

## Analog Output Module

DRT1-DA02

### I/O Interface Converts Binary Data into Analog Output Data

- Two outputs available.
- High resolution of 1/6000.
- Conversion is possible within a range of -5% to 150% full scale.
- High conversion speed of 4 ms/two points.
- Handles a wide range of outputs including 1 to 5 V, 0 to 10 V, -10 to 10 V, 4 to 20 mA, and 0 to 20 mA.
- Bears the CE marking.



### Ordering Information

Classification	I/O points	Model
Analog output Module	2 outputs (Occupies 2 output words of the Master.)	DRT1-DA02

### Specifications

#### ■ Ratings Output

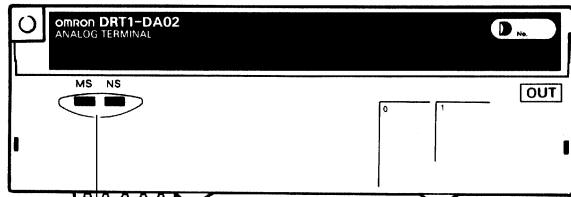
Item	Type	
	Voltage output	Current output
Output points	2 points	
Output type	1 to 5 V 0 to 10 V -10 to 10 V	0 to 20 mA 4 to 20 mA
Allowable external output load resistance	1 K $\Omega$ min.	600 $\Omega$ max.
External output impedance	0.5 $\Omega$ max.	---
Resolution	1/6000 full scale	
Overall accuracy	25°C : $\pm 0.4\%$ full scale 0°C to 55°C: $\pm 0.8\%$ full scale	
Conversion time	4 ms/2 points	
Converted output data	Binary data -10- to 10-V range: 8BB8 to 0BB8 full scale Other signal ranges: 0000 to 1770 full scale	
Insulation resistance	20 M $\Omega$ min. at 250 VDC (between insulated circuits)	
Insulation method	Photocoupler insulation between outputs and communications lines (There is no insulation between output signals.)	

■ Characteristics

<b>Communications power supply voltage</b>	11 to 25 VDC (supplied from the communications connector)
<b>Internal power supply voltage</b>	20.4 to 26.4 VDC (24 VDC +10%/-15%)
<b>Current consumption</b>	Communications: 30 mA max. at 24 VDC Internal circuit: 150 mA max. at 24 VDC
<b>Noise immunity</b>	Power supply normal: ±600 V for 10 minutes with a pulse width of 100 ns to 1 μs Power supply common: ±1,500 V for 10 minutes with a pulse width of 100 ns to 1 μs
<b>Vibration resistance</b>	10 to 55 Hz, 1.5-mm double amplitude
<b>Shock resistance</b>	Malfunction: 200 m/s <sup>2</sup> (approx. 20G) Destruction: 300 m/s <sup>2</sup> (approx. 30G)
<b>Dielectric strength</b>	500 VAC for 1 min (1-mA sensing current between insulated circuits)
<b>Mounting method</b>	M4 screw mounting or 35-mm DIN track mounting
<b>Mounting strength</b>	No damage when 50 N (approx. 5 kgf) pull load was applied for 10 s in all directions (10 N min. (approx. 1 kgf) in the DIN track direction)
<b>Terminal strength</b>	No damage when 50 N (approx. 5 kgf) pull load was applied for 10 s in all directions
<b>Ambient temperature</b>	Operating: 0°C to 55°C (with no icing or condensation) Storage: -25°C to 65°C (with no icing or condensation)
<b>Ambient humidity</b>	Operating: 35% to 85% (no condensation)
<b>Weight</b>	200 g max.

Nomenclature

DRT1-DA02

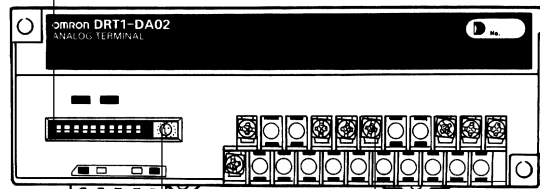


Indicators

Indicates the status of the Slave and network

The DIP switch pins have the following functions:

- Pins 1 to 6: Node number
- Pins 7 and 8: Baud rate
- Pin 9 and 10: Output status after communications error



Rotary Switch

Terminal Block

Communications Connector

Sets the output ranges.

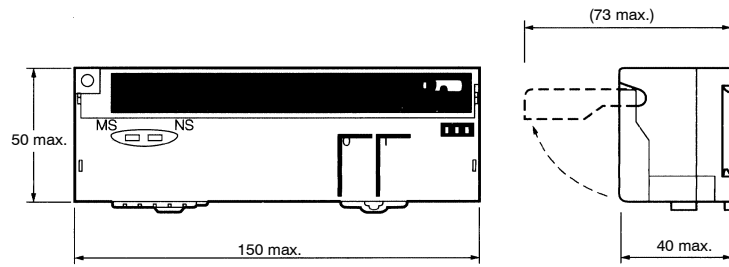
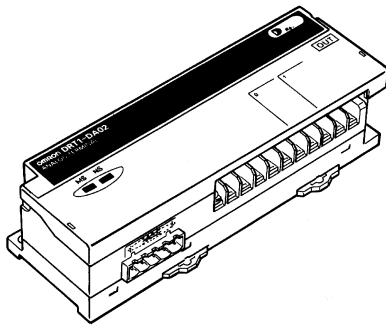
Connects the output power supply and analog outputs.

Connects the network communications cable. The communications power is also supplied through this connector.

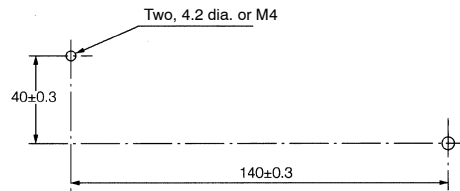
# Dimensions

**Note:** All units are in millimeters unless otherwise indicated.

## DRT1-DA02



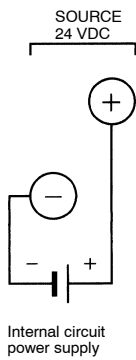
### Mounting Holes



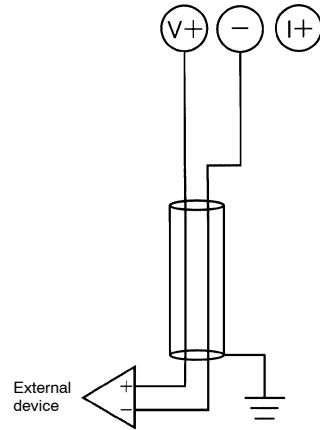
## ■ Wiring

### DRT1-DA02

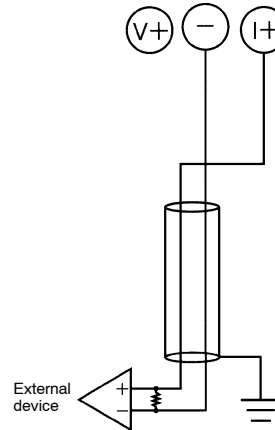
Internal circuit power supply



Voltage output connection



Current output connection



## ■ Terminal Arrangement

### DRT1-DA02

	SOURCE 24 VDC +	NC	NC	V+ 0	- 0	I+ 0	NC	NC	V+ 1	- 1	I+ 1
	SOURCE 24 VDC -	NC	NC	NC	NC	NC	NC	NC	NC	NC	

## Precautions

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

- 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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