

SECTION 4

C200H-MAD01 Analog I/O Unit

This section provides the information required to install and operate a C200H-MAD01 Analog I/O Unit.

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4-1 Specifications

4-1-1 General Specifications

All general specifications of the C200H-MAD01 Analog I/O Unit conform to those of the C200H, C200HS, and C200HX/HG/HE Series.

4-1-2 Performance Specifications

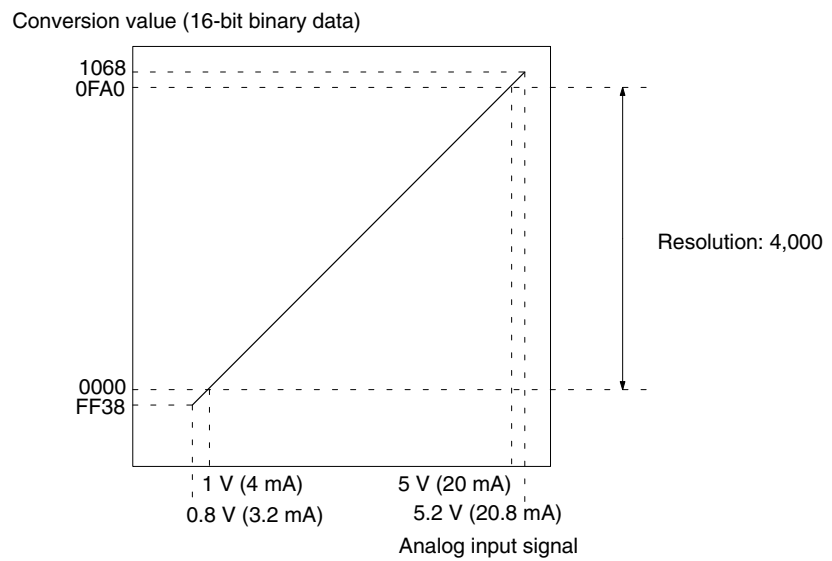
Item		C200H-MAD01		
		Voltage I/O	Current I/O	
Input	Number of analog inputs	2		
	Input signal range (note 1)	0 to 10 V -10 to 10 V 1 to 5 V	4 to 20 mA	
	Max. input signal (note 2)	±15 V	±30 mA	
	Input impedance	1 MΩ min.	250 Ω (rated value)	
	Resolution	1/4000 (full scale)		
	Converted output data	16-bit binary data		
	Accuracy (note 3)	23°±2°C	±0.2% of full scale	±0.4% of full scale
		0° to 55°C	±0.4% of full scale	±0.6% of full scale
Output	Number of analog outputs	2		
	Output signal range (note 1)	0 to 10 V -10 to 10 V 1 to 5 V	4 to 20 mA	
	Output impedance	0.5 Ω max.	---	
	Max. output current	12 mA	---	
	Max. load resistance	---	600 Ω max. (note 5)	
	Resolution	1/4000 (full scale)		
	Set data	16-bit binary data		
	Accuracy (note 3)	23°±2°C	±0.3% of full scale	±0.5% of full scale
0° to 55°C		±0.5% of full scale	±0.8% of full scale	
Common	Conversion time (note 4)	1.0 ms/point max.		
	Isolation	Between I/O terminals and PC: photocoupler (No isolation between individual input and output signals.)		
	External connectors	28-point terminal block (M3 screws)		
	Power consumption	100 mA max. at 5 VDC 200 mA max. at 26 VDC		
	Dimensions	34.5 x 130 x 128 (W x H x D) mm (refer to <i>Appendix A Dimensions</i>)		
	Weight	450 g max.		

- Note**
1. The I/O signal range can be set individually for each input.
 2. Operate within the ranges listed above. Operation in ranges beyond the maximum input signals will damage the Unit.
 3. The accuracy is given for full scale. For example, an accuracy of ±0.2% means a maximum error of ±8 (BCD).
The default setting is adjusted with the voltage input for the analog input and with the current output for the analog output. When using the current input and voltage output, perform the offset and gain adjustment as required.

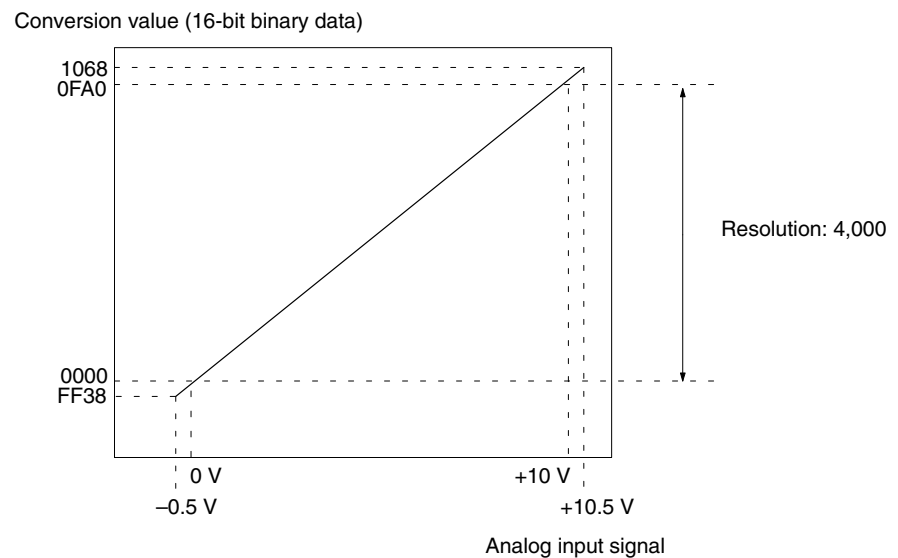
4. A/D conversion time is the time it takes for an analog signal to be stored in memory as converted data after it has been input. It takes at least one cycle before the converted data is read by the CPU Unit. D/A conversion time is the time required for converting and outputting the PC data. It takes at least one cycle for the data stored in the PC to be read by the Analog Output Unit. By executing an I/O refresh, the conversion time may be extended by an additional 0.3 ms approximately.
5. The default setting is for current output (load resistance: 250 Ω). When using voltage output, or when using current output with a load resistance other than 250 Ω, perform the offset and gain adjustment as required.

4-1-3 Input Specifications

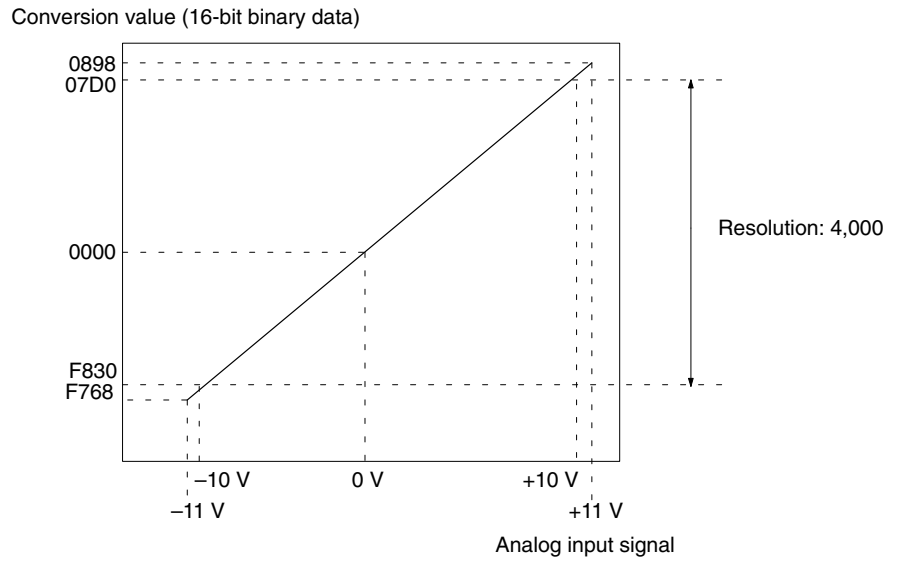
Range: 1 to 5 V (4 to 20 mA)



Range: 0 to 10 V

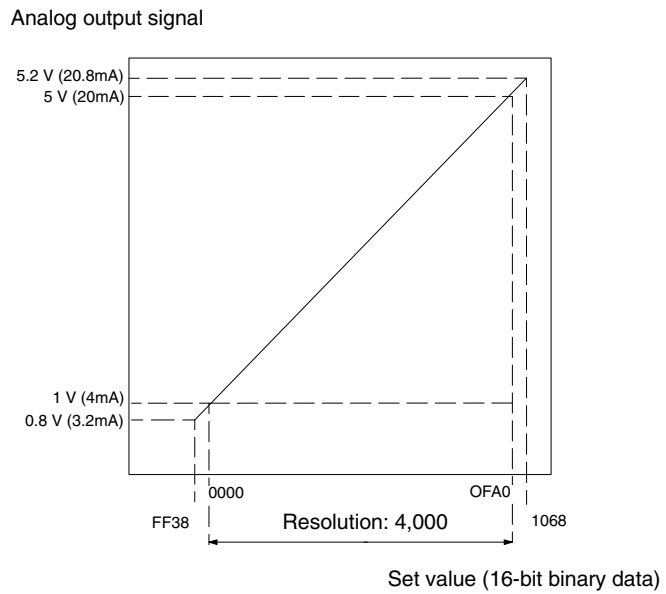


Range: -10 to 10 V



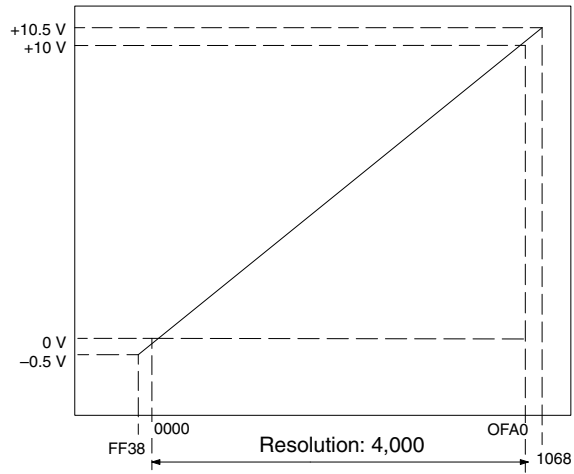
4-1-4 Output Specifications

Range: 1 to 5 V (4 to 20 mA)



Range: 0 to 10 V

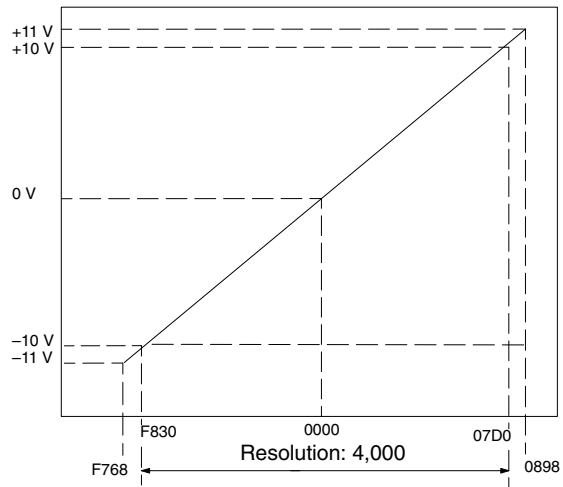
Analog output signal



Set value (16-bit binary data)

Range: -10 to 10 V

Analog output signal



Set value (16-bit binary data)