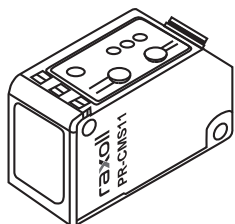# raxoll

## PR-CMS11 *Series*
### *Color & Mark Sensor*

**raxoll.com**

CE

## INSTRUCTION MANUAL

Thank you for choosing raxoll color&mark sensor. Please read the manual before using this product.

- The product should be applied by someone with a certain level of electrical knowledge.
- Please read and make sure that you understand how to operate the product before using it.
- Please keep this manual readily accessible for future reference when needed.

### ⚠ WARNING

Please do not exceed maximum rated voltage during usage in order to prevent tester malfunction or fire.

Please do not apply AC power supply to avoid breakage.

Please do not subject the product to high temperature to avoid scalding.

### SAFETY PRECAUTIONS

It is dangerous to wire or attach/remove the connector with the power on. Make sure to turn off the power before operation.
Make sure to use the product with the protective cover attached and closed.
Installing in the following places may result in malfunction:
1. A dusty or steamy place.
2. A place generating corrosive gas.
3. A place directly receiving scattering water or oil.
4. A place suffered from heavy vibration or impact.
The product is not designed for outdoor use.
Do not use the sensor in transient state after power on(approx. 300ms.)
Do not wire with the high voltage cable or the power line.
Failure to do this will cause malfunction or damage.
The sensor performance or digital display values may depend on the individual units or the condition of detected product.
This product in not an explosion-proof construction.
Do not use the product under flammable, explosive gas or liquid environment.
Do not use the product in water.
Do not disassemble, repair or convent the product.
Failure to do this may cause failure, fire or electric shock.
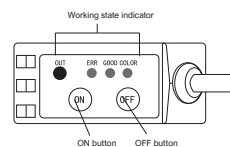Operate within the rated range.

### ACCESSORIESS LIST



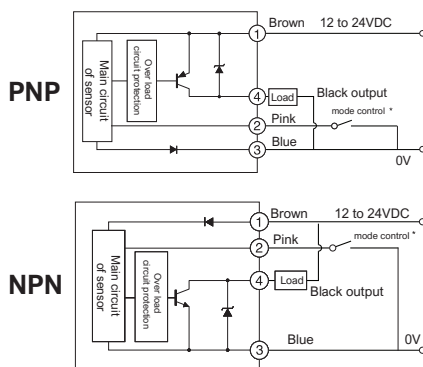1 PCS INSTRUCTION MANUAL

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## TECHNICAL SPECIFICATIONS

| Model | | PNP | NPN |
|---|---|---|---|
| | | PR-CMS11P | PR-CMS11N |
| Detection Distance | | Light point size 1.5*7mm (23mm detection distance) | |
| Power | | 24VDC + 10% pulsation less than P-P10% | |
| Current Consumption | | Power less than 850mW (power voltage is 24V, the current consumption is below 35mA). | |
| Mode Switching Input | Light Intensity Mode | Low (ON) 0 to 0.6VDC<br>Outflow current below 0.5mA<br>Input impedance about10kΩ | Low (OFF) 0 to 0.6VDC<br>or open |
| | Color Mode | High (OFF) 12 to +VDC<br>or open | High (ON) 12 to +VDC<br>OUtflow current below 3mA<br>Input impedance about10kΩ |
| Output | | NPN Open circuit collector transistor<br>*Maximum inflow current 50mA<br>*Applied voltage below 30VDC<br>(between output and 0V)<br>*Residual voltage below 1.5V<br>(when current 50mA) | PNP Open circuit collector transistor<br>*Maximum inflow current 50mA<br>*Applied voltage below 30VDC<br>(between output and +V)<br>*Residual voltage below 1.5V<br>(when current 50mA) |
| Output Control | Light Intensity Mode | Light intensity output ON | |
| | Color Mode | Color matching ON | |
| Short Circuit Protection | | Equipped (automatic recovery) | |
| Ambient Temperature | | -10 to +55°C (no exposed,no freezing) save: +20 to +70°C | |
| Ambient Humidity | | 35 to 85%RH save: 35 to 85%RH | |
| Optical Element | | Red / Green / Blue composite LED<br>(Wave peak/wavelength: 640nm / 525nm / 470nm) | |
| Material | | Cage: PBT - Operation Panel: PC - Operation Button: Silica - Gel Lens: PC | |
| Cable | | 0.2mm 4 core rubber cable standart 2m<br>Distinction (color matching)<br>Brown: +V - Black: Output - Pink: Mode Conversion Input - Blue: 0V | |
| Weight | | About 110g | |

* Specified Measurement Conditions: Ambient Temperature +23°C

## INDICATOR / BUTTONS



Working state indicator

OUT  ERR  GOOD COLOR
ON  OFF

ON button     OFF button

## OUTPUT CIRCUIT DIAGRAM



**PNP**

Brown  12 to 24VDC
Load  Black output
Pink  mode control *
Blue
0V

**NPN**

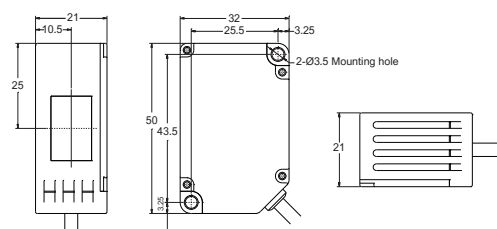Brown  12 to 24VDC
Pink  mode control *
Load  Black output
Blue  0V

**NOTE**
When the pink line break(OFF) is for the color mode,
When the pink line is connection(ON) is for the light intensity mode.
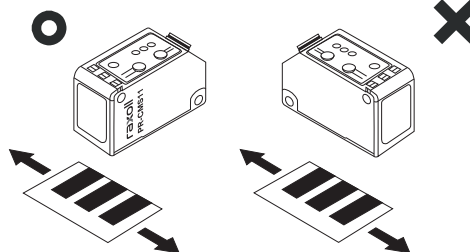
## DIMENSIONS

*Unit : mm



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## INSTALLATION

For detecting the moving direction of the object, please pay attention to the installation direction of the sensor. The fastening torque should be below 0.8N m.
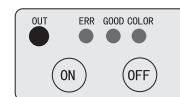


**NOTE**
Do not use sensors to detect objects in this direction. This may lead to irregular work.

## SETTING METHOD

Before setting up the instruction, confirm the light intensity mode or the color mode. The "COLOR" green indicator is always bright is color mode and extinguished as a color intensity mode.



OUT  ERR  GOOD COLOR
ON  OFF

**Two point setting method**

①When the projection light of the sensor against the measured color, presses the "ON" button, and the "GOOD" green indicator lights flicker.

②When the projection light of the sensor against the background color, presses the "OFF" button.

③When the threshold value set between steps ① and ② is stable, the "GOOD" green indicator light is always bright,vindicating that it can start normal detection. When the threshold value set between steps ① and ② is not stable, the "ERR" red indicator flashes for 3 seconds and revert to the last set state.

④If you want to switch NO (normally open) to NC (normally closed) output mode, you need to change the order of steps ① and ②.

**Threshold value adjustment**

①Press the "ON" button for more than 5 seconds until ERR, GOOD and COLOR three indicators flicker simultaneously.
②Press the "OFF" button to adjust the threshold value.

**The relationship between the return difference state and the light flicker is as follows:**

| State | Indicator | | | Three indicator flicker |
|---|---|---|---|---|
| | ○ | ○ | ○ | |
| Return difference value small | ○ | ○ | ● | only the color indicator flicker |
| Return difference value medium | ○ | ● | ● | GOOD,COLOR indicator flicker together |
| Return difference value large | ● | ● | ● | ERR,GOOD,COLOR 3 indicator flicker together |

**Threshold value adjustment**

Exit threshold value adjustment
Under the condition of threshold adjustment, press the "ON" button for more than 5 seconds until the three lights of ERR, GOOD, and COLOR stop flashing, that is, the threshold return adjustment is withdrawn.

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**About false information hints**

| Indicator light state | The "ERR" red indicator is always lit and will not be extinguished automatically. |
|---|---|
| Error information content | The output line load is short circuited, and the overcurrent goes through. |
| Handle | After turn off the power supply, check the output line load. |

## YOU CAN NOTE HERE

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## CONTACT US

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