

Quick Installation
Easy Setup

Light Source
ON/OFF

Promotes automation of
visual inspections

LED indicators



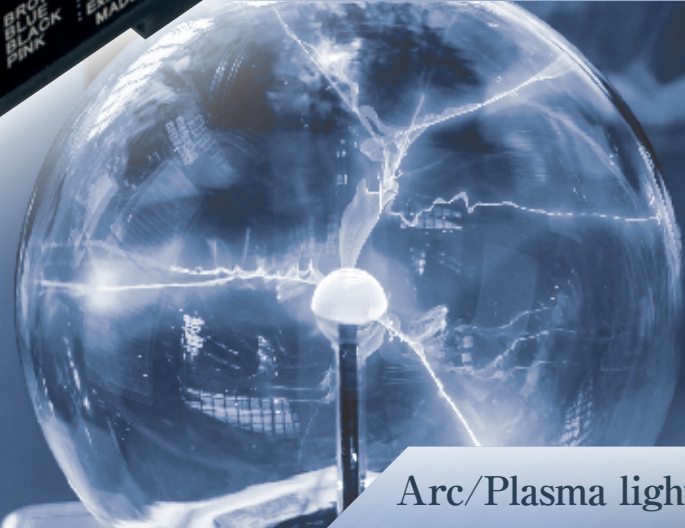
Near infrared light



Dynamic LED light



Arc/Plasma light



Stable detection of illumination from various sources

- Stable detection even from weak light sources
- Stable detection even with high-speed inspections
- Automates visual inspections
- Easily introduced into the existing system

Visualize “Functional Inspections” including LED lighting confirmation

Stable detection of illumination from various sources

LED indicators

Weak light sources such as small indicators

Dynamic LED light

High frequency pulsed light

*Used for LED flashlights, high frequency pulsed light. For human eyes, the light looks as if it is continuously lit due to persistence of vision.

Near infrared light

Invisible light emitted by TV remote controls

Arc/Plasma light

Plasma light generated by semiconductor manufacturing equipment

BS-R80



Stable detection

Comparison with R-7031N (conventional product *1)

R-7031N	Undetectable	Detectable range	Not adjustable
BS-R80	Detectable range		

Supports a wide range of illumination conditions

Features of BS-R80

Stable detection even from weak light sources

- The slightest contrast can be detected
- A wide dynamic range covering bright to low level light sources (refer to *1)

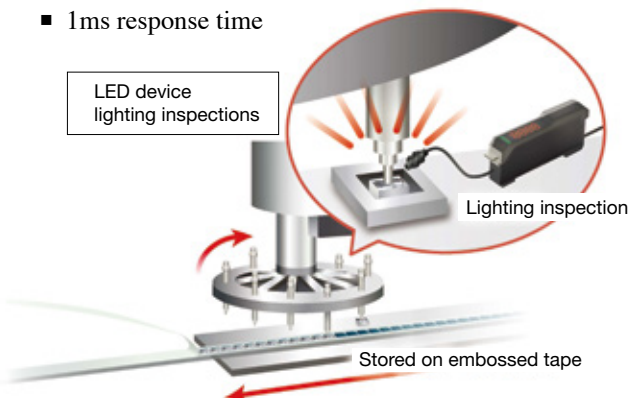
“Visualizes” the setting values (“Good Product” range)

- Large, easy-to-read indicator



Stable detection even with high-speed inspections

- 1ms response time



Fiber-type sensor enables flexible installation in any space

- Pin-point detection
- Fibers selectable according to applications

Push button indicators

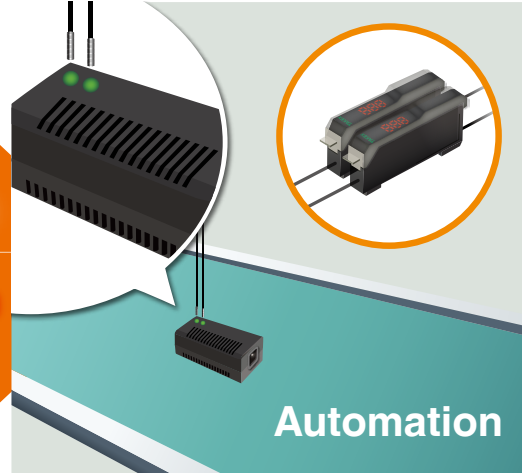


Automates visual inspections

Current status Individual judgment by human eyes

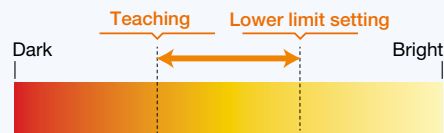


Effect Once teaching a good product range, the sensor automatically makes pass/fail judgement.



Introduction

"Good Product" range for the conventional visual inspection can be set up in the sensor

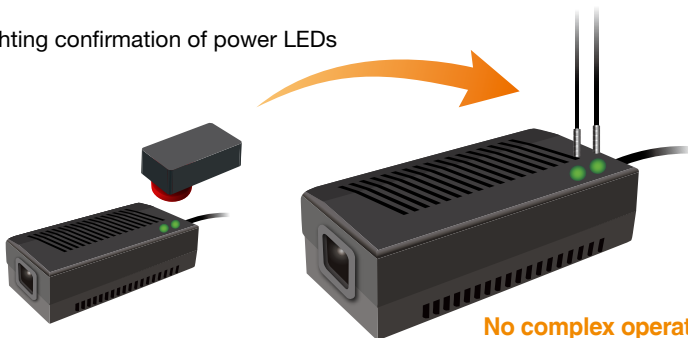


*Representative image only

Easy Introduction

Cost effective compared to image sensors for confirming that multiple LEDs are lit. Also easy to setup and install.

Lighting confirmation of power LEDs



No complex operations required such as program setting

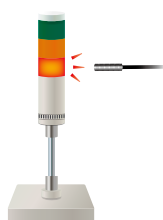


Case Studies

Mains power for notebook PCs, Battery lamps



Warning lights



Remote controls for TVs and DVD players



USB memory light inside a product



PC mouse



Wireless controller for gaming machines



SPECIFICATION

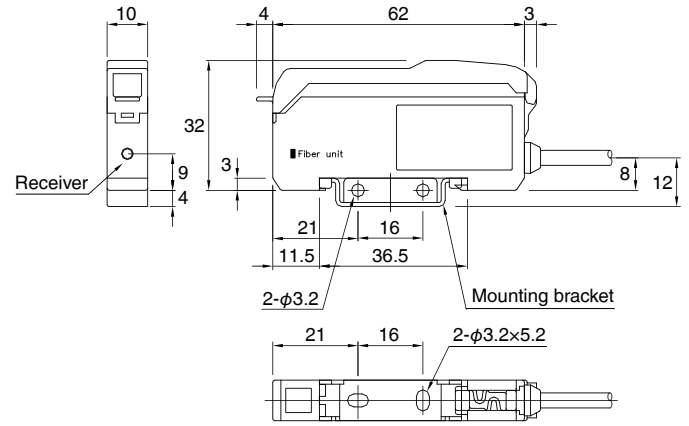
Model	BS-R80	
Detection method	Identifying brightness	
Light sensitivity	DC lighting 10 to 1000lx (white LED) / pulse lighting depends on conditions	
Standard detection target	Light source that emits visible light and near-infrared light / DC lighting / pulse lighting	
Power supply	12 to 24 VDC, Ripple 10% or less	
Current consumption	500mW or less (20mA or less at 24V)	
Standard light wavelength	400 to 900nm	
External teaching input	No-voltage input (contact / no-contact) (During target value setting mode teaching only)	
Output	NPN mode	NPN open collector output Rating: Sink current 50mA (30 VDC) or less / Residual voltage 2V or less
	PNP mode	PNP open collector output Rating: Source current 50mA (30 VDC) or less / Residual voltage 2V or less
Operation mode	Light ON / Dark ON (operation mode selectable)	
Timer	ON delay / OFF delay Delay timer : 0ms to 999ms (set in millisecond)	
Response time	0: 1ms / 1: 10ms / 2: 100ms / 3: 1000ms ※1	
Indicator	Operation indicator: "OP"LED (orange) lights when output is issued Basic operation setting mode indicator: "SP"LED (red) lights up during basic operation setting	
Display	Function display (orange) / Numeric display 3-digits (0 to 999, red)	
Operation switch	[+] and [-] push button switches: setting selection / reference light level teaching / parameter change Selector switches: RUN / SELECT / SET selection	
Protection circuit	Power reverse connection / Output short-circuit protection / Output reverse connection	
Material	Polycarbonate	
Wiring	Attached cable (o.d. ϕ 3.7), 0.2mm \times 4-cores, 2m	
Weight	Approx. 60g (Cable 2m, including mounting bracket)	
Accessory	Mounting bracket / Instruction manual	

- ※ 1 Detection is enabled 2 seconds after power is applied.
 ※ 2 Fiber optic cable is optionally available.
 Recommended fiber optic cable: FT-105BC-CS (core diameter ϕ 1.5)

ENVIRONMENTAL SPECIFICATION

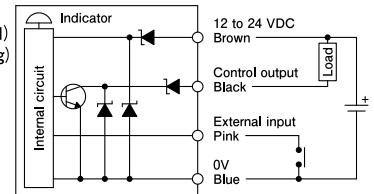
Ambient temperature	-25 to +55°C (no freezing)
Ambient humidity	35 to 85%RH (no condensation)
Protective structure	IP 40
Vibration	10 to 55Hz / 1.5mm double amplitude / 2 hours each in X, Y and Z directions
Shock	500 m/s ² / 3 times each in X, Y, Z directions
Dielectric withstanding	1000 VAC for 1 minute
Insulation resistance	20M Ω or more with 500 VDC Megger

DIMENSIONS (in mm)

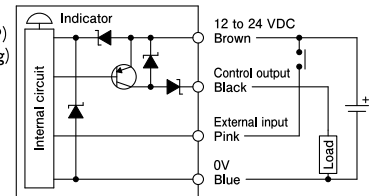


CONNECTION

- NPN output mode
Control output (NPN)
External input (teaching)



- PNP output mode
Control output (PNP)
External input (teaching)



- ※ When not using the external input, connect the external input cable (pink) to 12 to 24 VDC in NPN mode and to 0V in PNP mode.

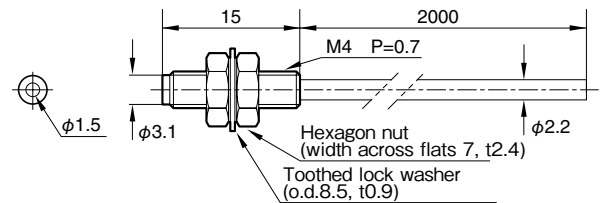
Dedicated fiber optic cable FT105BC-CS



SPECIFICATION

Model	FT105BC-CS
Length	2m
Ambient temperature	-30 to +70 °C
Materials	Sheath : Polyethylene Core : Plastic
Diameter	Cable : 2.2mm Core : 1.5mm
Bending radius	45R

DIMENSIONS (in mm)



- This product is designed for industrial applications to detect a various kinds of objects. It has no function to prevent disasters, accidents, death or injuries.
- TAKEX will not held responsible for any damage or loss incurred due to accidents, faulty installation, abuse, misuse, improper maintenance or acts of God including lightning surge.
- This product cannot be used as safety equipment.
- This product is designed and manufactured for industrial use. It cannot be used where there is a requirement for a high degree of reliability or considerable care or attention to safety.
- Read this instruction manual carefully and use the product properly according to it.
- This instruction manual including the specifications and dimensions may be subject to change without notice.



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