Remote Coupler Sytem

Base head / Remote head
Base head : RCH08E-211-PU_ _
Remote head : RCH08T-211-PU_ _

Attention for Installation

(Read this section thoroughly before installation.)

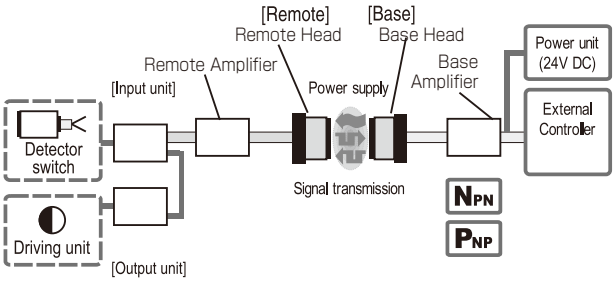
Before using the Remote Sensor, read this manual carefully.
During installation and operation, pay close attention to the safety aspect.

- ◆ 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.
- ◆ Please do not face the output sensor to a metal at all times to avoid metal overheating or damage of the components.
- ◆ When the unit keeps to be using under out-of-specification distance/center offset /overload status for long time, it may be damaged by overheating.

Outline of Remote System

Remote System is designed to operate many detector switches and actuators by supplying power and transmitting bi-directional signals.

Construction of the system



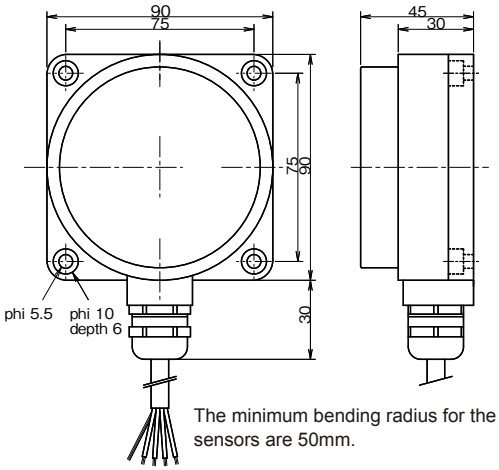
[Function of Head part]
A base head supplies power 24VDC/max.2A to a remote head without physical contact. A base head and a remote head transmit input/output signals each other.

Specifiaction

		Remote head	Base head
Type Number		**RCH08T-211-PU_ _**	**RCH08E-211-PU_ _**
Applicable amplifier*	Input8+Output8	RC08T-011N(P)-000	RC08E-011N(P)-000、RC08EA-011N(P)-000
	Input64+ Output32	RL64T-344N(P)-000	RL64E-333N(P)-000、RL64EA-355DN-000
		RL64T-345N(P)-000	RL64E-366CL-000、RL64E-366EI-000
Operating distance		4 ... 9 mm / refer to the table below	
Driving current		1 A ... 2 A / refer to the table	
Driving voltage		24 V DC+/-1.5V	—
Supply voltage		—	24 V DC +- 5%
Current consumption		—	=< 4 A
Operating temprature		0...+50 deg.C.	
Protection class		IP 67	
Material	Case	Aluminum+Alumite-treated	
	Operating Surface	ABS+PBT	
Cable		Phi 7.8 2 x 1.25mm^2 + 2 x 0.2mm^2 + Shield/ PUR	

Measurment

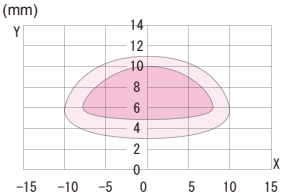
RCH08E-211-PU-__
RCH08T-211-PU-__

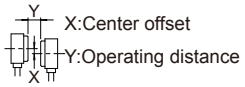


The minimum bending radius for the sensors are 50mm.

Transmitting Diagram

[Supply voltage : 24V DC]





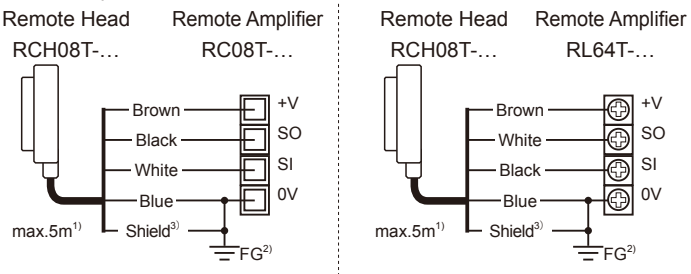
Operating distance	4 ... 9mm	6 ... 8mm
Center offset max.	≦ ±5mm	≦ ±3mm
Driving current	≦ 1A	≦ 2A

Drive current ≦ 1A
Drive current ≦ 2A

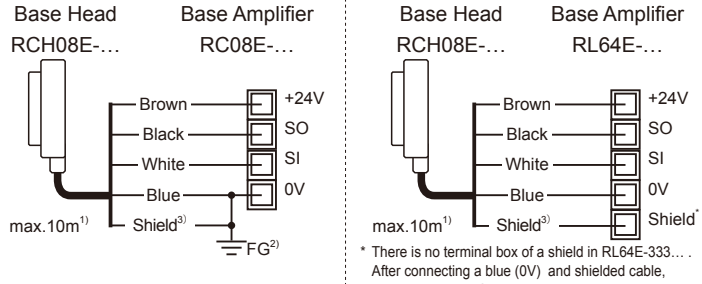
◆ Wrong signal could be output when operating distance or center offset is out of specification range.

Wiring to Amplifier

【 Remote part 】



【 Base part 】

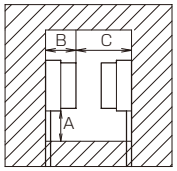


* There is no terminal box of a shield in RL64E-333… . After connecting a blue (0V) and shielded cable, it connects with FG.

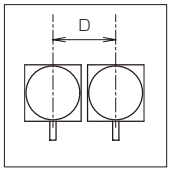
Install

in order to avoid influence of surrounding metal and mutual intererance, keep minimum spacing as described below.

Surrounding Metal



Mutual intererance



< Note >
Take measures so that ambient temperature is not over 50 degrees Celsius, for RCH08 produces fever.

Type code	A	B	C	D
RCH08□-...	50	45	45	300

1) The cable length between a Head and a Amplifier may not be longer than 10m/ Base head and Base amplifier and 5m/Remote head and Remote amplifier.
2) The cable shield must be grounded.
3) The 0V & the shield must be connected on Amplifier side.

Remote System
User's Guide

Remote Coupler System
8+8 Signal Transmission type

Base Amplifier	: RC08E-011N-000
	: RC08E-011P-000

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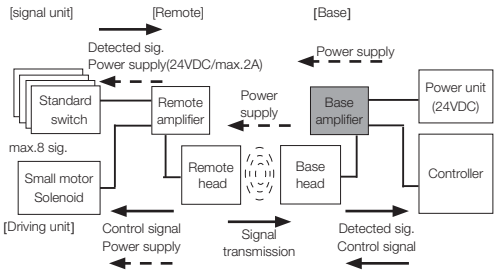
- ◆ Ensure correct connections by reference to the wiring diagram.
- ◆ To avoid malfunction caused by induction noise, cable should be kept apart from motor or other power cable.

Construction of the system



【Function of each component】

Signal unit : Connects detector switches (max.8) and transmits the detected signals to Remote amplifier.

Driving unit : Small motors, solenoid valves can be connected.

Remote amplifier: Provides power for Signal unit and Driving unit,also passes detected signals from Signal unit to Remote head.

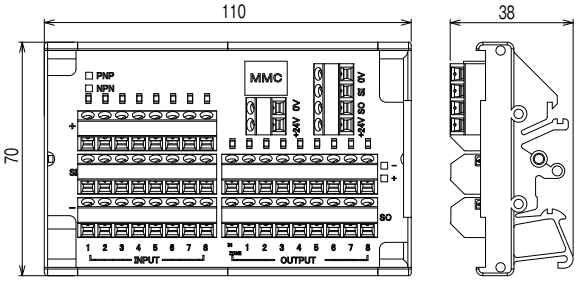
Remote head : Supply power to Remote amplifier by means of inductive coupling. Transmits the detected signal from Remote amplifier to Base head, control signal from Base head to Remote amplifier.

Base head : Supply power to Remote head by means of nductive coupling. Transmits controll signal from Base amplifier to Remote head, detected signal from Remote head to Base amplifier

Base amplifier : Puts out detected signal from Output head to controller, also sends power for operating of each component. And transmits controll signal from controller to Output Head.

Dimension

RC08E-011N-000
RC08E-011P-000



- Terminal blocks were changed since the production in February 2009.

◆ Total current consumption of signal unit and driving unit must not exceed the rated drive current. Reduce the switches when the total current consumption exceeds the drive current.

Specification of Base amplifer

Applicable Base head		RCH08E-211-PU
Supply voltage		24V DC +/- 10%
Current consumption		<=150mA (Not Head)
Switching frequency		100Hz
Installation		DIN32/35mm rail
Terminal box specification	Cable diameter	0.13...1.5mm^2
	Stripping length	6mm

◆ 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.

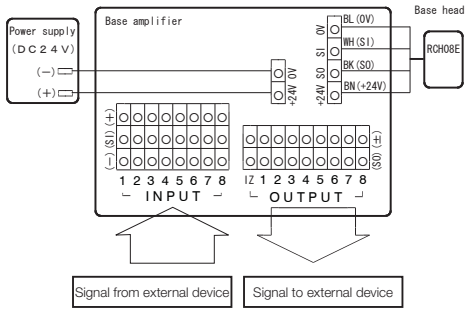
Input

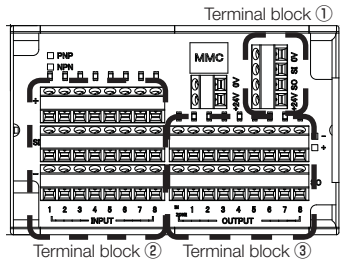
Input signal	8 signal (Input : 8)
Supp	24VDC +/-1.5V
ON voltage	<=16V
OFFvoltage	>=6V
Load current	7mA/1input
Leakage current	<=1mA

Output

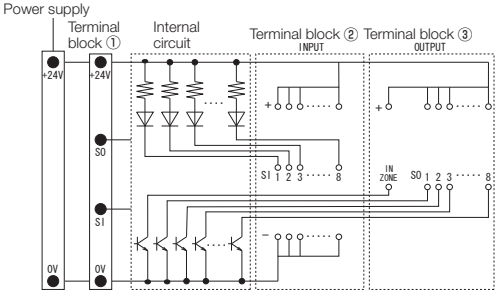
Output signal	9signal(Output : 8,Inzone : 1)
Supply voltage	24VDC +/-1.5V
Residual voltage	<=2.5V
Load current	<=300mA
Leakage current	<=0.08mA
Circuit protection	Short circuit protected

Wiring diagram



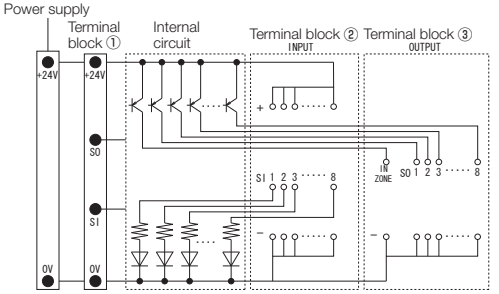


RC08E-011N-000(NPN type)



"+1...+8","−1...−8" of Terminal block ② ,and "−1...−8" of Terminal block ③ are connected inside,each other.

RC08E-011P-000(PNP type)



"+1...+8","−1...−8" of Terminal block ② ,and "−1...−8" of Terminal block ③ are connected inside,each other.

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