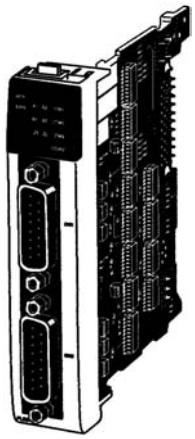
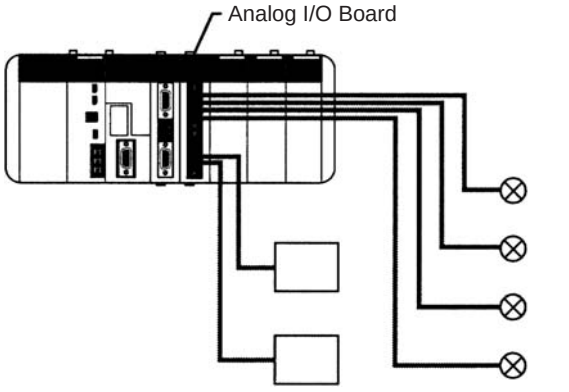
Analog I/O Board
CQM1H-MAB42

- The Analog I/O Board is an Inner Board with four analog inputs and two analog outputs.
- The signal ranges that can be used for each of the four analog inputs are –10 to +10 V, 0 to 10 V, 0 to 5 V, and 0 to 20 mA. Each input's signal range can be set independently.
- The signal ranges that can be used for each of the two analog output points are –10 to +10 V and 0 to 20 mA. Each output's signal range can be set independently.



System Configuration



Specifications

Item	Specifications
Name	Analog I/O Board
Model number	CQM1H-MAB42
Applicable CPU Units	CQM1H-CPU51/61
Unit classification	CQM1H-series Inner Board
Mounting locations and number of Boards	1 Board in Inner Board slot 2 (right slot)
Analog inputs	4 inputs
Analog outputs	2 outputs
Current consumption (Supplied from Power Supply Unit)	5 V DC, 400 mA max.
Dimensions	25 × 110 × 107 mm (W × H × D)
Weight	100 g max.
Standard accessories	Plugs: XM2D-1501 (OMRON) x 2 Hoods: XM2S-1511 (OMRON) x 2

Analog Inputs

Item		Specifications	
Input signals		Voltage inputs	Current inputs
Number of analog inputs		4 inputs	
Input signal ranges[1]		–10 to 10 V 0 to 10 V 0 to 5 V	0 to 20 mA
A/D conversion time[2]		1.7 ms max./point	
Resolution		1/4,096	
A/D conversion output data		12-bit binary data –10 to +10 V: F800 to 07FF Hex 0 to 10 V, 0 to 5 V:0000 to 0FFF Hex	12-bit binary data 0 to 20 mA: 0000 to 0FFF Hex
External input impedance		1 MΩ typical	250 Ω typical
Absolute maximum rated input		±15 V	±30 mA
Overall precision[3]	23±2°C	±0.5% of FS	
	0 to 55°C	±1.0% of FS	

Note: 1. Separate input signal ranges can be set for each input.

2. The A/D conversion time is the time taken for an analog signal to be stored in memory as digital data. At least one cycle is required to transfer the data to the CPU Unit.

3. The overall precision is the precision with respect to full scale.

4. The CQM1H-MAB42 Analog I/O Board, unlike the CQM1-AD041, does not have a hardware average processing function. If averaging of data is required, use the CPU Unit's data averaging instruction (AVG).

Analog Outputs

Item		Specifications	
Output signals		Voltage outputs	Current outputs
Number of analog outputs		2 outputs	
Output signal ranges[1]		–10 to 10 V	0 to 20 mA
D/A conversion time[2]		1.7 ms max./2 points	
Resolution		1/4,096	1/2,048
Set output data		12-bit binary data –10 to +10 V: F800 to 07FF Hex	11-bit binary data 0 to 20 mA: 0000 to 07FF Hex
Allowable external output load resistance		2 KΩ min.	350 Ω max.
Overall precision[3]	23±2°C	±0.5% of FS	
	0 to 55°C	±1.0% of FS	

Note: 1. Separate output signal ranges can be set for each output.

2. The D/A conversion time is the time taken for the output data set in memory to be converted to analog signals and output. At least one cycle is required to transfer the data in the CPU Unit to the Analog I/O Board.

3. The overall precision is the precision with respect to full scale.