Remote Sensor system / Analog signal
Load Cell 1 signal transmission
Transmitter: RNT-1804-LC PU
Output Sensor: RTE-1804E-PU

Construction of the system

[Detector] [Transmitter] [Output Sensor]

Power supply (DC24V)

- Detect signal
- Signal transmission
- Analog current output

Power supply (DC24V)

- Transmitting area diagram

Wiring diagram

Function of each component

Detector: Connects a load cell as the detector and it detects strain quantity.

Transmitter:
1. Detects minute output voltage which changes depending on strain quantity.
2. Converts the output voltage into digital signals and transmits the signals to the Output Sensor.

Output Sensor:
Converts the strain quantity data transmitted from the Transmitter into analog signals (4...20mA) and output it to external unit and supplies power for operation of the Transmitter.

Zero balance
Since zero balance for output of load cell is not programmed inside, it should be done outside.

- Adjust load cell output to be 0mV at R1 or R2 (some hundreds kohm)

Dimension

Transmitter: RNT-1804-LC PU01
Output Sensor: RTE-1804E-PU02

Specification

Type number  RNT-1804-LC PU01  RTE-1804E-PU02
Rated transmitting distance  1~40m
Center offset  ±2±5mm
Supply voltage  DC 24V±5%(incl. ripple)
Current consumption  150mA
Cable spec.  ≤0.5/4 (0.25mm²) ≤0.3/0.34 (0.12mm²)

Operating temperature  -10...+60°C
Protection class  IP67
Material Housing  Nickel plated brass
Active surface  Nylon12

Transmitting area diagram

Example: Supply voltage at 24V DC

Y: Transmitting distance (mm)
X: Center offset (mm)

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

- Never pull the cable strongly in installing.
- Tightening torque for attached nut is 20Ncm(200kgf·cm).
- The minimum bending radius for the sensors is 50mm.

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.

Prior to installation

- Use a compression load cell (350 ohm+/-10%) as a detector.
- Connect the load between output and negative, for current output is a current source.

- Please note that zero balance for output of load cell is not programmed inside, it should be done outside.

- 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.

- The ozone 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.

- Use a compression load cell (350 ohm+/-10%) as a detector.
- Connect the load between output and negative, for current output is a current source.

Input Sensitivity  Type code of Transmitter
1mV/V  RNT-1804-LC10-PU
1.5mV/V  RNT-1804-LC15-PU
3mV/V  RNT-1804-LC20-PU

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