■ CPU UNIT SPECIFICATIONS

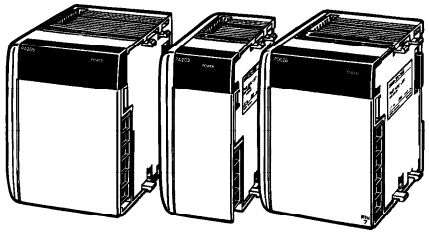
Characteristics

Item		Specifications
Control method		Stored program method
I/O control method		Cyclic scan and direct output/immediate interrupt processing
Programming language		Ladder-diagram programming
I/O capacity		CQM1H-CPU11/21: 256 CQM1H-CPU51/61: 512
Program capacity		CQM1H-CPU11/21 : 3.2 kwords CQM1H-CPU51 : 7.2 kwords CQM1H-CPU61 : 15.2 kwords
User data memory capacity		CQM1H-CPU11/21 : 3 kwords CQM1H-CPU51 : 6 kwords CQM1H-CPU61 : 12 kwords (DM: 6 kwords; EM: 6 kwords)
Instruction length		1 step per instruction, 1 to 4 words per instruction
Number of instructions		162 (14 basic, 148 special instructions)
Instruction execution times		Basic instructions: 0.375 to 1.125 μs Special instructions: 17.7 μs (MOV instruction)
Overseeing time		0.70 ms
Mounting structure		No backplane (Modules are joined horizontally using connectors)
Mounting		DIN Track mounting (screw mounting not possible)
CPU built-in DC input points		16
Maximum number of modules		Maximum of 11 modules total for I/O modules and Dedicated I/O modules
Inner Boards		CQM1H-CPU11/21: None CQM1H-CPU51/61: 2 Boards
Communications modules (Controller Link Module)		CQM1H-CPU11/21: None CQM1H-CPU51/61: 1 module
Types of interrupts	Input interrupts (4 inputs max.)	Input Interrupt Mode: Interrupts are executed in response to inputs from external sources to the CPU's built-in input points. Counter Mode: Interrupts are executed in response to reception of a set number of pulses (counted down) via the CPU's internal built-in input points (4 points).
	Interval timer interrupts (3 timers max.)	Scheduled Interrupt Mode: Program is interrupted at regular intervals measured by one of the CPU's internal timers. One-shot Interrupt Mode: An interrupt is executed after a set time, measured by one of the CPU's internal timers.
	High-speed counter interrupts	Target Value Comparison: Interrupt is executed when the high-speed counter PV is equal to a specified value. Range Comparison: Interrupt is executed when the high-speed counter PV lies within a specified range. Counting is possible for high-speed counter inputs from the CPU's internal input points, Pulse I/O Boards, or Absolute Encoder Interface Boards. (The High-speed Counter Board has no interrupt function, but can output bit patterns internally and externally.)
I/O allocations		I/O is automatically allocated in order from the Unit nearest to the CPU. (Because there are no I/O tables, it is not necessary to create I/O tables from a Programming Device.)

Power Supply Units

Both AC and DC Power Supply Units are available. The AC Power Supply Units require a power supply input from 100 to 240 VAC and two of the AC Power Supply Units are equipped with an auxiliary 24 VDC power supply output.

The CQM1H's left End Cover is part of the Power Supply Unit.



CQM1-PA206 CQM1-PA203 CQM1-PD026
CQM1-PA216

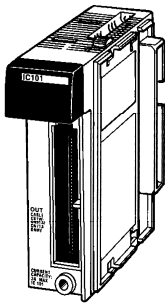
■ SPECIFICATIONS

Item	CQM1-PA203	CQM1-PA206	CQM1-PA216	CQM1-PD026
Supply voltage	100 to 240 VAC, 50/60 Hz		100 or 230 VAC (selectable), 50/60 Hz	24 VDC
Operating voltage range	85 to 264 VAC		85 to 132 VAC or 170 to 264 VAC	20 to 28 VDC
Operating frequency range	47 to 63 Hz			—
Power consumption	60 VA max.	120 VA max.		50 W max.
Inrush current	30 A max.			
Output capacity	5 VDC: 3.6 A (18 W)	5 VDC: 6 A 24 VDC: 0.5 A (30 W total)		5 VDC: 6 A (30 W)
Insulation resistance	20 MΩ min. at 500 VDC between AC external terminals and GR terminals			
Dielectric strength	2,300 VAC 50/60 Hz for 1 min between AC external and GR terminals, leakage current: 10 mA max. 1,000 VAC 50/60 Hz for 1 min between DC external and GR terminals, leakage current: 20 mA max.			
Noise immunity	Conforms to IEC61000-4-4, 2 kV (power lines)			
Vibration resistance	10 to 57 Hz with an amplitude of 0.075 mm, and 57 to 150 Hz with an acceleration of 9.8 m/s^2 in the X, Y, and Z directions for 80 minutes each (i.e., swept for 8 minutes, 10 times).			
Shock resistance	147 m/s^2 (118 m/s^2 for Contact Output Units) 3 times each in X, Y, and Z directions			
Ambient temperature	Operating: 0° to 55°C (32° to 131°F) Storage: −20° to 75°C (−4° to 167°F), except battery			
Ambient operating humidity	10% to 90% RH (no condensation)			
Operating environment	No corrosive gas			
Ground	Less than 100 Ω			
Construction	Panel mounted			
Weight	5 kg max.			
Internal current consumption	CQM1H-CPU11: 820 mA at 5 VDC CQM1H-CPU21/51/61: 840 mA at 5 VDC			
Dimensions (without cables)	CQM1H-CPU11/21: 187 to 571 × 110 × 107 mm (W×H×D) CQM1H-CPU51/61: 187 to 603 × 110 × 107 mm (W×H×D)			
Accessories	RS-232C connector (one XM2A-0901 Plug and one XM2S-0911-E Hood) (except CQM1H-CPU11) CPM2A-BAT01 Battery Set (installed in CPU Unit when shipped)			

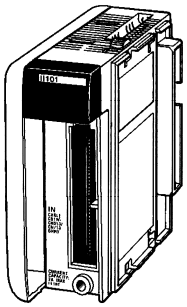
Note: The total power consumed at 5 VDC and 24 VDC must be less than 30 W.
(5 × Current consumed at 5 VDC) + (24 × Current consumed at 24 VDC) ≤ 30 W

I/O Expansion Adapters

Use Expansion I/O adapters to split the configuration into more than one group, allowing greater flexibility with mounting space as well as the use of at least 16 I/O Modules or Dedicated I/O Modules. Expansion Adapters can be used with any CQM1H CPU.



CQM1H-IC101



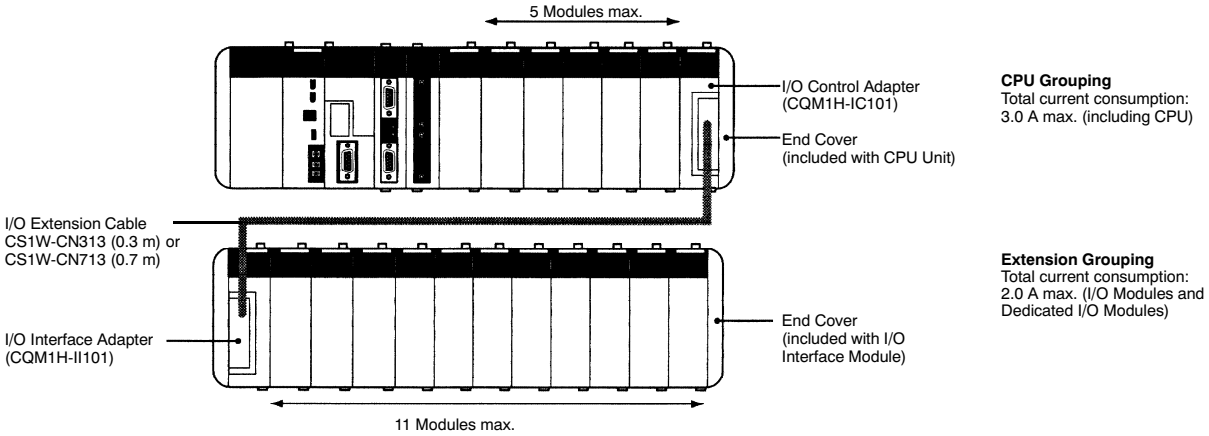
CQM1H-II101

■ SPECIFICATIONS

Maximum Number of Units Mountable

CPU model	CPU Block only	CPU Block + I/O Expansion Adapter			
	CPU grouping	CPU grouping			Extension grouping
	I/O Modules + Dedicated I/O Modules	Controller Link Modules	Inner Boards	I/O Modules + Dedicated I/O Modules	I/O Modules + Dedicated I/O Modules
CQM1H-CPU61	11 Modules max.	1 Module	2 Boards max.	5 Modules max.	11 Modules max.
CQM1H-CPU51					
CQM1H-CPU21		Not supported	Not supported		
CQM1H-CPU11					

■ CONFIGURATION



Note: If the CQM1-PA203 Power Supply Unit is used, the maximum current consumption total is 3.6 A.