Remote System
User’s Guide

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.
- Ensure correct connections by reference to the wiring diagram.
- Ensure the power is switched off during installation or maintenance operations.
- Never pull the cable strong in installing.

Dimensions

Transmitter: RPTA-1803
Output Sensor: RPEA-1803N (NPN)

Transmitter: RPTA-3005
Output Sensor: RPEA-3005N (NPN)

Construction of the system

[Detector] [Transmitter] [Output Sensor]

Power supply (DC12V)
Power supply (DC24V)
External controller detected

Signal transmission

Detector: Sends power for operating of Detector and 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.

[Function of each component]

Detector: Connects detector switches (max.8) 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.

Connecting wiring diagram

Connecting NPN type switch

Connecting PNP type switch

Connecting DC, 24V type switch

(incl. mechanical limit switches)

Transmitting area diagram

[Example: Supply voltage at 24V DC]

PRTA1803/RPEA1803
PRTA3005/RPEA3005

(Note)
- Line of Transmitter and (-) line of Detectors should be connected together with a resistor of 1-2kohm.

Please note that the cable length of an output sensor may not longer than 10m, with a resistor of 1-2kohm.
When using an output sensor with cable length longer than 10m, a measure must be taken to protect the sensor from surge current should be taken.

[Detectors]

Connecting DC 2W type switch (incl. mechanical limit switches)

Connecting PNP type switch

Connecting NPN type switch

Supply voltage

Drive current

Drive voltage

Supply voltage

Current consumption

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

The drive current is dependent on the transmission distance between Transmitter and Output Sensor the degree of off-set between them-refer to Transmitting area diagram.

Specifications

Type number
RPTA-1803
RPEA-1803N/P

Rated transmitting distance
10.5...32mm

Sensor offset
S ± 2.5mm
S ± 2mm

Drive current
S 30mA

Drive voltage
12 ± 1.5V DC

Supply voltage
24V DC ± 5% (incl. ripple)

Current consumption
S 170mA

Type number
RPTA-3005
RPEA-3005N/P

Rated transmitting distance 1.5mm

Sensor offset
S ± 6mm
S ± 3mm

Drive current
S 40mA

Drive voltage
12 ± 1.5V DC

Supply voltage
24V DC ± 5% (incl. ripple)

Current consumption
S 150mA

Influence of surrounding metal

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

- Non-flush mounting

Mutual interference

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

- Tightening torque for attached nut is 20Nm(200kgf-cm).
- The minimum bending radius for these sensors are 50mm.

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