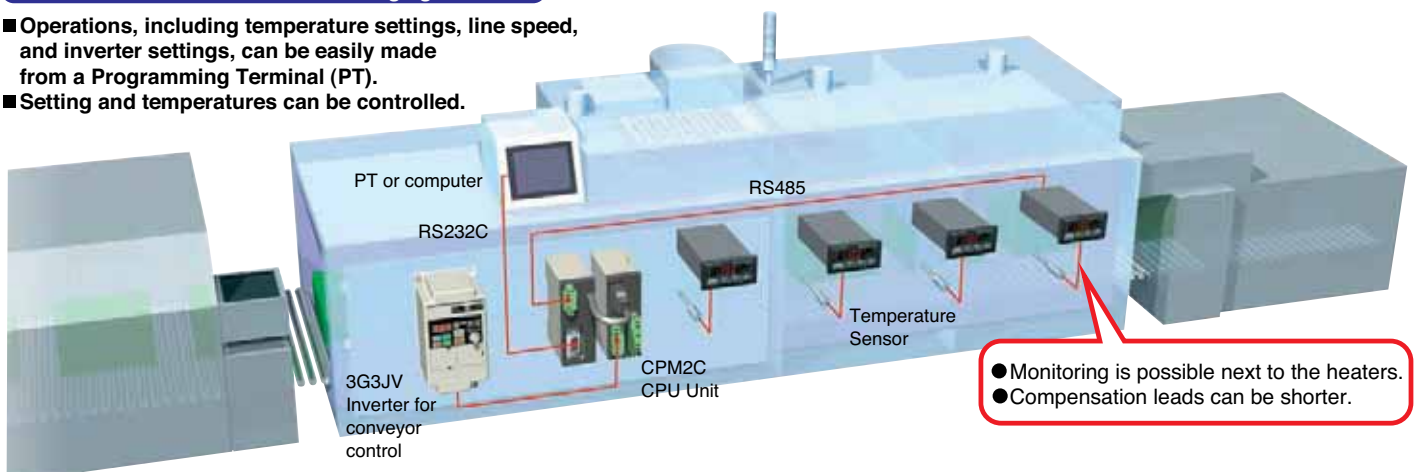
The internal clock and LONG TIMER instruction (with an SV of up to 99,990 seconds (27 hours, 46 minutes, and 30 seconds)) provide more effective data management.

Connections to Components

Data transfer between components and the CPM2C is easily achieved with the CPM2C-CIF21 Simple Communications Unit and a few initial settings.

Small Reflow Furnaces or Food Packaging Machines

- Operations, including temperature settings, line speed, and inverter settings, can be easily made from a Programming Terminal (PT).
- Setting and temperatures can be controlled.



Easily Upgrade Machinery and E

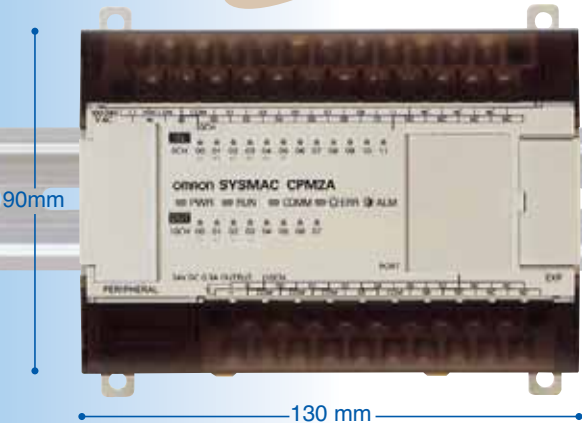
A variety of models are available to satisfy customer requirements for efficient machinery and production lines.

There are twelve models of CPU Unit with various combinations of power supplies (AC or DC), outputs (relay or transistor), and I/O points (20, 30, 40, or 60).

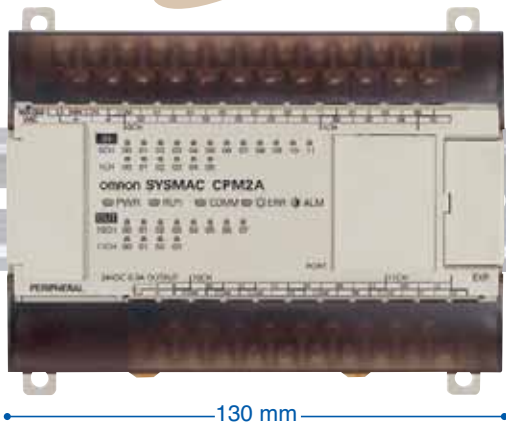
Choose the model that matches your application.

Expansion I/O Units are easy to connect to increase the number of I/O points.

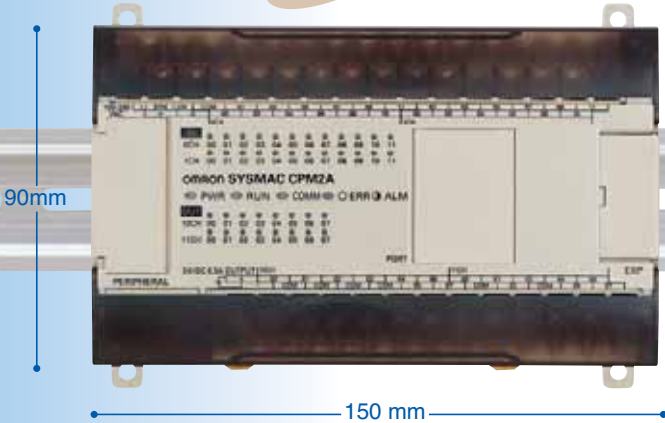
20
I/O Points



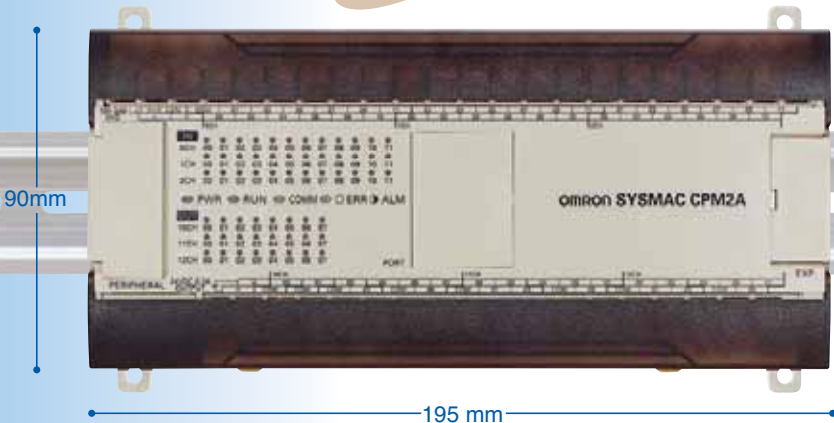
30
I/O Points



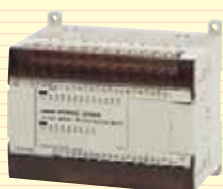
40
I/O Points



60
I/O Points



AC Power Supply Depth: 90 mm



■ CPU Unit with Relay Outputs
CPM2A-20CDR-A
12 input points
8 output points



■ CPU Unit with Relay Outputs
CPM2A-30CDR-A
18 input points
12 output points



■ CPU Unit with Relay Outputs
CPM2A-40CDR-A
24 input points
16 output points



■ CPU Unit with Relay Outputs
CPM2A-60CDR-A
36 input points
24 output points

DC Power Supply Depth: 55 mm



■ CPU Unit with Relay Outputs
CPM2A-20CDR-D
■ CPU Units with Transistor Outputs
CPM2A-20CDT-D (Sinking)
CPM2A-20CDT1-D (Sourcing)
12 input points
8 output points



■ CPU Unit with Relay Outputs
CPM2A-30CDR-D
■ CPU Units with Transistor Outputs
CPM2A-30CDT-D (Sinking)
CPM2A-30CDT1-D (Sourcing)
18 input points
12 output points



■ CPU Unit with Relay Outputs
CPM2A-40CDR-D
■ CPU Units with Transistor Outputs
CPM2A-40CDT-D (Sinking)
CPM2A-40CDT1-D (Sourcing)
24 input points
16 output points



■ CPU Unit with Relay Outputs
CPM2A-60CDR-D
■ CPU Units with Transistor Outputs
CPM2A-60CDT-D (Sinking)
CPM2A-60CDT1-D (Sourcing)
36 input points
24 output points

Model Numbers

Name	Model number	Specifications
CPU Units with Relay Outputs (Built-in RS-232C port)	CPM2A-20CDR-A	20 I/O points, AC power supply
	CPM2A-20CDR-D	20 I/O points, DC power supply
	CPM2A-30CDR-A	30 I/O points, AC power supply
	CPM2A-30CDR-D	30 I/O points, DC power supply
	CPM2A-40CDR-A	40 I/O points, AC power supply
	CPM2A-40CDR-D	40 I/O points, DC power supply
	CPM2A-60CDR-A	60 I/O points, AC power supply
	CPM2A-60CDR-D	60 I/O points, DC power supply
CPU Units with Transistor Outputs (Built-in RS-232C port)	CPM2A-20CDT-D	20 I/O points (sinking outputs), DC power supply
	CPM2A-20CDT1-D	20 I/O points (sourcing outputs), DC power supply
	CPM2A-30CDT-D	30 I/O points (sinking outputs), DC power supply
	CPM2A-30CDT1-D	30 I/O points (sourcing outputs), DC power supply
	CPM2A-40CDT-D	40 I/O points (sinking outputs), DC power supply
	CPM2A-40CDT1-D	40 I/O points (sourcing outputs), DC power supply
	CPM2A-60CDT-D	60 I/O points (sinking outputs), DC power supply
	CPM2A-60CDT1-D	60 I/O points (sourcing outputs), DC power supply

Removable Terminal Blocks for Easy Maintenance

Removable terminal blocks* simplify PLC wiring.
(*CPU Unit only)



Expansion I/O Units



- **CPM1A-8ED**
8 input points
DC inputs
- **CPM1A-8ER**
8 output points
Relay outputs
- **CPM1A-8ET**
8 input points
Transistor outputs (sinking)
- **CPM1A-8ET1**
8 output points
Transistor outputs (sourcing)



- **CPM1A-20EDR1**
12 DC inputs
8 relay outputs
- **CPM1A-20EDT**
12 DC inputs
8 transistor outputs (sinking)
- **CPM1A-20EDT1**
12 DC inputs
8 transistor outputs (sourcing)



- **CPM1A-40EDR**
24 DC inputs
16 relay outputs
- **CPM1A-40EDT**
24 DC inputs
16 transistor outputs (sinking)
- **CPM1A-40EDT1**
24 DC inputs
16 transistor outputs (sourcing)

DeviceNet
I/O Link Unit

- **DeviceNet I/O Link Unit**
CPM1A-DRT21
32 input points
32 output points

CompoBus/S
I/O Link Unit

- **CompoBus/S I/O Link Unit**
CPM1A-SRT21
8 input points
8 output points

Analog I/O Unit



- **Analog I/O Unit**
CPM1A-MAD11
2 analog inputs (resolution: 6,000)
1 analog output (resolution: 6,000)



- **Analog I/O Unit**
CPM1A-MAD01
2 analog inputs (resolution: 256)
1 analog output (resolution: 256)



- **Analog I/O Unit**
CPM1A-AD041
4 analog inputs
(resolution: 6,000)



- **Analog I/O Unit**
CPM1A-DA041
4 analog outputs
(resolution: 6,000)

Model Numbers

Name	Model number	Specifications
Expansion I/O Units	CPM1A-8ED	8 DC inputs
	CPM1A-8ER	8 relay outputs
	CPM1A-8ET	8 transistor outputs (sinking)
	CPM1A-8ET1	8 transistor outputs (sourcing)
	CPM1A-20EDR1	12 DC inputs, 8 relay outputs
	CPM1A-20EDT	12 DC inputs 8 transistor outputs (sinking)
	CPM1A-20EDT1	12 DC inputs 8 transistor outputs (sourcing)
	CPM1A-40EDR	24 DC inputs, 16 relay outputs
	CPM1A-40EDT	24 DC inputs 16 transistor outputs (sinking)
	CPM1A-40EDT1	24 DC inputs 16 transistor outputs (sourcing)
DeviceNet I/O Link Unit	CPM1A-DRT21	32 inputs, 32 outputs
CompoBus/S I/O Link Unit	CPM1A-SRT21	8 inputs, 8 output
Analog I/O Units	CPM1A-MAD11	2 analog inputs (resolution: 6,000) 1 analog output (resolution: 6,000)
	CPM1A-MAD01	2 analog inputs (resolution: 256) 1 analog output (resolution: 256)
	CPM1A-AD041	4 analog inputs (resolution: 6,000)
	CPM1A-DA041	4 analog outputs (resolution: 6,000)
Temperature Sensor Units	CPM1A-TS001	2 thermocouple inputs
	CPM1A-TS002	4 thermocouple inputs
	CPM1A-TS101	2 platinum resistance thermometer inputs
	CPM1A-TS102	4 platinum resistance thermometer inputs

Temperature Sensor Units



- **Temperature Sensor Units**
CPM1A-TS001

2 thermocouple inputs

CPM1A-TS002

4 thermocouple inputs

- **Temperature Sensor Units**
CPM1A-TS101

2 platinum resistance thermometer inputs

CPM1A-TS102






4 platinum resistance thermometer inputs

Despite its ultra-slim design, a CPM2C system can provide up to 192 I/O points!

Actual Size



A wide variety of models are available to provide very effective machine control in a surprisingly compact PLC. CPU Units feature DC power supply and a wide range of model variations: Relay/transistor outputs, terminal blocks/connectors, clock functions, etc. I/O capacity can be selected according to the need of the application. And select from Expansion I/O Units with 8, 10, 16, 20, 24, or 32 I/O points to build a PLC with an I/O capacity of up to 192 points.

10 I/O Points	20 I/O Points	10 I/O Points	20 I/O Points	32 I/O Points
CPM2C-10CDR-D CPU Unit (I/O terminal block)	CPM2C-20CDR-D CPU Unit (I/O terminal block)	CPM2C-10CDTC-D CPU Unit (I/O connector)	CPM2C-20CDTC-D CPU Unit (I/O connector)	CPM2C-32CDTC-D CPU Unit (I/O connector)
				
— 33 mm —	— 33 mm —	— 33 mm —	— 33 mm —	— 33 mm —

90 mm

CPU Units with 10 I/O Points



- CPU Units with Relay Outputs (I/O terminal block)
CPM2C-10C(1)DR-D
6 DC inputs
4 outputs



- CPU Unit with Transistor Outputs (sinking/sourcing)
[Fujitsu-compatible connector]
CPM2C-10C(1)DT(1)C-D
[MIL connector]
CPM2C-10C(1)DT(1)M-D
6 DC inputs
4 outputs

CPU Units with 20 I/O Points



- CPU Unit with Relay Outputs (I/O terminal block)
CPM2C-20C(1)DR-D



- CPU Unit with Transistor Outputs (sinking/sourcing)
[Fujitsu-compatible connector]
CPM2C-20C(1)DT(1)C-D
[MIL connector]
CPM2C-20C(1)DT(1)M-D
12 DC inputs
8 outputs

CPU Units with 32 I/O Points



- CPU Unit with Transistor Outputs (sinking/sourcing)
[Fujitsu-compatible connector]
CPM2C-32CDT(1)C-D
[MIL connector]
CPM2C-32CDT(1)M-D
16 DC inputs
16 outputs

Programmable Slave and CPU Unit with CompoBus/S Master



- Programmable Slave CPU Unit with Transistor Outputs (sinking/sourcing)
[Fujitsu-compatible connector]
CPM2C-S1□0C-DRT
6 DC inputs
4 outputs



- CPU Unit with CompoBus/S Master
- CPU Unit with Transistor Outputs (sinking/sourcing)
[Fujitsu-compatible connector]
CPM2C-S1□0C
6 DC inputs
4 outputs

Power Supply Unit



- AC Power Supply Unit
CPM2C-PA201
Input: 100 to 240 VAC
Output: 24 VDC/600 mA

Simple Communications Unit



- Simple Communications Unit
CPM2C-CIF21
Connect to RS-485 components
RS-232C

Adapter Units



- Peripheral/RS-232C Adapter Unit
CPM2C-CIF01-V1



- RS-422/RS-232C Adapter Unit
CPM2C-CIF11

Expansion I/O Units

Expansion I/O Units



- Relay Output I/O Unit (I/O terminal block)
CPM2C-10EDR
6 DC inputs
4 outputs



- Relay Output I/O Unit (I/O terminal block)
CPM2C-20EDR
12 DC inputs
8 outputs



CPM2C-24EDT(1)C

- Transistor Output I/O Unit (sinking/sourcing)
[Fujitsu-compatible connector]
CPM2C-24EDT(1)C

- Transistor Output I/O Unit (sinking/sourcing)
[MIL connector]
CPM2C-24EDT(1)M

16 DC inputs
8 outputs

CPM2C-24EDT(1)C

- Transistor Output I/O Unit (sinking/sourcing)
[Fujitsu-compatible connector]
CPM2C-32EDT(1)C

- Transistor Output I/O Unit (sinking/sourcing)
[MIL connector]
CPM2C-32EDT(1)M

16 DC inputs
8 outputs

Expansion Output Units



- Relay Output I/O Unit (I/O terminal block)
CPM2C-8ER
8 relay outputs



CPM2C-8ET(1)C

- Transistor Output I/O Unit (sinking/sourcing)
[Fujitsu-compatible connector]
CPM2C-8ET(1)C

- Transistor Output I/O Unit (sinking/sourcing)
[MIL connector]
CPM2C-8ET(1)M
8 outputs



CPM2C-16ET(1)C

- Transistor Output I/O Unit (sinking/sourcing)
[Fujitsu-compatible connector]
CPM2C-16ET(1)C

- Transistor Output I/O Unit (sinking/sourcing)
[MIL connector]
CPM2C-16ET(1)M
16 outputs

Analog I/O Unit



- **Analog I/O Unit**
CPM2C-MAD11
2 analog inputs
(resolution: 6,000)
1 analog output
(resolution: 6,000)

Temperature Sensor Units



- **Temperature Sensor Unit**
CPM2C-TS001
2 thermocouple inputs
- **Temperature Sensor Unit**
CPM2C-TS101
2 platinum resistance
thermometer inputs

CompoBus/S I/O Link Unit



- **CompoBus/S I/O Link Unit**
CPM2C-SRT21
8 input points
8 output points

Standard Models

Unit		Model number	Specifications	Clock
CPU Units with 10 I/O points	I/O terminal block	CPM2C-10C(1)DR-D	6 inputs (24-VDC), 4 relay outputs	Yes No
	I/O connector	CPM2C-10C(1)DT(1)□-D	6 DC inputs 4 transistor outputs (sinking/sourcing)	Yes No
CPU Units with 20 I/O points	I/O terminal block	CPM2C-20C(1)DR-D	12 inputs (24-VDC), 8 relay outputs	Yes No
	I/O connector	CPM2C-20C(1)DT(1)□-D	12 DC inputs 8 transistor outputs (sinking/sourcing)	Yes No
CPU Units with 32 I/O points	I/O connector	CPM2C-32CDT(1)□-D	16 DC inputs 16 transistor outputs (sinking/sourcing)	No
Programmable Slave (connector)		CPM2C-S1□0C-DRT	With CompoBus/S Master With DeviceNet Slave 6 inputs (24-VDC) 4 transistor outputs (sinking/sourcing)	Yes
CPU Unit with CompoBus/S Master		CPM2C-S1□0C	With CompoBus/S Master 6 inputs (24-VDC) 4 transistor outputs (sinking/sourcing)	Yes
Expansion I/O Units	I/O terminal block	CPM2C-10EDR	6 inputs (24-VDC) 4 relay outputs	
		CPM2C-20EDR	12 inputs (24-VDC) 8 relay outputs	
	I/O connector	CPM2C-24EDT(1)□	16 inputs (24-VDC) 8 transistor outputs (sinking/sourcing)	
		CPM2C-32EDT(1)□	16 inputs (24-VDC) 16 transistor outputs (sinking/sourcing)	
Expansion Input Units	I/O connector	CPM2C-8ED□	8 inputs (24-VDC)	
		CPM2C-16ED□	16 inputs (24-VDC)	
Expansion Output Units	I/O terminal block	CPM2C-8ER	8 relay outputs	
	I/O connector	CPM2C-8ET(1)□	8 transistor outputs (sinking/sourcing)	
		CPM2C-16ET(1)□	16 transistor outputs (sinking/sourcing)	
Analog I/O Unit		CPM2C-MAD11	2 analog inputs (resolution: 6,000) 1 analog output (resolution: 6,000)	
Temperature Sensor Units		CPM2C-TS001	2 thermocouple inputs	
		CPM2C-TS101	2 platinum resistance thermometer inputs	
CompoBus/S I/O Link Unit		CPM2C-SRT21	8 input points 8 output points	
AC Power Supply Unit		CPM2C-PA201	Input: 100 to 240 VAC Output: 24 VDC/600 mA	
Simple Communications Unit		CPM2C-CIF21	Connects to RS-485 components RS-232C	
Peripheral/RS232C Adapter Unit		CPM2C-CIF01-V1	Level conversion for peripheral port	
RS-422/RS-232C Adapter Unit		CPM2C-CIF11	Level conversion for peripheral port	

Expansion Input Units



CPM2C-8EDC

- **I/O Unit**
[Fujitsu-compatible
connector]
CPM2C-8EDC

- **I/O Unit**
[MIL connector]
CPM2C-8EDM

8 DC inputs



CPM2C-16EDC

- **I/O Unit**
[Fujitsu-compatible
connector]
CPM2C-16EDC

- **I/O Unit**
[MIL connector]
CPM2C-16EDM

16 DC inputs

MIL Connectors for Transistor Outputs

(Not available on Programmable Slave or CPU Unit with CompoBus/S Master.)

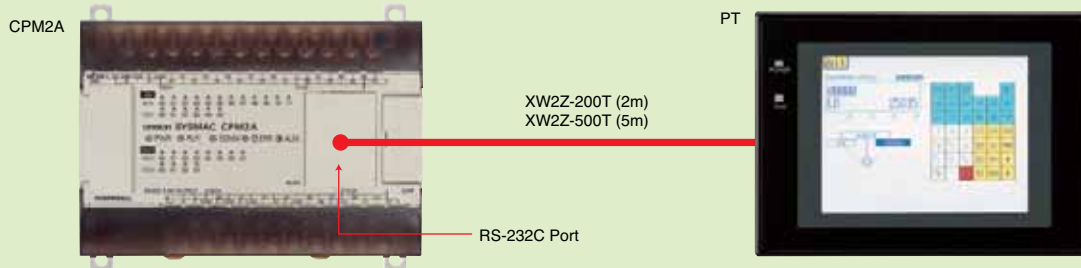


Serial Devices Connect Easily to the Built-in RS-232C Port

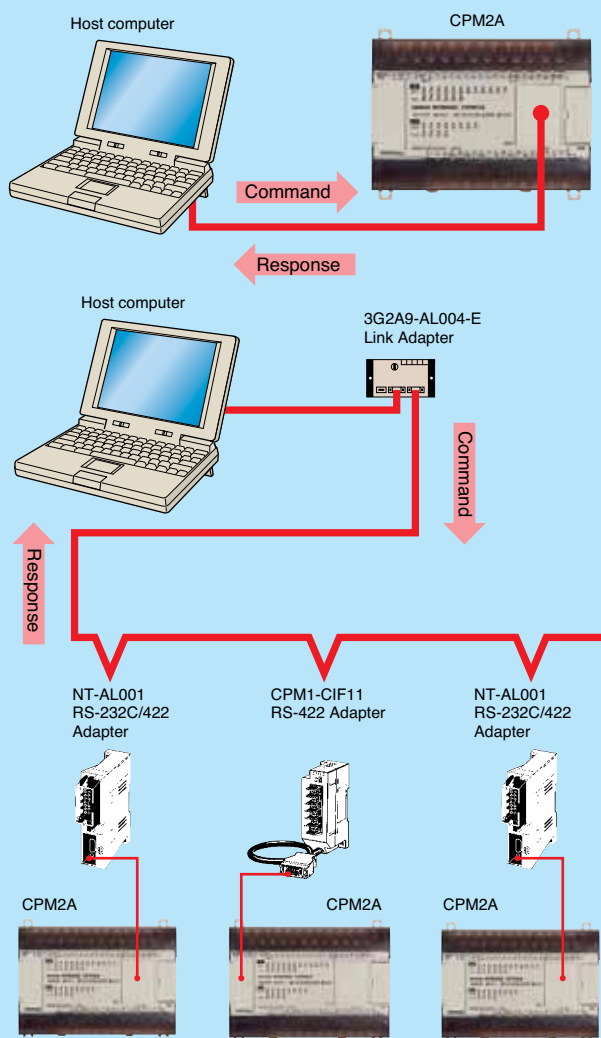
The built-in RS-232C port simplifies connections to serial devices and enables faster startup and program debugging from Programming Devices.

PT Connection

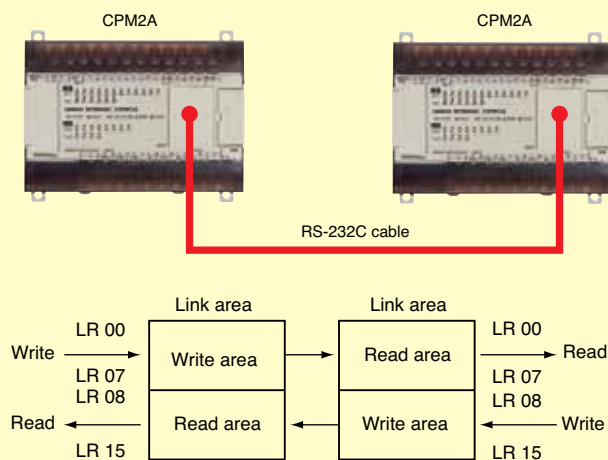
Compatible with the OMRON Programmable Terminal's Programming Console functions. Maintenance is simplified with the on-screen programming operations.



Host Link

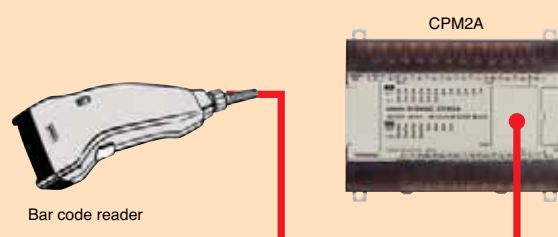


One-to-one Link



No-protocol Communications

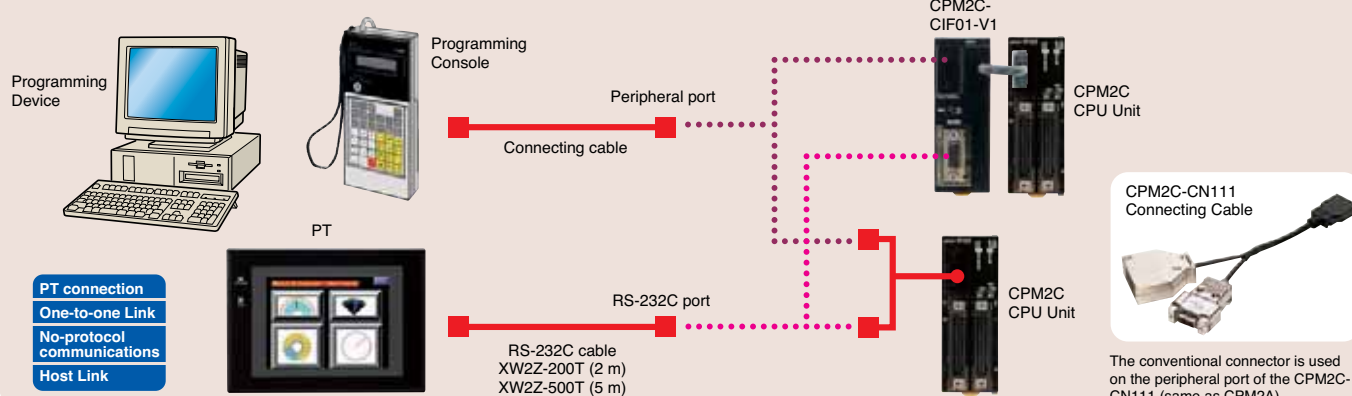
Standard serial devices, such as bar code readers, can be connected with no-protocol communications.



Complete Communications with Host Computers, Other PLCs, and Programmable Terminals

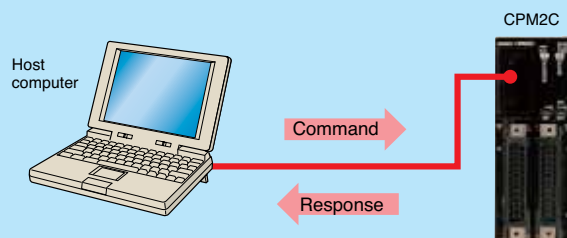
Simultaneous RS-232C and Programming Console Connections

By using the CPM2C-CIF01-V1 Peripheral/RS-232C Adapter Unit or the CPM2C-CN111 Connecting Cable, a Programming Device can be used while the CPU Unit is connected to another device via RS-232C.

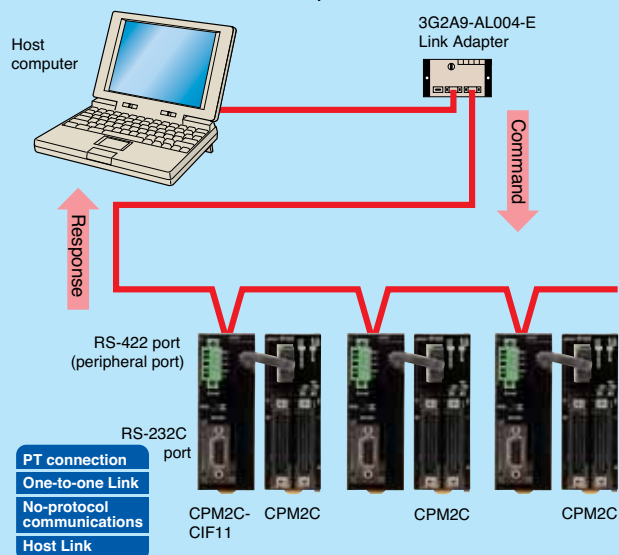


Host Link

I/O memory and operating mode data can be transferred between a host computer and the CPM2C via a Host Link.

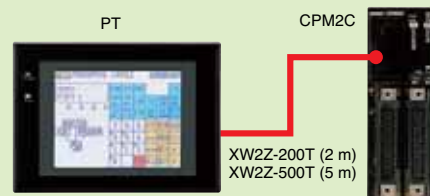


1:N communications are possible using the CPM2C-CIF11 RS-422/RS-232C Adapter Unit.



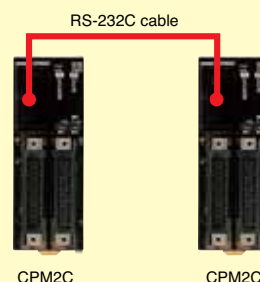
PT Connection

An OMRON Programmable Terminal can be connected with direct access.



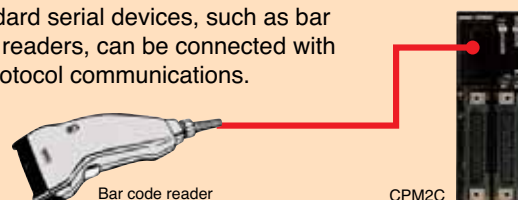
One-to-one Link

A 1:1 PLC Link connection can be established with another CPM2C, or a CQM1(H), CPM1, CPM1A, CPM2A, SRM1(-V2), C200HS, or C200HX/HG/HE PLC.



No-protocol Communications

Standard serial devices, such as bar code readers, can be connected with no-protocol communications.

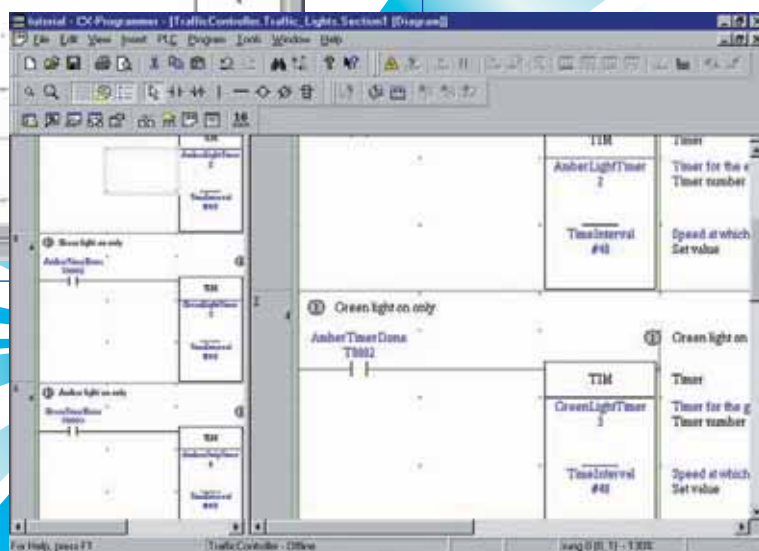
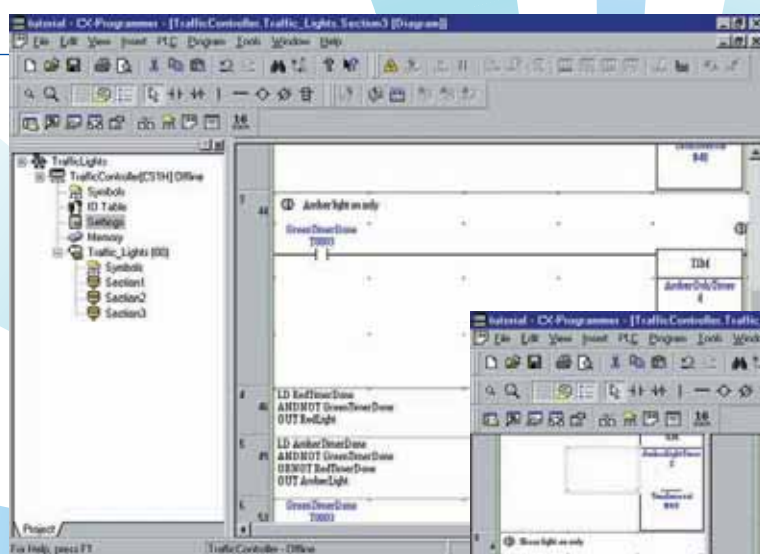


Further improvements to prog

Programming is possible with the Programming Devices used with other PLCs, such as personal computers or Programming Consoles, and the operations can be performed in the same environment. Version 1.2 or higher of the CX-Programmer supports the CPM2A and CPM2C.

Windows-based Support Software Available

Reduce costs by creating and editing programs with the CX-Programmer, Windows-based software that features a wide variety of monitor display and debugging functions. Existing Windows applications can also be used in this significantly improved programming environment.



Simplify Programming with the Windows-based CX-Programmer.

The CX-Programmer supports the development of multiple programs with a wide variety of monitoring and debugging functions.

- Ease of operation.
- A wide variety of display and monitoring functions.
- Effective debugging functions.
- Remote programming and monitoring.
- Maintenance functions.
- Use of existing Windows applications.

Precautions

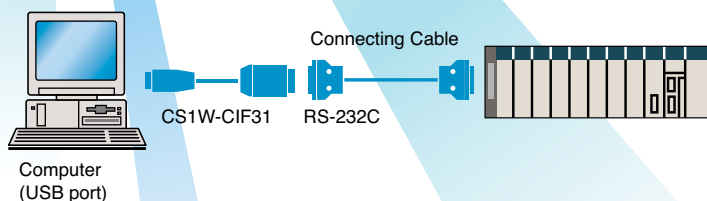
Using the SYSMAC Support Software (SSS)

Set the PLC model to "CQM1."
The SYNC (SYNCHRONIZED PULSE CONTROL), TIML (LONG TIMER), and TMHH (ONE-MS TIMER) instructions can be used by transferring expansion instructions from the CPM2A/CPM2C to the SSS.

For details, refer to the CPM2A Operation Manual (W352) or the CPM2C Operation Manual (W356). All the instructions can be used with the Programming Console.

WS02-CXPC1-EJ-V3□ Offers the Same Functionality at a Low Cost Designed Solely for CPM1A, CPM2□, and SRM1 Micro PLCs

CS1W-CIF31 USB/Serial Conversion Cable

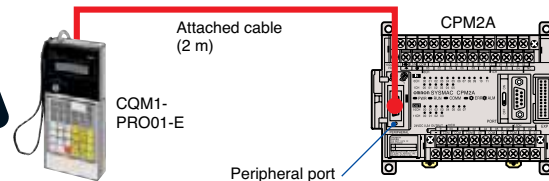


ramming environment and instructions.

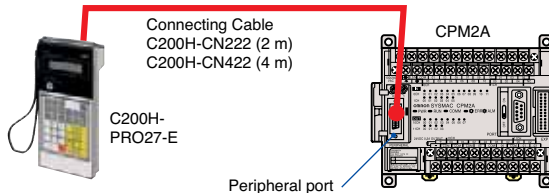
Programming Console Connection Examples

The Programming Console connects to the peripheral port of the CPU Unit.

CQM1-PRO01-E Programming Console

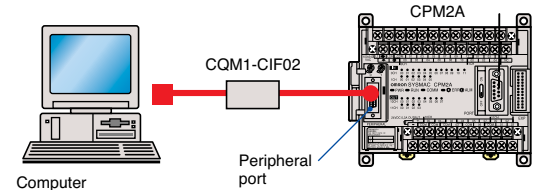


C200H-PRO27-E Programming Console

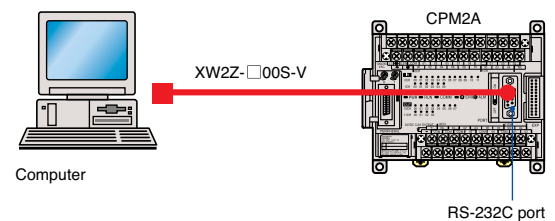


Support Software Connection Example

Connecting to the CPM2A's Peripheral Port

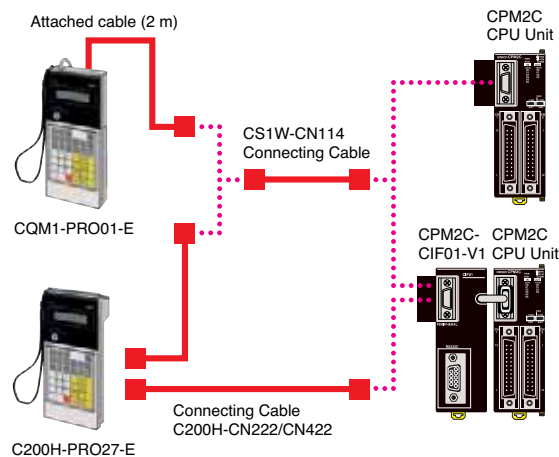


Connecting to the CPM2A's RS-232C Port



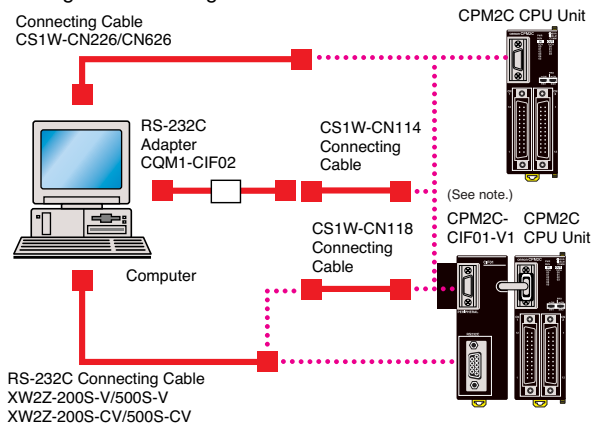
Programming Console Connection Examples

The Programming Console connects to the CPU Unit or CPM2C-CIF01-V1 Peripheral/RS-232C Adapter Unit through a Connecting Cable.



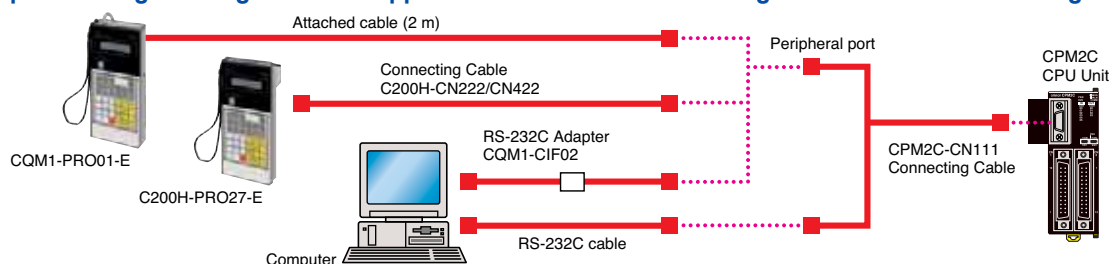
Support Software Connection Example

SYSMAC Support Software (SSS) for MS-DOS or SYSMAC-CX-P (version 1.2 onwards) for Windows can be used. Whichever is used, the computer connects to the CPU Unit or the CPM2C-CIF01-V1 Peripheral/RS-232C Adapter Unit through a Connecting Cable.



Note: The CS1W-CN226/CN626 Connecting Cable cannot be used for the CPM2C-CIF01 Peripheral/RS-232C Adapter Unit. When using the CS1W-CN226/CN626 Connecting Cable, use the CPM2C-CIF01-V1 Peripheral/RS-232C Adapter Unit.

Examples of Programming Console/Support Software Connection Using CPM2C-CN111 Connecting Cable



And Now a Slave with the Composite Functionality Required for Distributed Blocks



Programmable Slave CPM2C-S100C/110C-DRT

The Programmable Slave enables handling a block of sensors, actuators, and other devices as a single DeviceNet slave. Powerful support for distributed control is further strengthened by the ability to standardize programming in units and reduce the programming load on the master. I/O and operation checks can also be performed by unit to eliminate the need to assemble the entire system before starting system debugging.

Features

The Programmable Slave provides DeviceNet and PLC functionality along with expandability to handle a wide range of applications.

2-ms cycle time for 500 programming steps

High-speed counters

Pulse outputs

Interrupt inputs

256 timers/counters

Clock/calendar

DeviceNet™

Multi-word I/O links and a message service enable controlling Slave data from the master. Message communications easily handle data, such as log data, that does not need to be sent continuously.

1,024-pt I/O link

Explicit messages

DeviceNet-CompoBus/S gateway

RS-232C

Connect to bar code readers or PTs and process data at the Slave to reduce the load on the master.

No-protocol communications

NT Links

Host Links

Expansion Units (3 max.)

One Unit handles a distributed block. High-density capability eliminates the need for communications, reducing costs.

Digital I/O

Temperature Sensor

Relay Output

Power Supply

Analog I/O

CompoBus/S

Reduce wiring for remote locations (e.g., signal lights, pushbuttons), expansion terminal blocks, and solenoid valves. Connect with VCTF cable or easy-to-branch flat cable.

256-pt (128/128) expansion

Long-distance mode: 6 ms at 500 m

High-speed mode: 0.8 ms at 100 m

VCTF/flat cable wiring

Complete lineup

Open Multivendor Network: DeviceNet™

A DeviceNet network runs under the PLC to enable more intelligent control of production lines and equipment.

Simple, Flexible Wiring

- Distributed control of up to 63 slaves in multidrop, T-branch, branch line, or star connections.
- Max. trunk length: 500 m, Max. branch length: 6 m, Max. total branch length: 129 m
- Standard communications cables and connectors for each installation.

Versatile Communications Methods

- Use remote I/O or message communications to handle both ON/OFF data and device parameters

A Completely Open Network with a Wealth of Available Slaves

- Remote I/O, analog devices, temperature controllers, inverters, motion devices, displays, and PLCs can be connected to achieve the ideal distributed system.
- Multivendor product lineups are also available for valves, robots, load cells, and many other devices.

Advanced Support

- All devices have defined profiles and network devices provide interchangeability and compatibility.

- All devices provide information in EDS files to enable smooth setting of device parameters and easy maintenance.

Standardization of Programs and Operations in a Multivendor Environment

- EDS files and configurators can be used to provide consistent setting methods. Files can be saved and read to make setting up the system even easier.

CompoBus/S Master Increases Efficiency and Expandability in Small-scale Control Systems

CMP2C-S100C/-S110C CPU Units with CompoBus/S Master

Super Compact to Fit Onsite

The CompoBus/S Master and 10 I/O points all come in a package only 40 x 90 x 65 mm large (WxHxD), yet provides the versatile expandability required to meet onsite needs.

A Lineup of Expansion I/O Units to Reduce Costs

Up to three Expansion I/O Units can be combined with I/O terminals connected via CompoBus/S to reduce wiring both inside and outside the control panel. Reduced panel size is accompanied by lower costs for cables, terminal blocks, and wiring work.

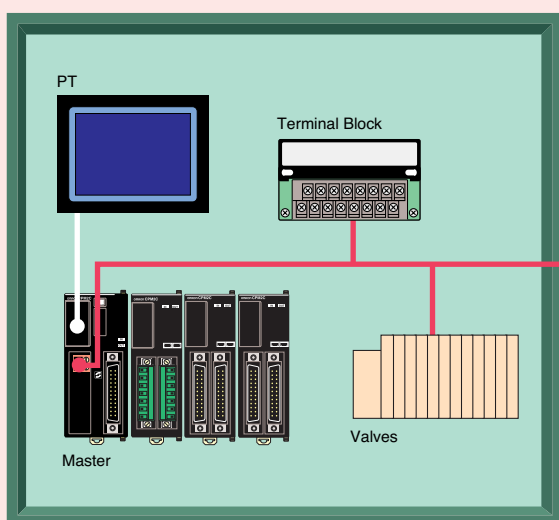
Easier Designing, Modifications, and Expansions

CompoBus/S Remote I/O Terminals can be used as terminal blocks to increase I/O speed and reduce wiring. Expandability can be designed into the system to facilitate later modifications or expansions.

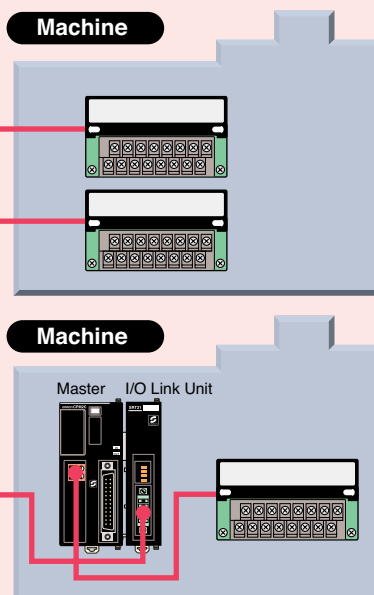
Built-in Clock/Calendar for Easier Machine Management

Collected data and error logs can be time-stamped, or weekly timers can be set up as required by the application.

Control Panel



Machine



CompoBus/S

The CompoBus/S High-speed ON/OFF Bus

Build a high-speed remote I/O system under the PLC to reduce wiring for in-machine sensors and actuators.

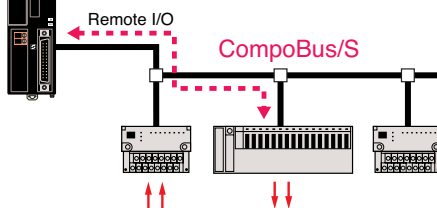
Use the High-speed or the New Long-distance Communications Mode.

- High-speed Mode: 100-m communications distance at 750 kbits/s (using 2-conductor VCTF cable)
- Long-distance Mode: 500-m communications distance at 93.75 kbits/s (using 2-conductor VCTF cable)

High-speed Remote I/O Communications: 1 ms Max.

- The High-speed Communications Mode achieves a communications cycle of 1 ms maximum for 32 slaves with 128 input and 128

output points, and 0.5 ms maximum for 16 slaves with 64 input and 64 output points.



Special Cables to Reduce Wiring

- Connect with special flat cable or VCTF cable.

Complete Lineup of Slaves

- Connect contact I/O, contact I/O modules, or sensor inputs (photoelectric or proximity). Analog inputs and analog outputs are also supported.

Long-distance Mode for Flexible Branching with Special Flat Cable or 4-conductor VCTF Cable

- Completely flexible branching can be achieved for a total wiring length of up to 200 m.

Read and Understand this Catalog

Please read and understand this catalog before purchasing the product. Please consult your OMRON representative if you have any questions or comments.

Warranty and Limitations of Liability

WARRANTY

OMRON's exclusive warranty is that the products are free from defects in materials and workmanship for a period of one year (or other period if specified) from date of sale by OMRON.

OMRON MAKES NO WARRANTY OR REPRESENTATION, EXPRESS OR IMPLIED, REGARDING NON-INFRINGEMENT, MERCHANTABILITY, OR FITNESS FOR PARTICULAR PURPOSE OF THE PRODUCTS. ANY BUYER OR USER ACKNOWLEDGES THAT THE BUYER OR USER ALONE HAS DETERMINED THAT THE PRODUCTS WILL SUITABLY MEET THE REQUIREMENTS OF THEIR INTENDED USE. OMRON DISCLAIMS ALL OTHER WARRANTIES, EXPRESS OR IMPLIED.

LIMITATIONS OF LIABILITY

OMRON SHALL NOT BE RESPONSIBLE FOR SPECIAL, INDIRECT, OR CONSEQUENTIAL DAMAGES, LOSS OF PROFITS OR COMMERCIAL LOSS IN ANY WAY CONNECTED WITH THE PRODUCTS, WHETHER SUCH CLAIM IS BASED ON CONTRACT, WARRANTY, NEGLIGENCE, OR STRICT LIABILITY.

In no event shall the responsibility of OMRON for any act exceed the individual price of the product on which liability is asserted.

IN NO EVENT SHALL OMRON BE RESPONSIBLE FOR WARRANTY, REPAIR, OR OTHER CLAIMS REGARDING THE PRODUCTS UNLESS OMRON'S ANALYSIS CONFIRMS THAT THE PRODUCTS WERE PROPERLY HANDLED, STORED, INSTALLED, AND MAINTAINED AND NOT SUBJECT TO CONTAMINATION, ABUSE, MISUSE, OR INAPPROPRIATE MODIFICATION OR REPAIR.

Application Considerations

SUITABILITY FOR USE

OMRON shall not be responsible for conformity with any standards, codes, or regulations that apply to the combination of the product in the customer's application or use of the product.

Take all necessary steps to determine the suitability of the product for the systems, machines, and equipment with which it will be used.

Know and observe all prohibitions of use applicable to this product.

NEVER USE THE PRODUCT FOR AN APPLICATION INVOLVING SERIOUS RISK TO LIFE OR PROPERTY WITHOUT ENSURING THAT THE SYSTEM AS A WHOLE HAS BEEN DESIGNED TO ADDRESS THE RISKS, AND THAT THE OMRON PRODUCT IS PROPERLY RATED AND INSTALLED FOR THE INTENDED USE WITHIN THE OVERALL EQUIPMENT OR SYSTEM.

PROGRAMMABLE PRODUCTS

OMRON shall not be responsible for the user's programming of a programmable product, or any consequence thereof.

Disclaimers

CHANGE IN SPECIFICATIONS

Product specifications and accessories may be changed at any time based on improvements and other reasons. Consult with your OMRON representative at any time to confirm actual specifications of purchased product.

DIMENSIONS AND WEIGHTS

Dimensions and weights are nominal and are not to be used for manufacturing purposes, even when tolerances are shown.

PERFORMANCE DATA

Performance data given in this catalog is provided as a guide for the user in determining suitability and does not constitute a warranty. It may represent the result of OMRON's test conditions, and the users must correlate it to actual application requirements. Actual performance is subject to the OMRON Warranty and Limitations of Liability.

Note: Do not use this document to operate the Unit.

Printed on 100%
Recycled Paper



OMRON Corporation

Control Devices Division H.Q.
Shiokoji Horikawa, Shimogyo-ku,
Kyoto, 600-8530 Japan
Tel: (81)75-344-7109
Fax: (81)75-344-7149

Regional Headquarters

OMRON EUROPE B.V.
Wegalaan 67-69, NL-2132 JD Hoofddorp
The Netherlands
Tel: (31)2356-81-300/
Fax: (31)2356-81-388

OMRON ELECTRONICS LLC

1 East Commerce Drive, Schaumburg,
IL 60173 U.S.A.
Tel: (1)847-843-7900/Fax: (1)847-843-8568

OMRON ASIA PACIFIC PTE. LTD.

83 Clemenceau Avenue,
#11-01, UE Square,
Singapore 239920
Tel: (65)6835-3011/Fax: (65)6835-2711

OMRON (CHINA) CO., LTD.

Room 2211, Bank of China Tower,
200 Yin Cheng Zhong Road,
PuDong New Area, Shanghai, 200120 China
Tel: (86)21-5037-2222/Fax: (86)21-5037-2200

Authorized Distributor:

Note: Specifications subject to change without notice.

Cat. No. P049-E1-10
Printed in Japan
0306-1M