

I N S T R U C T I O N
M A N U A L

- Thank you for using **TAKEX** products.
- Please read this manual carefully prior to sensor use.

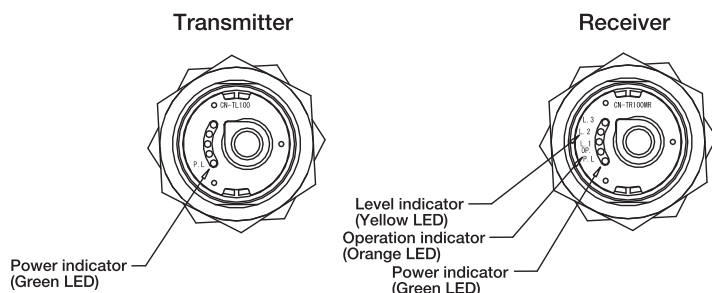
OUTLINE

This sensor is a through-beam type CMD that output ON-OFF signals by detecting blocking of light by the detected object that passes between the transmitter and receiver.
For receiver, Photo MOS relay output (1a) is available.

SPECIFICATIONS

Models	Set model	CN-T100MR
	Transmitter	CN-TL100
	Receiver	CN-TR100MR
Detection	Through beam	
Range	100m	
Detecting object	φ 24 Opaque (Min.)	
Power supply	48 to 240VAC ±10% 50/60Hz 24 to 240VDC ±10%	
Power consumption	Transmitter, Receiver : each 0.5W or less	
Output mode	Photomos relay output 1a Rating : AC/DC 250V 50mA or less (resistive load)	
Operating mode	Dark-On	
Response time	10ms or less	
Light source (wave length)	Infrared LED (860nm)	
Indicators	Transmitter : Power indicator : Green LED Receiver : Operating indicator : Orange LED Level indicator : Yellow LED (3 points)	
Circuit protection	Short circuit protection	
Materials	Case	BS (Ni plated), rear panel : U polimar
	Lens	Glass
Wiring	Flying lead 2m (outer dia φ 6) oil resistance cable Transmitter : 0.3mm ² ×2 cores Receiver : 0.3mm ² ×4 cores	
Weight (Max.)	Transmitter, Receiver : each 200g (without cable)	

PANEL DESCRIPTION



- Power indicator (Green LED)(transmitter/receiver) :
Illuminated when power is ON.
- Operation indicator (Orange LED) (receiver) :
Illuminated when output is ON.
- Level indicator (Yellow LED)(receiver) :
Indicate the receiving light level by 3 LEDs.
L1 (Level 1) : Yellow LED illuminated when light intensity is twice as much as operation level is detected.
L2 (Level 2) : Yellow LED illuminated when light intensity is 4 times as much as operation level is detected.
L3 (Level 3) : Yellow LED illuminated when light intensity is 9 times as much as operation level is detected.

INSTALLATION AND WIRING

■ INSTALLATION

Prepare a mounting trestle free from vibration, etc.
Secure the sensor unit with M30 nuts.
(tightening torque is 15N·m or less)
(Accessory : M30 nut×2, washer×1)

■ WIRING

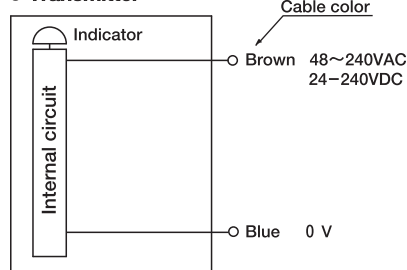
Transmitter	Brown :]	[48~240VAC ±10% 50/60Hz
	Blue :]	[or 24~240VDC ±10%
Receiver	Brown :]	[48~240VAC ±10% 50/60Hz
	Blue :]	[or 24~240VDC ±10%
	Black :]	[OUTPUT
	White :]	[(Rating : AC/DC 250V 50mA or less residual voltage 2V max.)

ENVIRONMENTAL CHARACTERISTICS

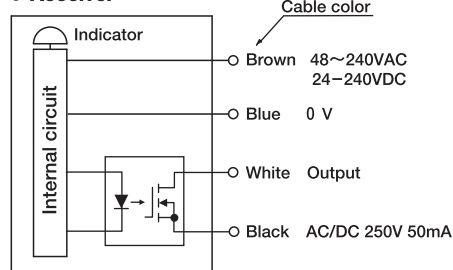
Ambient light	5,000 lx or less
Temperature range	Operating : -25 to +55°C Storage : -40 to +70°C (non freezing)
Humidity	35 to 85%RH
Enclosure rating	I P 67
Vibration resistance	10 to 55Hz, 1.5mm double amplitude, 2 hr. in X, Y and Z directions
Insulation resistance	100MΩ min. at 500VDC
Shock resistance	500m/s ² 3 times in X, Y and Z directions

INPUT/OUTPUT AND WITING

● Transmitter

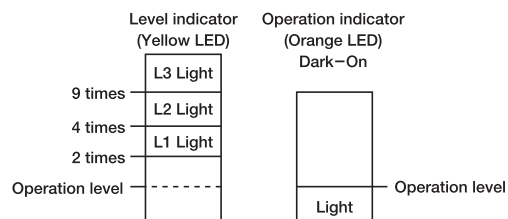


● Receiver



INDICATORS

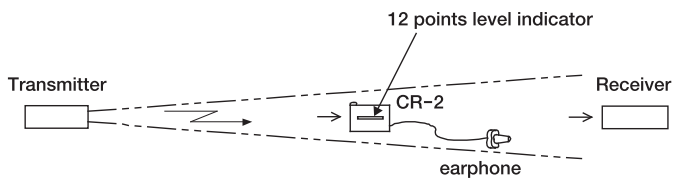
The operation indicator (Orange LED) and level indicator (Yellow LED) indicate the levels as follows.



ADJUSTING FOR OPTICAL AXIS

◇ Adjusting by checker (option)

The checker (Model : CR-2) is used to adjust the light axis by turning the sound of the light emitted from the transmitter. This is very useful to adjust the light axis of the transmitter more accurately.



Detecting the light from the transmitter by using the checker adjust the transmitter setting position so that it may come in the center of the light axis.

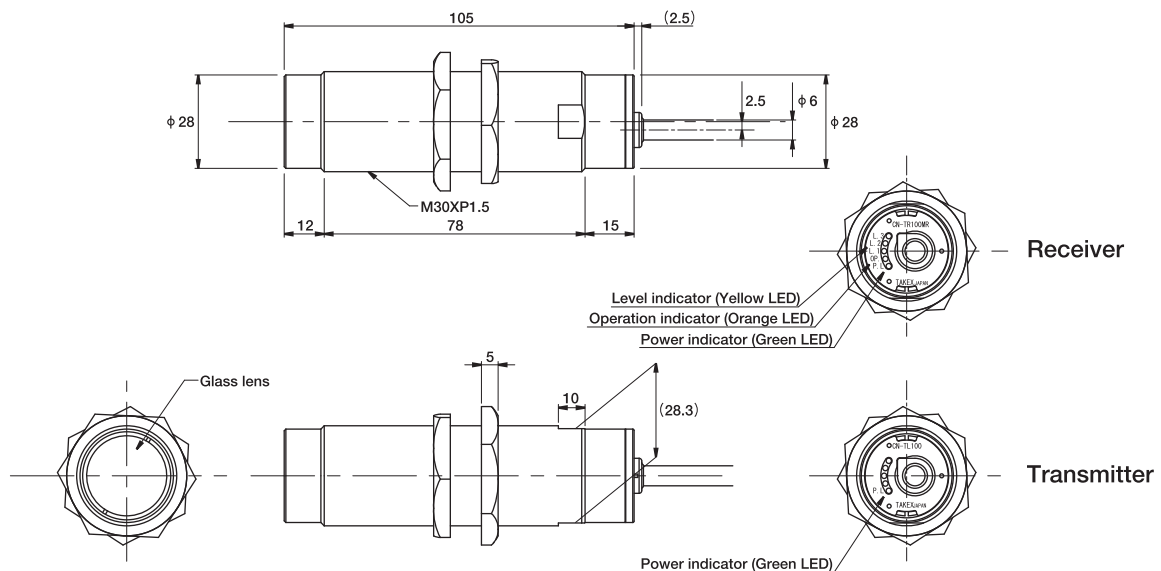
MAINTENANCE

- Use a dry and soft cloth for cleaning the lens in order to avoid the malfunction.
- When three level indicators are not illuminated, please check the status of the optical axis and lens surface.

NOTES

- Use power supply and voltage in the specification range.
- Avoid such a usage as continuously switching on and off the power source.
- Don't use this sensor where direct water spray continuously occurs, or under water although this is water proof (IP67).
- Sole wiring through metal tube is required by high voltage or power line as preventing from mistaking and damage.
- When commercial available switching regulator is used, ground the FG (frame ground) terminal.
- Avoid to install the sensor close to high frequency lighting device or high frequency fluorescent lamp. It may affect the detecting performance.
- Extension cable must be 0.3mm² or more gauge.
- Use power supply which is limited the current (3A) in accordance with the lead wire size of the sensor.

DIMENSIONS (in mm)



- This sensor is designed to detect an object ; it is not a safety device. TAKENAKA is not responsible for damage or losses caused by accident, calamity, acts of God, abuse, misuse abnormal usage, faulty installation or improper maintenance.
- Specifications and external dimensions described herein may be subject to change without notice, if necessary for the purpose of improvements.