Remote Sensor System
User's Guide

Remote Sensor system / Analog signal
Resistance Thermometer Sensor
1 signal transmission
Transmitter: RTT-1804-PT1B
Output Sensor: RTE-1804E-PU

Attention for Installation
(Read this section thoroughly before installation.)
Before using the Remote Sensor, read this manual carefully. During installation and operation, pay close attention to the safety aspect.
- Ensure the power is switched off during installation or maintenance operations.
- Use a regulated power supply, e.g. switch-model type. Simpler power supplies, such as a full-wave rectification type, will cause the permissible ripple rating to be exceed and may cause malfunction.
- Ensure correct connections by reference to the wiring diagram.
- To avoid malfunction caused by induction noise, cable should be kept apart from motor or other power cable.

Dimension
Transmitter: RTT-1804-PT1B
Output Sensor: RTE-1804E-PU

Construction of the system

Function of each component
Detector: Connect a resistance thermometer sensor PT100 as a detector and it detect temperature.
Transmitter:
(1) Detects resistance value which changes depending on temperature.
(2) The internal CPU makes the temperature data out of the result of (1) which based on the reference resistance value which is specified by JIS-C1604, then changes the temperature data to digital signals and transmits the signals to the Output Sensor.
Output Sensor: Change the temperature data to analog signal (4...20mA) and output to external unit and supplies power for operation of Transmitter at the same time.

Wiring diagram

Description of wiring diagram
- Power supply
- Power unit
- Signal transmission

Typical Transmitting Diagram
[Example: Supply voltage at 24V DC]

Specification

<table>
<thead>
<tr>
<th>Type number</th>
<th>RTT-1804-PT1B</th>
<th>RTE-1804E-PU</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rated transmitting distance</td>
<td>≤± 2.5mm</td>
<td></td>
</tr>
<tr>
<td>Center offset</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Supply voltage</td>
<td>DC 24V ± 5% (incl. ripple)</td>
<td></td>
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<tr>
<td>Current consumption</td>
<td>≤ 150mA</td>
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- For detector, please use a resistance thermometer sensor that meets JIS C1604.
- The temperature range is allowed
  - RTT-1804-PT1B0 PU: 0...100 degree C
  - RTT-1804-PT1B20 PU: 0...200 degree C
  - RTT-1804-PT1B30 PU: 0...300 degree C
- Output is current source, therefore please connect the load between the Transmitter and output to external unit and supplies power for operation of Transmitter at the same time.
- Please note that the signal may become unstable (false signal or chatter) when the transmission distance and the center offset are outside the specification range.
- The inzone signal is a preliminary signal for confirming that the output signal is established within the specification range. Please note that it does not guarantee signals output outside the specification range.

Influence of surrounding metal
To avoid influence of surrounding metal, keep minimum spacing as described below:

Mutual interference
In order to prevent mutual interference between parallel-mounted sensors, keep minimum spacing as described below:

Installation
Tightening torque for attached nut is 20Nm (20kgf cm).
The minimum bending radius for the sensors are 50mm.