

Passive color matching sensor CST-R80

Class leading sensor for LED illumination inspection.

Identify RGB composition values and brightness with high resolution.

Differentiate the variation of white LEDs in brightness and color composition.



Two separate outputs for color composition and brightness

Combination of the two separate outputs produces high resolution and precise color identification.

Digital display for color composition and brightness

Numeric values for color composition and brightness are displayed in 3 digits.

Independent tolerance for color composition and brightness

Separate tolerance setting enables wider ranking of LED.

Dual teaching

Easy one-push teaching on site or from a remote location using the external input.

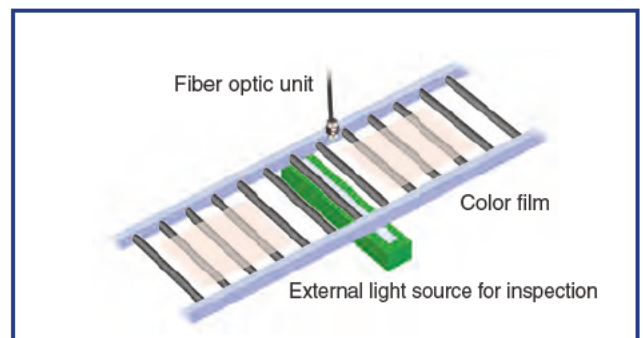
Fiber optic unit (FT105BC-CS, sold separately)

Flexible fiber sensor can be fitted into a wide variety of machines.

Light attenuator unit (CS-ND, sold separately)

CS-ND light attenuator can be ensure stable detection of bright light source.

Color matching for films or plastic plate



Irregular or dead LED detection

Use in combination with CS-R80, irregular or dead LED can be detected as well as color composition and brightness in a line.



Check correct detection by using actual objects to be inspected prior to operation.

Specifications

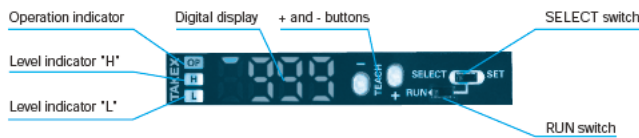
Output	NPN	CST-R80
	PNP	CST-R80PN
Detection method	RGB color composition / Brightness (RGB light receiving element)	
Resolution	Color composition: 0.01% Brightness: 0.1%	
Power supply	DC 12V - 24V ±10%, Ripple 10% or less	
Current consumption	50mA or less	
Teaching standard color	1 color	
Output	Output 1: Color (RGB) value / Output 2: Brightness	
External input for teaching	No voltage input (contact / no contact)	
Output configuration	NPN	NPN open collector, Sink current 50mA (DC30V) or less, residual voltage: 2V
	PNP	PNP open collector, Source current 50mA (DC30V) or less, residual voltage: 2V
Operating mode	Match On / Match Off selectable	
Delay time	On delay/Off delay/Timer disabled, selectable	
	Delay time: 250ms (fixed)	
Response time	50ms or less when lights up / 100ms or less when lights down *1	
Indicators	Operation indicator 'OP': When the output is activated	
	Level indicator 'H': Excessive light intensity	
	Level indicator 'L': Insufficient light intensity	
Display	4 digit indicator	
Mode Switch	RUN: RUN mode / Setting mode, switchover	
	SELECT: SELECT mode / SET mode, switchover	
	+/-: Change the tolerance value and setting item	
Protective feature	Short circuit protection	
Material (housing)	Polycarbonate	
Cable	Flying lead 2m (dia 3.7mm)	
Weight	60g (incl. cable and bracket)	
Attachments	Bracket, instruction manual	

*1: The sensor is activated 1 second after it is powered on.
Response time may change depending on the amount of ambient lights.
Fiber units should be procured separately.
Recommended fiber unit and range: FT105BC-CS at 5mm or less.

Environmental Characteristics

Ambient light	1,000 lx or less (no fluctuation)
Temperature range	10 to 40 °C
Humidity	35 to 85%RH (no condensation)
Protection rating	IP40
Vibration resistance	10 to 55Hz, 1.5mm double amplitude, 2hrs in X, Y and Z directions
Shock	500m/s ² 3 times in X, Y and Z directions

Operation panel



Panel Descriptions

Indicators

- Operation Indicator (OP) : Lights when output turns ON.
- Level Indicator (H) : Lights when the received light amount becomes saturated.
- Level Indicator (L) : Lights when the received light amount becomes insufficient.

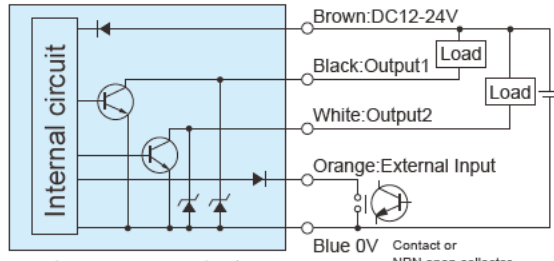
Digital display: 1 digit in orange + 3 digits in red.

- RUN mode: 1 digit in orange : No indication when color composition is indicated. Indicates "U" or "d" for brightness.
- 3 digits in red : Indicates a numeric value.
- ※ The value appears slowly to have better visibility.

- RUN switch : Changes between the RUN mode and the Setting mode.
- SELECT switch : Changes between the SELECT mode and the SET mode.
- + and - buttons : Changes the tolerances and setting items.

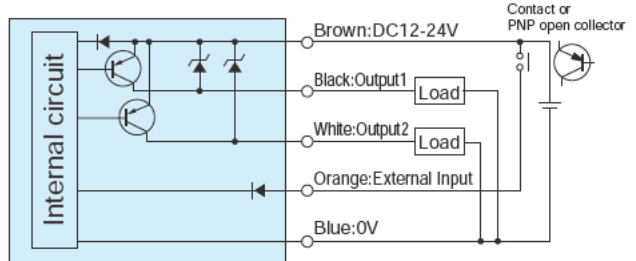
Input/Output Circuit and Connection

CST-R80 (NPN output)

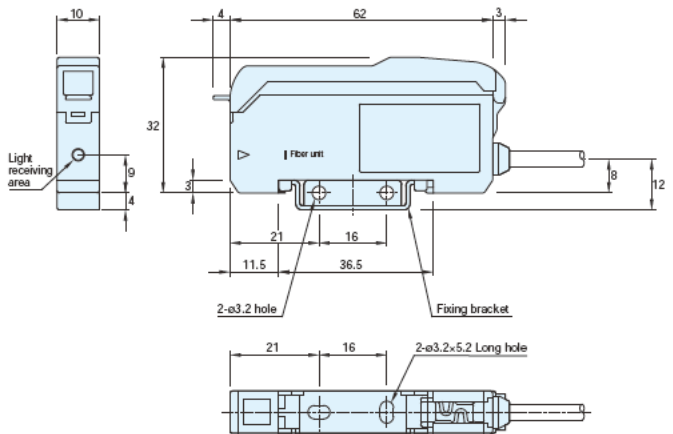


* White cable is connected to 0V.

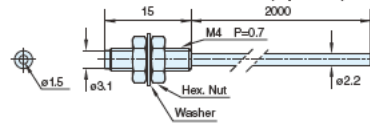
CST-R80PN (PNP output)



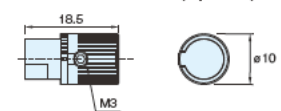
Dimension (Unit : mm)



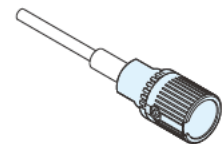
Model: FT105BC-CS (option)



Model: CS-ND (option)



Model	FT105BC-CS
Fiber length (m)	2
Ambient temperature	-30~+70 °C
Fiber Material	External cover: Polyethylene
	Inside fiber: Plastic
Fiber Diameter	Cable: 2.2
	Inside fiber: 1.5
Minimum bending radius	45R



- This sensor is designed to identify color of LEDs. It is not provided with control functions for prevention of injuries or accidents in itself.
- 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.
- Specifications and dimensions may be subject to change without notice.



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