

INSTRUCTION MANUAL

Photoelectric Sensor Cylindrical · Retroreflective type

AC supply · Light-ON type

AC supply · Dark-ON type

DC supply · NPN output type

DC supply · PNP output type

CY-17A/19A

CY-17B/19B

CY-27/29

CY-27/29-PN

BME-CY2 No.0004-84V

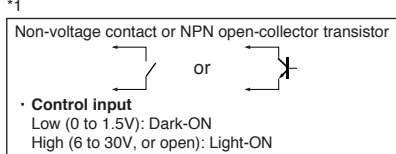
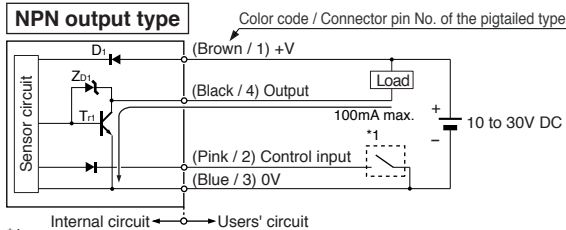
Thank you very much for using SUNX products. Please read this Instruction Manual carefully and thoroughly for the correct and optimum use of this product. Kindly keep this manual in a convenient place for quick reference.



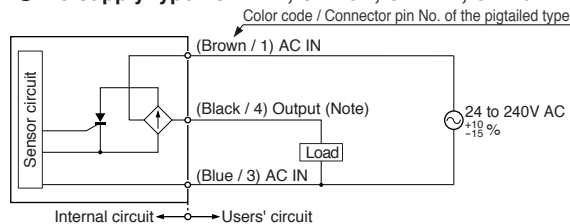
- Never use this product as a sensing device for personnel protection.
- In case of using sensing devices for personnel protection, use products which meet standards, such as OSHA, ANSI or IEC etc., for personnel protection applicable in each region or country.

1 I/O CIRCUIT DIAGRAMS

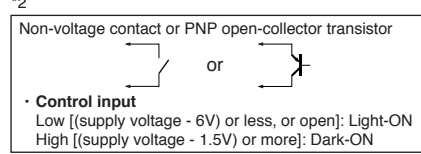
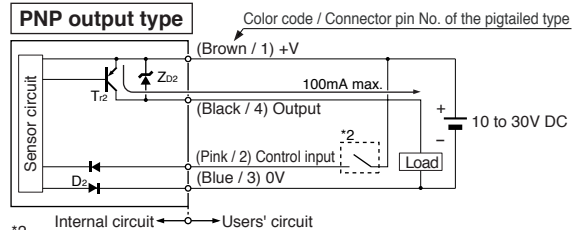
● DC supply type / CY-27, CY-29, CY-27-PN, CY-29-PN



● AC supply type / CY-17A, CY-19A, CY-17B, CY-19B



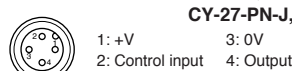
Note: The output does not incorporate a short-circuit protection circuit. Do not connect it directly to a power supply or a capacitive load.



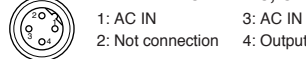
Symbols...D1, D2: Reverse supply polarity protection diode
ZD1, ZD2: Surge absorption zener diode
Tr1: NPN output transistor
Tr2: PNP output transistor

<Connector pin position (Pigtailed type)>

● DC supply type / CY-27-J, CY-29-J

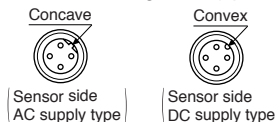


● AC supply type / CY-17A-J, CY-19A-J
CY-17B-J, CY-19B-J



2 CONNECTION

● When using the pigtailed type, purchase the mating cable (optional).



Connecting

- ① Put female and male connectors together as the convex and the concave meet.
- ② Hold one ring not to rotate and turn the other ring clockwise until they become tight.

Disconnecting

- ① Turn the ring counterclockwise and separate them.



3 SPECIFICATIONS

Type		AC supply type		DC supply type	
			With polarizing filters		With polarizing filters
Item	Model No.	CY-17□	CY-19□	CY-27□	CY-29□
Sensing range (Note)		3m	1.5m	3m	1.5m
Sensing object (Note)		CY-17□, CY-27□: φ50mm or more opaque or translucent object CY-19□, CY-29□: φ50mm or more opaque, translucent or specular object			
Power supply		24 to 240V AC $\pm 10\%$		10 to 30V DC	
Power / Current consumption		2.7VA or less		25mA or less	
Response time		20ms or less		2ms or less	
Operation indicator		Red LED (lights up when the output is ON)			
Protection		IP67 (IEC)			
Ambient temperature		-25 to +55°C (No dew condensation or icing allowed) Storage: -30 to +70°C			
Ambient humidity		35 to 85% RH, Storage: 35 to 85% RH			
Emitting element		CY-17□, CY-27□: Infrared LED (modulated) CY-19□, CY-29□: Red LED (modulated)			
Weight		100g approx.			
Accessories		Nut: 2 pcs.			

Note: The sensing range and the sensing object of the retroreflective type sensor are specified for the **RF-230** reflector (optional).

4 RETROREFLECTIVE TYPE SENSOR WITH POLARIZING FILTERS (CY-19□, CY-29□)

- If a shiny object is covered or wrapped with a transparent film, such as those described below, the retroreflective type sensor with polarizing filters may not be able to detect it. In that case, take the measures given below.

<Example of sensing objects>

- Can wrapped by clear film
- Aluminum sheet covered by plastic film
- Gold or silver color (specular) label or wrapping paper

<Measures>

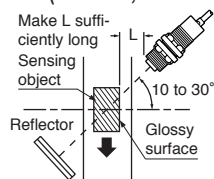
- Tilt the sensor with respect to the sensing object while fitting.
- Reduce the sensitivity.
- Increase the distance between the sensor and the sensing object.

5 RETROREFLECTIVE TYPE SENSOR (CY-17□, CY-27□)

- Please take care of the following points when detecting materials having a gloss.

- ① Make L, shown in the diagram, sufficiently long.
- ② Install at an angle of 10 to 30 degrees to the sensing object.

* Retroreflective type sensor with polarizing filters do not need the above adjustment.



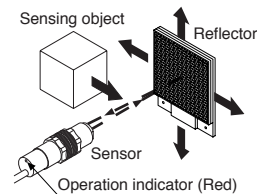
6 CAUTIONS

- This product has been developed / produced for industrial use only.
- Make sure that the power supply is off while wiring.
- Take care that wrong wiring will damage the sensor.
- Verify that the supply voltage variation is within the rating.
- If power is supplied from a commercial switching regulator, ensure that the frame ground (F.G.) terminal of the power supply is connected to an actual ground.
- Do not use during the initial transient time (50ms) after the power supply is switched on.

- Do not run the wires together with high-voltage lines or power lines or put them in the same raceway. This can cause malfunction due to induction.
- In case noise generating equipment (switching regulator, inverter motor, etc.) is used in the vicinity of this product, connect the frame ground (F.G.) terminal of the equipment to an actual ground.
- Extension up to total 100m, or less, is possible with 0.34mm², or more, cable. However, in order to reduce noise, make the wiring as short as possible.
- Make sure that stress by forcible bend or pulling is not applied directly to the sensor cable joint.
- Take care that the sensor is not directly exposed to fluorescent light from a rapid-starter lamp or a high frequency lighting device, as it may affect the sensing performance.
- This sensor is suitable for indoor use only.
- The tightening torque should be 2N·m or less.
- The following items are required, as conditions for use in order to conform to CE.
 - The output applied voltage should be the same as the supply voltage of the sensor.
 - Be sure to add a short-circuit protection (a fuse or a breaker) to the power supply input and the output.

7 BEAM ALIGNMENT

- ① Placing the sensor and the reflector face to face along a straight line, move the reflector in the up, down, left and right directions, in order to determine the range of the light received condition with the help of the operation indicator (red). Then, set the reflector at the center of this range.
- ② Similarly, adjust for up, down, left and right angular movement of the reflector.
- ③ Further, perform the angular adjustment for the sensor also.



8 INTENDED PRODUCTS FOR CE MARKING

- The models listed under '3 SPECIFICATIONS' come with CE Marking. As for all other models, please contact our office.



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PRINTED IN CHINA

June, 2007