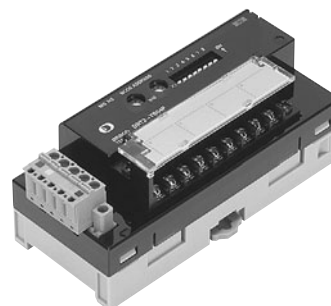


Temperature Input Terminals

DRT2-TS04□

Temperature Input Terminal with Smart Functionality

- The Temperature Input Terminal can be used with almost the same functionality as a Analog Input Terminal, such as with scaling and comparator functions.
- Enhanced performance is provided with functionality specific to the Temperature Input Terminal, such as the recording the operating time in a preset temperature range and temperature difference detection between input channels.



Smart Slave Functions

Unit conduction time monitor	Unit comments	Connected device comments	Network power supply voltage monitor
Communications error log function	Removable terminal block	Communications speed auto-detection	No need to wire Unit power supply
Scaling	User calibration	Last maintenance date	Integration
Moving averaging	Peak/bottom hold	Top/valley hold	Rate of change calculation
Comparator	Top/valley count	Operating time in preset temperature range	Temperature difference detection between input channels

Ordering Information

Input type	I/O points	Model
Thermocouple input	4 inputs allocated 4 input words at the Master Unit (8 input words allocated when 1/100 display mode is selected).	DRT2-TS04T
Platinum-resistance thermometer input		DRT2-TS04P

General Specifications

Item	Model	DRT2-TS04T	DRT2-TS04P
Input type		Thermocouple input	Platinum-resistance thermometer input
I/O points		4 inputs allocated 4 input words at the Master Unit (8 input words allocated when 1/100 display mode is selected)	
Communications power supply voltage		11 to 25 VDC (Supplied from the communications connector)	
Current consumption		70 mA max. at 24 VDC	
Noise immunity		Conforms to IEC61000-4-4, 2.0 kV	
Vibration resistance		10 to 150 Hz, 0.7-mm single amplitude	
Shock resistance		150 m/s ²	
Dielectric strength		500 VAC (between isolated circuits)	
Insulation resistance		20 MΩ min. (initial value) at 100 VDC	
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		-25°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: 0.5 N·m	
Terminal strength		No damage when 50 N pull load was applied.	
Weight		160 g max.	

Performance Specifications

Item	Model	DRT2-TS04T	DRT2-TS04P *1
Input types		Switchable between R, S, K1, K2, J1, J2, T, B, L1, L2, E, U, N, W, and PL2 When set with Configurator: Input types can be set individually for each input. When set with DIP switch: The same input type setting applies to all 4 inputs.	Switchable between PT, JPT, PT2, and JPT2 When set with Configurator: Input types can be set individually for each input. When set with DIP switch: The same input type setting applies to all 4 inputs.
Indicator accuracy		(±0.3% of indication value or ±1°C, whichever is larger) ±1 digit max. *2	
		Input type	Input accuracy
		K1, K2, T, and N below -100°C	±2°C ±1 digit max.
		U, L1, and L2	±2°C ±1 digit max.
		R and S below 200°C	±3°C ±1 digit max.
		B below 400°C	Not specified.
	W	±0.3% of indication value or ±3°C (whichever is larger) ±1 digit max.	
	PL2	±0.3% of indication value or ±2°C (whichever is larger) ±1 digit max.	
Conversion cycle		250 ms/4 points	
Temperature conversion data		Binary data (4-digit hexadecimal when normal display mode is selected or 8-digit hexadecimal when 1/100 display mode is selected.)	
Insulation method		Between input and communication lines: Photocoupler insulation Between temperature input signals: Photocoupler insulation	

*1. A current of 0.35 mA flows to sensors connected to the DRT2-TS04P.

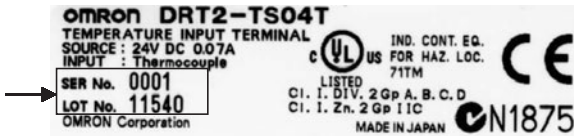
*2. The indicator accuracy specifications differ depending on the mounting direction. Refer to the above table for details.

● Indicator accuracy when only the Unit or the Terminal Block is replaced

In the DRT2-TS04T, a cold junction compensator is included in the Terminal Block. The indicator accuracy will be reduced depending on the mounting direction if only the Terminal Unit is replaced and the Lot No. and serial No. of the Terminal Block and Terminal Unit do not match. The Lot No. and serial No. of the Terminal Block and Terminal Unit can be found on the labels affixed to the products as shown below.

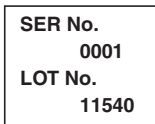
Terminal Unit Label

Remove the terminal block. The label is affixed to the top of the unit.



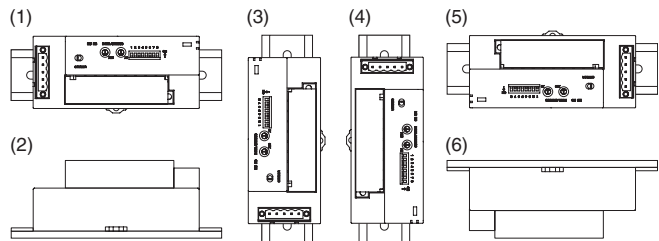
Terminal Block Label

The label is affixed to the left side of the terminal block.



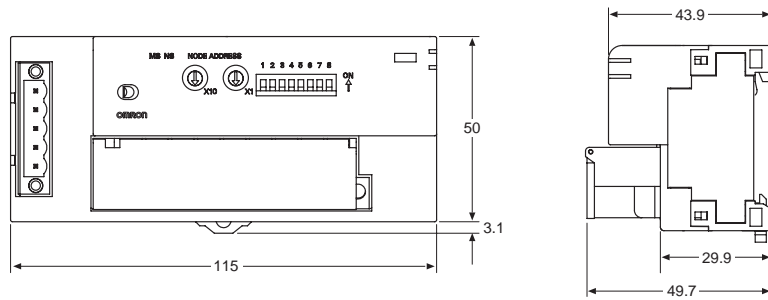
If the Lot No. and serial No. of the terminal block and Unit are the same, basic performance specifications apply regardless of the mounting direction. If the numbers are different, the following indication accuracies apply.

Mounting direction	Indication accuracies	
Mounted normally (1)	As specified in the Performance Specifications.	
Mounted in any other direction other than (1)	(±0.3% of indication value or ±2°C, whichever is greater) ±1 digit max.	
	Input type	Indication accuracies
	K1, K2, T, and N below -100°C	±3°C ±1 digit max.
	U, L1, and L2	±3°C ±1 digit max.
	R and S below 200°C	±4°C ±1 digit max.
	B below 400°C	Not specified.
W	±0.3% of indication value or ±4°C (whichever is larger) ±1 digit max.	
PL2	±0.3% of indication value or ±3°C (whichever is larger) ±1 digit max.	



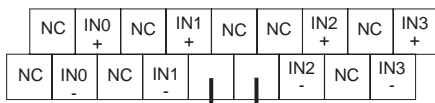
Dimensions

DRT2-TS04T
DRT2-TS04P



Terminal Arrangement

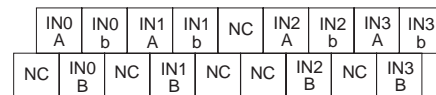
DRT2-TS04T



Cold junction compensator

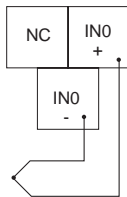
Do not touch or remove the cold junction compensator.
Otherwise temperature data will not display properly.

DRT2-TS04P

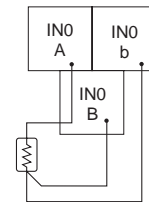


Wiring Diagrams

DRT2-TS04T (Thermocouple input)



DRT2-TS04P (Platinum resistance thermometer input)



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