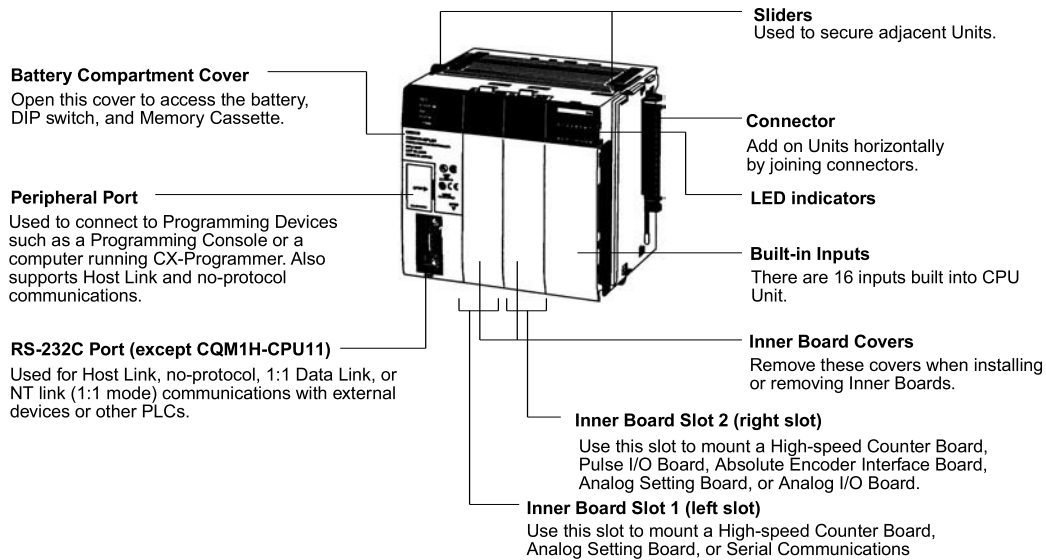# CPU Unit Descriptions

CQM1H CPU Units
CQM1H-CPU□□

CPU Units

The four models of CPU Units can be broadly divided into two groups: Models that support Inner Boards and the Controller Link Unit, and models that do not. The CPU Units also vary in their program capacities, I/O capacities, memory capacities, and the presence of an RS-232C port, as shown in the *Basic Specifications* table, below.

■ CPU Unit Overview

The following illustration shows the main components of a CQM1H-CPU61 CPU Unit.

Sliders
Used to secure adjacent Units.

Battery Compartment Cover
Open this cover to access the battery, DIP switch, and Memory Cassette.

Connector
Add on Units horizontally by joining connectors.

Peripheral Port
Used to connect to Programming Devices such as a Programming Console or a computer running CX-Programmer. Also supports Host Link and no-protocol communications.

LED indicators

Built-in Inputs
There are 16 inputs built into CPU Unit.

RS-232C Port (except CQM1H-CPU11)
Used for Host Link, no-protocol, 1:1 Data Link, or NT link (1:1 mode) communications with external devices or other PLCs.

Inner Board Covers
Remove these covers when installing or removing Inner Boards.

Inner Board Slot 2 (right slot)
Use this slot to mount a High-speed Counter Board, Pulse I/O Board, Absolute Encoder Interface Board, Analog Setting Board, or Analog I/O Board.

Inner Board Slot 1 (left slot)
Use this slot to mount a High-speed Counter Board, Analog Setting Board, or Serial Communications

■ Basic Specifications

Model	I/O capacity (See note.)	Program capacity (words)	DM capacity (words)	EM capacity (words)	CPU Unit built-in inputs	Built-in serial ports		Inner Boards	Controller Link Unit
						Peripheral port	RS-232C port		
CQM1H-CPU61	512	15.2 K	6 K	6 K	DC: 16	Yes	Yes	Supported	
CQM1H-CPU51		7.2 K	6 K	None					
CQM1H-CPU21	256	3.2 K	3 K					Not supported	
CQM1H-CPU11							No		

Note: I/O capacity = Number of input points (≤ 256) + Number of output points (≤ 256).
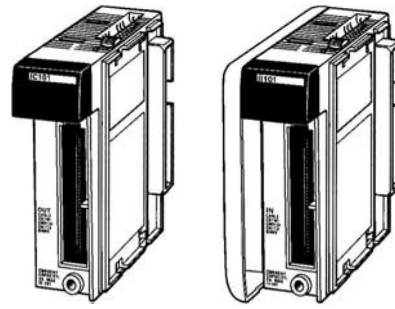
■ Maximum Number of Units

CPU Unit	Controller Link Unit	Inner Boards	I/O Units and Dedicated I/O Units
CQM1H-CPU61	1 max.	2 max.	11 max. (total)
CQM1H-CPU51			
CQM1H-CPU21	Not supported.	Not supported.	
CQM1H-CPU11			

CPU Unit Descriptions

■ I/O Expansion Units

Use Expansion I/O Blocks to split the configuration into more than one group, allowing greater flexibility with mounting space as well as the use of at least 12 I/O Units or Dedicated I/O Units. Expansion Units can be used with any CQM1H CPU Unit.
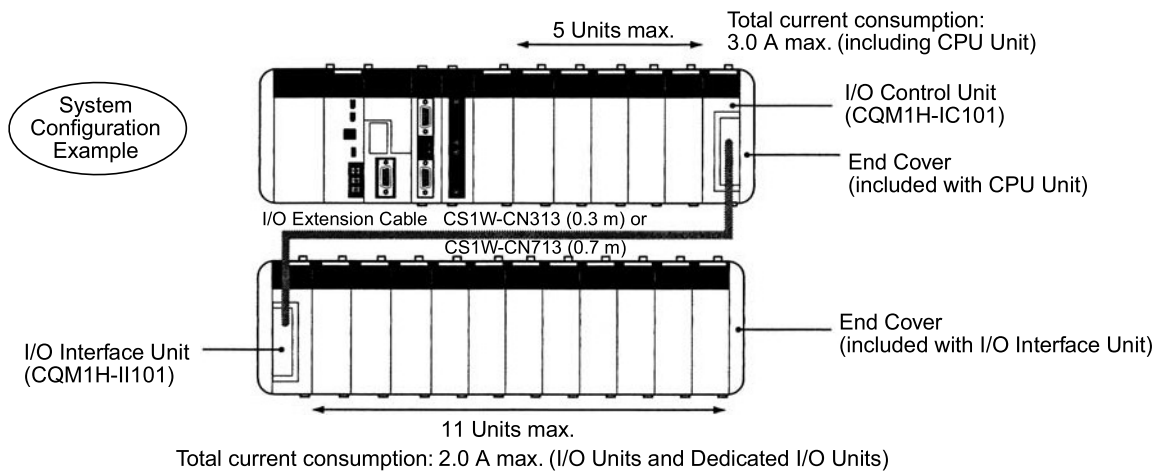

CQM1H-IC101   CQM1H-II101

Maximum Number of Units Mountable

CPU Unit model	CPU Block only	CPU Block + I/O Expansion Block			I/O Expansion Block
	CPU Block	CPU Block			I/O Expansion Block
	I/O Units + Dedicated I/O Units	Controller Link Unit	Inner Boards	I/O Units + Dedicated I/O Units	I/O Units + Dedicated I/O Units
CQM1H-CPU61	11 Units max. (see note 1)	1 Unit	2 Boards max.	5 Units max. (see note 2)	11 Units max. (see note 3)
CQM1H-CPU51					
CQM1H-CPU21		Not supported	Not supported		
CQM1H-CPU11					

Note: 1. Ensure that the total current consumption of the mounted Units (CPU Unit, Controller Link Unit, Inner Boards, I/O Units, and Dedicated I/O Units)

2. Ensure that the total current consumption of the mounted Units (CPU Unit, Controller Link Unit, Inner Boards, I/O Units, Dedicated I/O Units, and I/O Control Units) does not exceed 3.0 A.

3. Ensure that the total current consumption of the mounted Units (I/O Interface Units, I/O Units, and Dedicated I/O Units) does not exceed 2.0 A.

5 Units max.

Total current consumption: 3.0 A max. (including CPU Unit)

System Configuration Example

I/O Control Unit (CQM1H-IC101)

End Cover (included with CPU Unit)

I/O Extension Cable   CS1W-CN313 (0.3 m) or
CS1W-CN713 (0.7 m)

End Cover (included with I/O Interface Unit)

I/O Interface Unit (CQM1H-II101)

11 Units max.

Total current consumption: 2.0 A max. (I/O Units and Dedicated I/O Units)

Memory Cassettes

An optional Memory Cassette can be used to store the user program, PLC Setup, and other data in ROM so that vital data will not be lost in the event of battery expiration or careless programming/monitoring operations.

If the PLC's settings need to be changed to execute another process, the entire software setup and user program can be changed just by exchanging the Memory Cassette and rebooting the PLC.
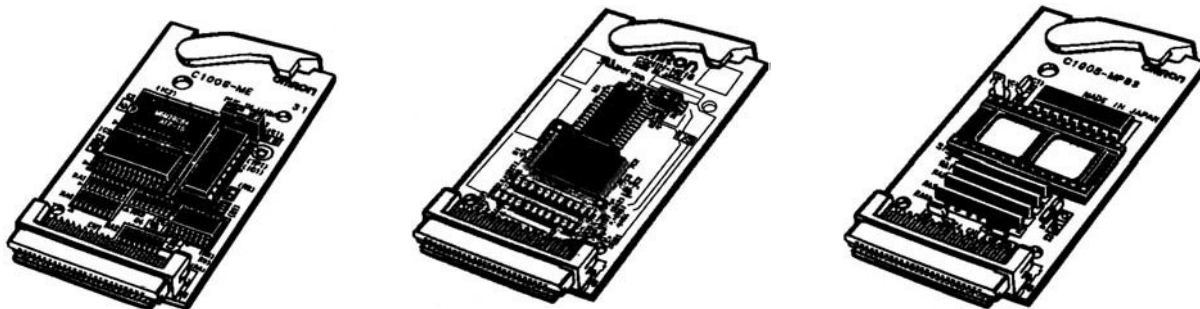
EEPROM:

CQM1-ME04K
CQM1-ME04R
CQM1-ME08K
CQM1-ME08R

Flash Memory:

CQM1H-ME16K
CQM1H-ME16R

EPROM:

CQM1-MP08K
CQM1-MP08R

■ Available Memory Cassettes

The following Memory Cassettes are available.

Memory	Model	Specifications
EEPROM	CQM1-ME04K	4 Kwords without clock
	CQM1-ME04R	4 Kwords with clock
	CQM1-ME08K	8 Kwords without clock
	CQM1-ME08R	8 Kwords with clock
EPROM	CQM1-MP08K	Without clock (see below)
	CQM1-MP08R	With clock (see below)
Flash	CQM1H-ME16K	16 Kwords without clock
	CQM1H-ME16R	16 Kwords with clock

The following EPROM chips (sold separately) are required for EPROM Memory Cassettes.
The chip is mounted in the I/O socket on the Memory Cassette.

Model	ROM version	Capacity	Access speed
ROM-JD-B	27256 or equivalent	16 Kwords	150 ns
ROM-KD-B	27512 or equivalent	32 Kwords	150 ns