Remote System
User's Guide

Remote sensor sysytem 4 signal transmission / Compact shape
Output sensor : RS04E-F1N-PU-_ _ RS04E-F1P-PU-_ _ Transmitter : RS04T-F1-PU-_ _

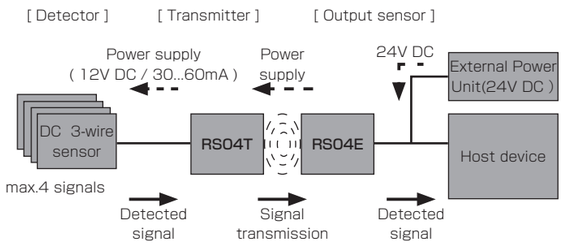
Attention for installation

(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.
- ◆ When the resin (ABS or ABS + PBT) is used to the case or the transmission surface, please be sure to avoid organic solvent or liquid containing them to splash over.
- ◆ Please install cable end "wiring part" in so that there is no water and cutting fluid.
  (Water is transmitted to the internal from the cable core, there is a possibility of causing a problem such as short circuit or corrosion)
- ◆ Please do not face the output sensor to a metal at all times to avoid metal overheating or damage of the components.
- ◆ 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 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.

System configuration



【Function of each component】

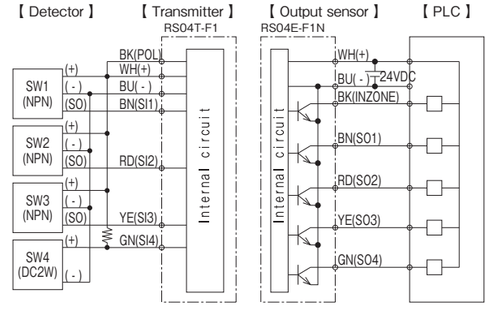
Detector : Connects Detector sensor (max.4) and transmits the detected signals to Transmitter.

Transmitter : Provides power for Detector, also passes detected signals from Detector to Output Sensor.

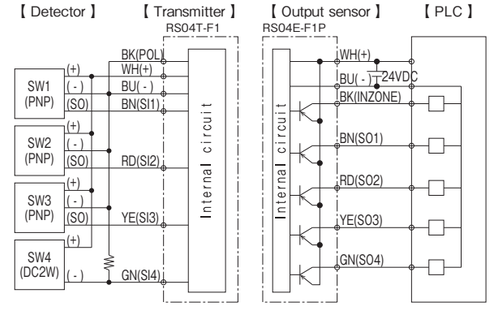
Output Sensor : Puts out detected signal to external controller, also sends power for operating of Detector and Transmitter.

Wiring diagram

■ RS04T-F1-PU-_ _ ■ RS04E-F1N-PU-_ _ (NPN)



■ RS04T-F1-PU-_ _ ■ (PNP)



■ SW4 of the wiring diagram is an example of the DC-2 Wire sensor wiring(Recomend resistance is 1...2K ohm).DC-3 wire Sensor can also be used.

Installation notes

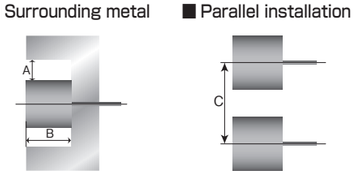
In order to avoid influence of surrounding metal, or to avoid mutual influence between parallel-mounted sensors, keep the minimum free zone as described below.

Tightening torque ⇒ 0.63N·m

Type code	A*	B	C
RS04T-F1-PU-_ _	20	15	110
RS04E-F1N-PU-_ _、RS04E-F1P-PU-_ _			

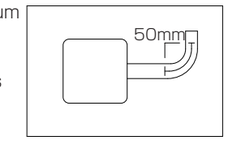
* The sensing surface cannot have contact with a metal. (mm)

■ Surrounding metal ■ Parallel installation



Bending radius of Cable

The minimum bending radius for thesensors are 50mm.

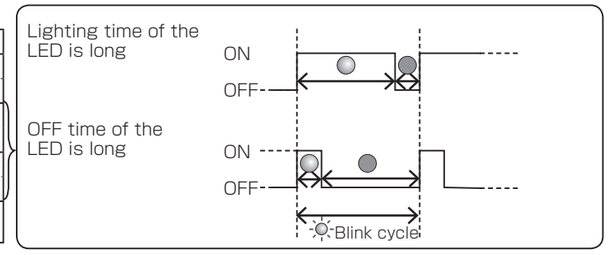


* Never pull the cable strongin installing

LED indication

■ Status LED (Green)

LED	Blinking	Pattern	Meaning
ON	-	-	The power supply is supplied.
OFF	-	-	The power supply is not supplied.
Blink / Blink	Slow (1.5 sec)	Off time of the LED is long	Anomalous temperature
Blink / Blink	Mid.Speed (0.6 sec)	Off time of the LED is long	Supply voltage is high.
		Lighting time of the LED is long	Supply voltage is low.
Blink	High speed (0.2 sec)	The LED flashes at the same interval	Short circuit protection.

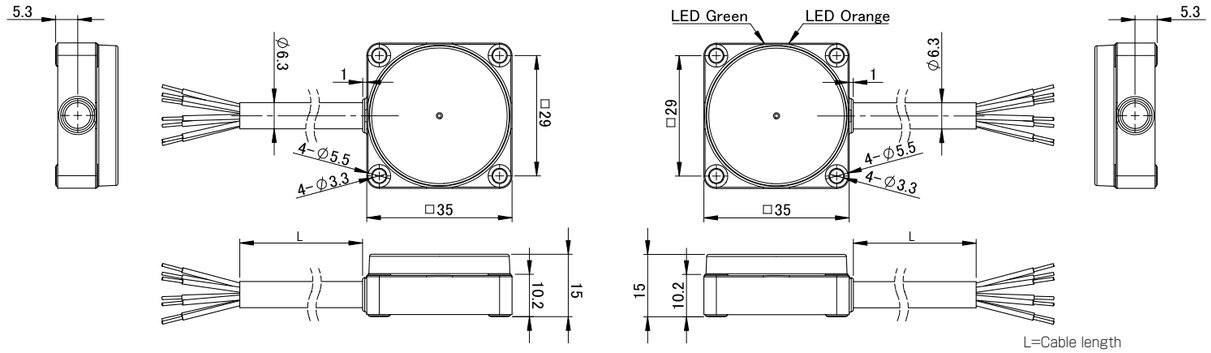


■ Inzone LED (Orange)

RS04E and RS04T are opposed, LED is lit when you can communicate.

Dimension

Transmitter : RS04T-F1-PU-_ _ Output sensor : RS04E-F1N-PU-_ _ , RS04E-F1P-PU-_ _



L=Cable length
The notation in meters to the end of the model
···PU-01 ⇒ 1m

Specification of the System

Type code	RS04T-F1-PU-_ _	
Applicable sensor	DC 3-wire sensor	
Drive voltage	12V ± 1.5V DC	
No. of Input signals	4 signals	
Drive current	≦30mA	≦60mA
Operating distance	0...3mm	0...2mm
Center offset	±2mm	±1mm
Operating temperature	0...+50℃	
Protection class	IP67	
Cable	PUR ϕ6.3 / 7x0.259mm²	
Material	ABS	
Weight	25 g+60g/m(cable)	

Total current consumption of detectors must not exceed the rated drive current. Reduce the switches when the total current consumption exceeds the drive current.

Type code: NPN output	RS04E-F1N-PU-_ _
Type code: PNP output	RS04E-F1P-PU-_ _
Supply voltage	24V DC ± 10% (including ripple)
Current consumption	≦200mA
No. of Output signals	4 + 1 (Inzone)
Load current	≦50mA/1 output
LED indication	Status(Green) , Signal(Orange)
Circuit protection	Short circuit protection , Converse protection , Surge suppression
Operating temperature	0...+50℃
Protection class	IP67
Cable	PUR ϕ6.3 / 7x0.259mm²
Material	ABS
Weight	25g + 60g/m(cable)

Applicable sensor

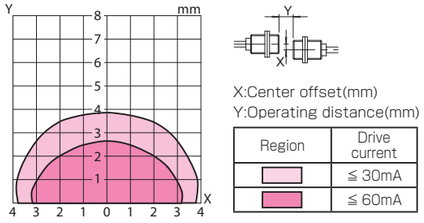
Supply voltage	12V DC
Total current consumption*	≦60mA
Residual voltage	≦3.5V
Load current	---

*Total consumption current of connected sensors.

Please sure to use applicable detector switch according to the specification on left.

Typical Transmitting Diagram (Supply voltage at 24V /non-flush mount)

RS04T-F1-PU-_ _ / RS04E-F1N-PU-_ _ , RS04E-F1P-PU-_ _



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

Region	Drive current
	≦30mA
	≦60mA

2017.11.01 No.T315701E

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