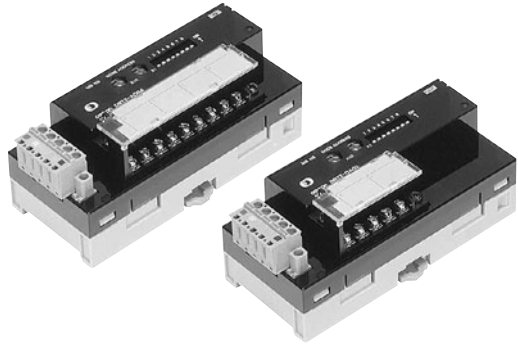


Analog I/O Terminals

DRT2-AD04(H)/DA02

Performs Calculations on Analog Values within the Slave Itself. Also Provides High Resolution at 1/30,000 (Full Scale) and Support for a Wide Variety of Data Sampling.

- Equipped with the standard Smart Slave functions that provide powerful preventative maintenance and troubleshooting capabilities.
- Sampling data can be analyzed internally to provide a low-cost scheduler function.
- Equipped with functions such as the scaling function, peak/bottom hold; top/valley hold; comparator function, cumulative counter, and derivative calculation function.
- Two I/O points can be allocated to any two of the following values: analog input, peak/bottom, top, valley, or rate-of-change. Values without an allocated I/O point can be read with message communications.



Smart Slave Functions

Unit conduction time monitor	Unit comments	Connected device comments	Network power supply voltage monitor
Communications error log function	Removable terminal block	Automatic baud rate detection. No wiring required.	No need to wire Unit power supply
Scaling	User calibration	Last maintenance date	Integration
Moving averaging (inputs only)	Peak/bottom hold	Top/valley hold	Rate of change calculation
Comparator	AD conversion points (conversion cycle) setting (inputs only)	Error output value setting (outputs only)	

Ordering Information

Classification	I/O points	Model
Analog input	4 inputs (Resolution: 6,000)	DRT2-AD04
	4 inputs (Resolution: 30,000)	DRT2-AD04H
Analog output	2 outputs	DRT2-DA02

General Specifications

Item	Model	DRT2-AD04	DRT2-AD04H	DRT2-DA02
Communications power supply voltage		11 to 25 VDC (Supplied from the communications connector)		
Current consumption		90 mA max. at 24 VDC	70 mA max. at 24 VDC	120 mA max. at 24 VDC
Noise immunity		Conforms to IEC61000-4-4, 2 kV (power line)		
Vibration resistance		10 to 150 Hz, 0.7-mm double amplitude		
Shock resistance		150 m/s ²		
Dielectric strength		500 VAC for 1 min between the communications circuit and analog circuit (1 mA sensing current)		
Ambient operating temperature		-10°C to 55°C (with no icing or condensation)		
Ambient operating humidity		25% to 85%		
Ambient operating atmosphere		No corrosive gases		
Ambient storage temperature		-20°C to 65°C		
Mounting method		DIN 35 mm-track mounting		
Mounting strength		50 N 10 N (in the DIN Track direction)		
Screw tightening torque		M3 (power, I/O terminal): 0.5 N·m		
Weight		170 g max.	160 g max.	150 g max.

Input Specifications

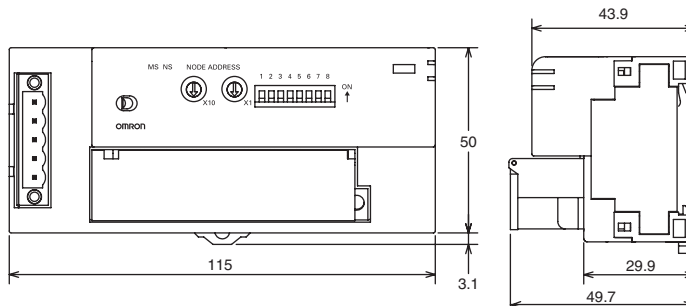
Item	Model Specifications	DRT2-AD04		DRT2-AD04H	
		Voltage input	Current input	Voltage input	Current input
Input points	4 points (inputs 0 to 3)				
Input type	0 to 5 V 1 to 5 V 0 to 10 V -10 to +10 V	0 to 20 mA 4 to 20 mA	0 to 5 V 1 to 5 V 0 to 10 V	0 to 20 mA 4 to 20 mA	
Input range setting method	<ul style="list-style-type: none"> Set using DIP switches: Shared by inputs 0 and 1, shared by inputs 2 and 3 Set using the Configurator: Possible to set inputs 0 to 3 independently 				
Maximum signal input	±15 V	±30 mA	±15 V	±30 mA	
Input impedance	1 MΩ min.	Approx. 250 Ω	1 MΩ min.	Approx. 250 Ω	
Resolution	1/6,000 (FS)		1/30,000 FS (full scale)		
Overall accuracy	25°C	±0.3% FS	±0.4% FS	±0.3% FS	±0.4% FS
	-10°C to 55°C	±0.6% FS	±0.8% FS	±0.6% FS	±0.8% FS
Conversion time	4 ms max. for 4 inputs Note: When calculation functions are not used and the DeviceNet communications cycle is 4 ms.		250 ms max. for 4 inputs		
Converted data	Input ranges other than -10 to 10 V: Full scale is 0000 to 1770 hexadecimal (0 to 6,000) -10 to 10 V input range: Full scale is F448 to 0BB8 hexadecimal (-3,000 to 3,000) A/D conversion range: ±5% FS		Full scale is 0000 to 7530 hexadecimal A/D conversion range: ±5% FS		
Insulation method	Photocoupler isolation between inputs and communications lines (There is no isolation between input signals)		Photocoupler isolation (between inputs and communications lines and between temperature input signals)		
I/O connections	Terminal block				
Accessories	Four shorting bars for use with current inputs.				

Output Specifications

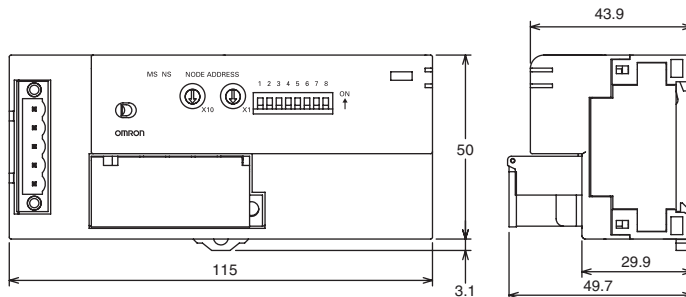
Item	Model Specifications	DRT2-DA02	
		Voltage output	Current output
Output points	2 points (output 0 and 1)		
Output type	0 to 5 V 1 to 5 V 0 to 10 V -10 to 10 V	0 to 20 mA 4 to 20 mA	
Input range setting method	<ul style="list-style-type: none"> Set using DIP switches: Independent for outputs 0 and 1 Set using the Configurator: Independent for outputs 0 and 1 		
Allowable output load resistance	1 KΩ min.	600 Ω max.	
Resolution	1/6,000 (FS)		
Overall accuracy	25°C	±0.4% full scale	
	-10°C to 55°C	±0.8% full scale	
Conversion time	2 ms/2 points		
Converted data	Output ranges other than -10 to 10 V: Full scale is 0000 to 1770 hexadecimal (0 to 6,000) -10 to 10 V output range: Full scale is F448 to 0BB8 hexadecimal (-3,000 to 3,000) D/A conversion range: ±5% FS		
Insulation method	Photocoupler isolation between outputs and communications lines (There is no isolation between output signals)		
I/O connections	Terminal block		
Accessories	None		

Dimensions

DRT2-AD04
DRT2-AD04H

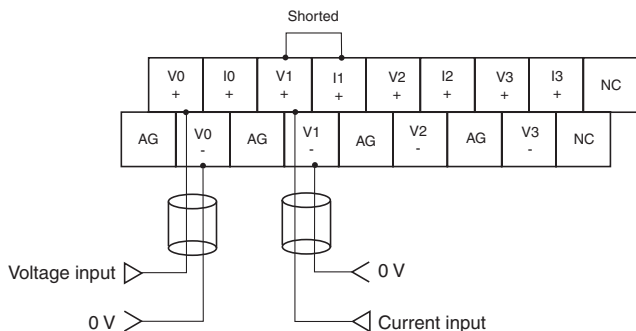


DRT2-DA02



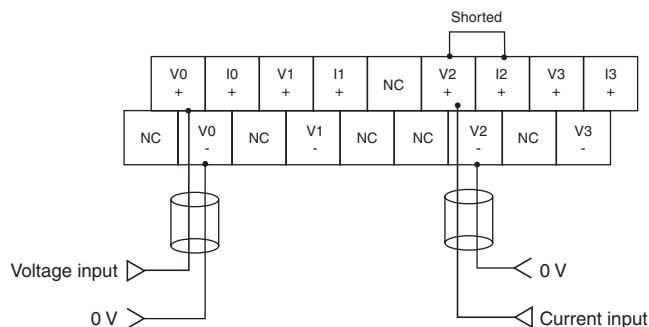
Wiring Diagrams

DRT2-AD04



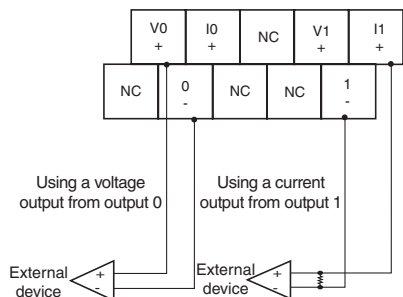
Note: With using a current input, always short the V+ and I+ terminals. (Use the shorting bar provided with the Unit.)

DRT2-AD04H



Note: With using a current input, always short the V+ and I+ terminals. (Use the shorting bar provided with the Unit.)

DRT2-DA02



Note: The voltage and current output ranges (signals) are set with either the DIP switch or the Configurator settings.

Read and Understand This Catalog

Please read and understand this catalog before purchasing the products. Please consult your OMRON representative if you have any questions or comments.

Warranty and Limitations of Liability

WARRANTY

OMRON's exclusive warranty is that the products are free from defects in materials and workmanship for a period of one year (or other period if specified) from date of sale by OMRON.

OMRON MAKES NO WARRANTY OR REPRESENTATION, EXPRESS OR IMPLIED, REGARDING NON-INFRINGEMENT, MERCHANTABILITY, OR FITNESS FOR PARTICULAR PURPOSE OF THE PRODUCTS. ANY BUYER OR USER ACKNOWLEDGES THAT THE BUYER OR USER ALONE HAS DETERMINED THAT THE PRODUCTS WILL SUITABLY MEET THE REQUIREMENTS OF THEIR INTENDED USE. OMRON DISCLAIMS ALL OTHER WARRANTIES, EXPRESS OR IMPLIED.

LIMITATIONS OF LIABILITY

OMRON SHALL NOT BE RESPONSIBLE FOR SPECIAL, INDIRECT, OR CONSEQUENTIAL DAMAGES, LOSS OF PROFITS OR COMMERCIAL LOSS IN ANY WAY CONNECTED WITH THE PRODUCTS, WHETHER SUCH CLAIM IS BASED ON CONTRACT, WARRANTY, NEGLIGENCE, OR STRICT LIABILITY.

In no event shall the responsibility of OMRON for any act exceed the individual price of the product on which liability is asserted.

IN NO EVENT SHALL OMRON BE RESPONSIBLE FOR WARRANTY, REPAIR, OR OTHER CLAIMS REGARDING THE PRODUCTS UNLESS OMRON'S ANALYSIS CONFIRMS THAT THE PRODUCTS WERE PROPERLY HANDLED, STORED, INSTALLED, AND MAINTAINED AND NOT SUBJECT TO CONTAMINATION, ABUSE, MISUSE, OR INAPPROPRIATE MODIFICATION OR REPAIR.

Application Considerations

SUITABILITY FOR USE

OMRON shall not be responsible for conformity with any standards, codes, or regulations that apply to the combination of products in the customer's application or use of the products.

At the customer's request, OMRON will provide applicable third party certification documents identifying ratings and limitations of use that apply to the products. This information by itself is not sufficient for a complete determination of the suitability of the products in combination with the end product, machine, system, or other application or use.

The following are some examples of applications for which particular attention must be given. This is not intended to be an exhaustive list of all possible uses of the products, nor is it intended to imply that the uses listed may be suitable for the products:

- Outdoor use, uses involving potential chemical contamination or electrical interference, or conditions or uses not described in this catalog.
- Nuclear energy control systems, combustion systems, railroad systems, aviation systems, medical equipment, amusement machines, vehicles, safety equipment, and installations subject to separate industry or government regulations.
- Systems, machines, and equipment that could present a risk to life or property.

Please know and observe all prohibitions of use applicable to the products.

NEVER USE THE PRODUCTS FOR AN APPLICATION INVOLVING SERIOUS RISK TO LIFE OR PROPERTY WITHOUT ENSURING THAT THE SYSTEM AS A WHOLE HAS BEEN DESIGNED TO ADDRESS THE RISKS, AND THAT THE OMRON PRODUCTS ARE PROPERLY RATED AND INSTALLED FOR THE INTENDED USE WITHIN THE OVERALL EQUIPMENT OR SYSTEM.

PROGRAMMABLE PRODUCTS

OMRON shall not be responsible for the user's programming of a programmable product, or any consequence thereof.

Disclaimers

CHANGE IN SPECIFICATIONS

Product specifications and accessories may be changed at any time based on improvements and other reasons.

It is our practice to change model numbers when published ratings or features are changed, or when significant construction changes are made. However, some specifications of the products may be changed without any notice. When in doubt, special model numbers may be assigned to fix or establish key specifications for your application on your request. Please consult with your OMRON representative at any time to confirm actual specifications of purchased products.

DIMENSIONS AND WEIGHTS

Dimensions and weights are nominal and are not to be used for manufacturing purposes, even when tolerances are shown.

PERFORMANCE DATA

Performance data given in this catalog is provided as a guide for the user in determining suitability and does not constitute a warranty. It may represent the result of OMRON's test conditions, and the users must correlate it to actual application requirements. Actual performance is subject to the OMRON Warranty and Limitations of Liability.

ERRORS AND OMISSIONS

The information in this document has been carefully checked and is believed to be accurate; however, no responsibility is assumed for clerical, typographical, or proofreading errors, or omissions.

2009.8

In the interest of product improvement, specifications are subject to change without notice.

OMRON Corporation
Industrial Automation Company

<http://www.ia.omron.com/>

(c)Copyright OMRON Corporation 2009 All Right Reserved.