# <u>OMRON</u>

# **Analog Input Modules**

GT1-AD

# Analog Input Module Compatible with MULTIPLE I/O TERMINAL

- Input block incorporates connectors that can be easily mounted or dismounted.
- 8 inputs
- High resolution of 1/6,000
- High conversion speed of 8 ms/8 points or 4 ms/4 points.
- Dimensions of connector model:

  110 × 60 × 65 (W × H × D)

  Dimensions of terminal block model:

  80 × 80 × 65 (W × H × D)
- DIN track mounting.





## Ordering Information

I/O classification	I/O points	Terminal	Power supply voltage	I/O specification	Model
Analog input	8	Molex connector	24 VDC	4 to 20 mA, 0 to 20 mA, 0 to 5 V. 1 to 5 V. 0 to	GT1-AD08MX
	4	Terminal block			GT1-AD04

Note: A connector cable, GCN1-004, is included with each module.

### Specifications

#### **■** Input

	Item	Voltage input	Current input	
Input points		8		
Input type		0 to 5 V, 1 to 5 V, 0 to 10 V, -10 to 10 V	0 to 20 mA, 4 to 20 mA	
Max. signal input		±15 V	±30 mA	
Input impedance		1 MΩ min.	Approx. 250 $\Omega$	
Resolution		1/6,000 (FS)		
Overall accuracy	25°C	±0.3% FS	±0.4% FS	
	-10°C to 55°C	±0.6% FS	±0.8% FS	
Conversion speed		8 ms/8 points, 4 ms/4 points		
Conversion output data		Binary data -10- to 10-V range: F448 to 0BB8 full scale Other signal ranges: 0000 to 1770 full scale		
Insulation method		Transistor or photocoupler insulation between inputs and power lines.		

#### **■** Characteristics

I/O power supply voltage	20.4 to 26.4 VDC (24 VDC +10%/-15%)	20.4 to 26.4 VDC (24 VDC +10%/-15%)		
Current consumption	I/O module interface	Internal circuitry power supply		
	50 mA max.	100 mA max.		
Noise immunity	±1,500 V (p-p) with a pulse width of 0.1 t	±1,500 V (p-p) with a pulse width of 0.1 to 1 μs		
Vibration resistance	10 to 150 Hz, 1.0-mm double amplitude	10 to 150 Hz, 1.0-mm double amplitude or 70 m/s <sup>2</sup>		
Shock resistance	200 m/S <sup>2</sup>	200 m/S <sup>2</sup>		
Dielectric strength	500 VAC	500 VAC		
Mounting method	35-mm DIN track mounting	35-mm DIN track mounting		
Mounting strength	No damage when 100 N pull load was a direction)	No damage when 100 N pull load was applied in all directions (10 N min. in the DIN track direction)		
Terminal strength	No damage when 100 N pull load was a	No damage when 100 N pull load was applied		
Ambient temperature	Operating: -10°C to 55°C (with no ici Storage: -25°C to 65°C (with no ici	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \		
Ambient humidity	Operating: 25% to 85%	Operating: 25% to 85%		

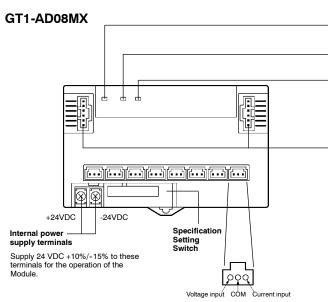
#### **■** Connector

Туре			Model	Remarks
Molex connector	IDC (Use Press-fit tool.)	Housing	GCN1-MX25-B*	(25 piece bag from OMRON) 22 AWG
	Solderless terminal	Housing	50-57-9403	
		Chain terminal	16-02-0069	24 to 30 AWG
			16-02-0086	22 to 24 AWG
		Loose terminal	16-02-0096	24 to 30 AWG
		Press-fit tool	11-01-0209	(See Note.)

Note: Contact your OMRON representatives for the above connectors.

\*Stocked by OMRON.

### Nomenclature -



#### Analog input connectors 0 to 7

These connectors are for analog input use. Each input connector has three pins (i.e., a pin for voltage input, COM, and current input from left to right)

#### TS indicator (status indicator of I/O Module interface)

Indicates the status of the I/O Module Interface.

PWR indicator (internal power supply indicator)
The green indicator is lit when internal circuitry power supply is provided.

#### U.ERR indicator (module error indicator)

The red indicator is lit if the Module malfunctions or no internal circuitry power supply is provided.

#### Connectors for I/O module interface

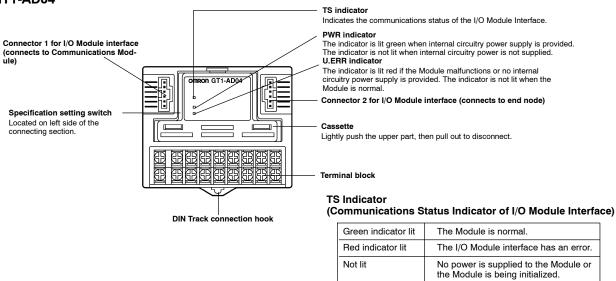
Connects to the Communications Units or other I/O Mod-

- Connect the Communications Module to connector 1.
- When connecting I/O Modules to the GT1-AD, connector 2 of the GT1-AD must be connected to connector 1 of the first I/O Module and connector 2 of the first I/O Module must be connected to connector 1 of the next I/O Module. Connect all the I/O Modules in the same way.
- Be sure to connect the end connector to connector 2 of the last I/O Module.

#### TS Indicator (Status Indicator of I/O Module Interface)

Green indicator lit	The Module is normal.
Red indicator lit	The I/O Module interface has an error.
OFF	No power is supplied to the Module or the Module is being initialized.

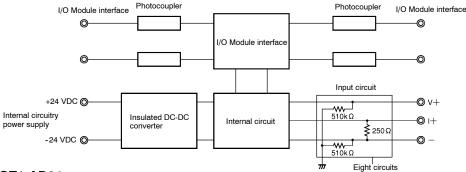




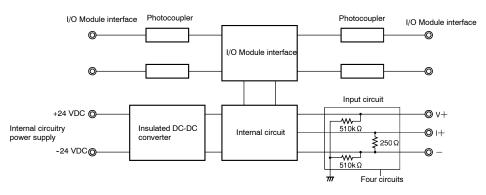
### Operation

#### ■ Internal Circuit Configuration

#### GT1-AD08MX



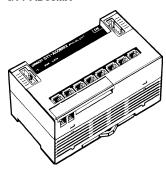
#### GT1-AD04

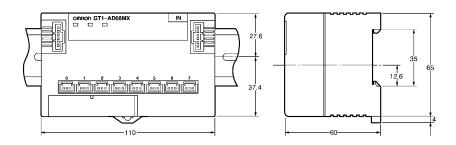


### Dimensions

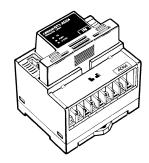
Note: All units are in millimeters unless otherwise indicated.

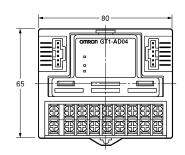
#### GT1-AD08MX

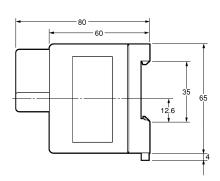




GT1-AD04





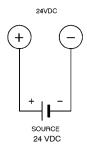


### Installation

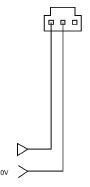
#### **■** Wiring

Be sure to connect Molex-made connectors for analog input wires and connect the wires as shown below.

#### **Internal Circuitry Power Supply**







**Current Input** 



#### Precautions

Refer to the *DeviceNet Operation Manual (W267)* before using the Module.

#### Wiring

- To prevent inductive noise, do not wire power lines or high-tension lines along with or near the cables. Other noise-prevention techniques, such as using shielding or separate conduit/ducting, are also effective.
- Install the Module as far as possible from equipment that generates strong high-frequency signals (such as high-frequency welders) and equipment that generates surges. Such equipment can cause the Module to malfunction.
- Install surge absorbers or noise filters on nearby equipment that generates noise, particularly equipment that has inductive components such as motors, transformers, solenoids, or magnetic coils.
- When using a noise filter in the power supply, check the voltage and current and install the noise filter as close as possible to the Module.

NOTE: DIMENSIONS SHOWN ARE IN MILLIMETERS. To convert millimeters to inches divide by 25.4.

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