

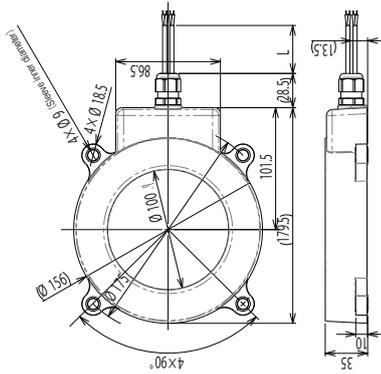
Remote Sensor system / Analog signal Thermocouple / 2 signal transmission
Output Sensor: RS02E-R03E-PU Transmitter: RS02T-R03-K300

**Attention for Installation**

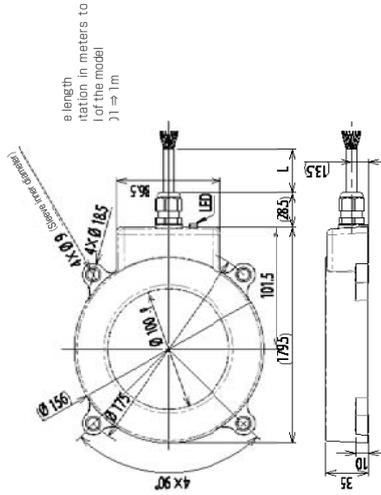
- (Read this section thoroughly before installation.)
- Before using the Remote Sensor, read this manual carefully. During installation and operation, pay close attention to the safety aspect.
- ◆ Ensure the power is switched off during installation or maintenance operations.
  - ◆ Use a regulated power supply, e.g. switch-model type. Simpler power supplies, such as a full-wave rectification type, will cause the permissible ripple rating to be exceeded 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**

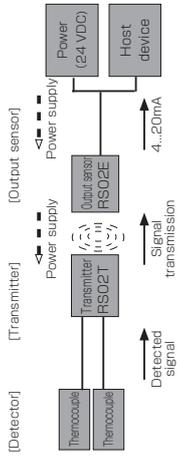
Transmitter : RS02T-R03-K300



Output sensor : RS02E-R03E-PU\_--



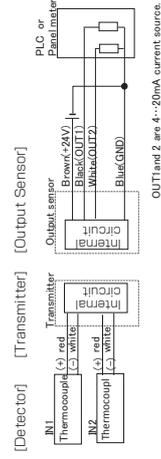
**Construction of the system**



**[Function of each component]**

- Detector** : Two thermocouples type K are used as a detector and it detects temperature.
- Transmitter** : (1) Detects the voltage of thermocouples which changes depending on temperature.  
(2) The internal CPU converts the temperature data of (1) into 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**



**Cable length**

Transmitter (RS02T-R03-K300) : max.3m  
Output sensor (RS02E-R03E-PU) : max.10m

**[Caution]**

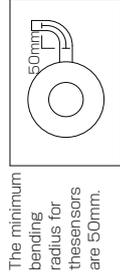
- Measure to static electricity
- When using RS02 in environment with the electrostatic discharge, take the ground to prevent influence by the static electricity on RS02.
- For a detector, please use a thermocouple K that meets JIS.
- The measurement temperature should be lower than upper limit of the temperature shown at the code end.  
example : RS02T-R03-K300 : 0...300 degree C
- Output is current output , therefore please connect the load between output and GND.

**Current output**

Output sensor RS02E outputs the electric current as described below.

status	Output current
Without Transmitter	0 mA
Receiving the temperature data from Transmitter (at 0 deg. C : 4mA, at the highest temperature of the measurement range : 20 mA)	4 ... 20 mA
Thermocouple is not connected through the transmitter is in the transmitting range.	21 mA

**Bending radius of Cable**

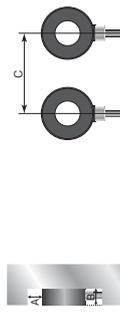


The minimum bending radius for these sensors are 50mm.  
\* Never pull the cable strongly installing

**Installation notes**

In order to avoid influence of surrounding metal, or to avoid mutual influence between parallel-mounted sensors, keep the minimum free zone as described below.

- Surrounding metal
- Parallel installation



Type code	A	B	C
RS02T-R03-K300	200	35	400
RS02E-R03E-PU_--			(mm)

**Specification of the System**

Transmitter		Output Sensor	
Type code	RS02T-R03-K300	Type code	RS02E-R03E-PU_--
Applicable Output sensor	RS02E-R03E-PU_--	Applicable Transmitter	RS02T-R03-K300
Installation	Setting metal shaft	Supply voltage	24V DC +/- 5 % (include ripple)
Operating distance	0...9mm	Current consumption	≤ 150mA
Center offset	± 8mm	LED	INZONE (data valid)
Input channel	2 signals (1CH, 2CH)	Load resistance	4...20 mA × 2 signals ≤ 400 Ω
Applicable thermal sensor	Thermocouple per K	Resolution	≤ 0.04 % full scale range
Measuring temperature range	0...300°C	Response speed	≤ 0.5 sec.
Compensated cold junction	± 0.5°C	Linearity	≤ +/- 0.8 % full scale range
Cable	All heat-resistant vinyl (90 deg. C)	Cable	PUR, φ 5mm/4X0.25mm <sup>2</sup>
Transmitter and Output sensor		◆ Please note that the signal may become unstable (false signal or chattering) when the transmission distance and the center offset are outside the specification range.	
Operating Temperature	0...+50 degree C	◆ 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.	
Material	PUR		