



Luster Detection Sensor Head
CZ-H72 **NEW**

SUPER RGB Sensor Luster Detection Sensor Head

Glossy objects

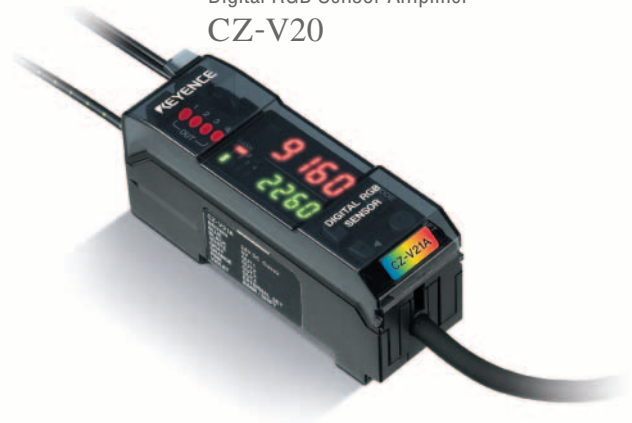


Matte objects



Detect luster without being affected by color

Digital RGB Sensor Amplifier
CZ-V20



All the features you need for stable luster detection

Conventional photoelectric sensors can't come close

NEW

Luster Detection Sensor Head CZ-H72

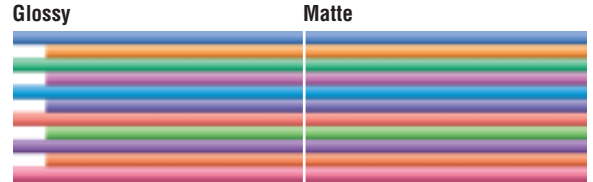


Detecting presence/absence of adhesive on targets
It extracts only the luster component from the target's surface

Most targets reflect both regular and diffuse light components. The special **luster capturing** optics in the CZ-H72 sensor head extract only the luster component and eliminate the undesirable effects of diffuse reflections.

Unaffected by colored patterns or print below a glossy surface

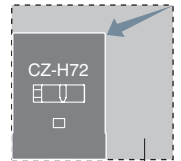
The CZ-H72 can reliably detect targets by their luster level, without being affected by colors or print



*The glossy level may vary depending on printing ink or paper quality.

Lighter and smaller sensor head (Patent pending)

Light is emitted using a fiberoptic cable. Designing the light emitting electronics in the amplifier, rather than the sensor head, results in a significant size reduction.

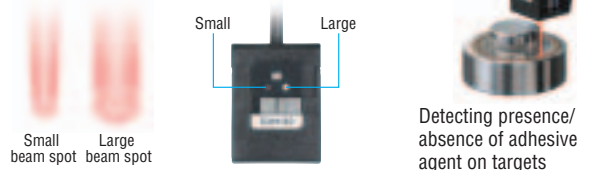


1/2 size of the conventional models

Selectable beam spot size

Choose from 0.12" (3 mm) or 0.20" (5 mm) diameter beam spots (when detecting from 0.59" (15 mm))

Note: Total detecting range is from 0.39" to 0.79" (10 to 20 mm)



Amplifier for luster detection sensor

Digital Color Sensor Amplifier for Luster Detection Sensor

CZ-V21A(P) [Main unit]
CZ-V22A(P) [Expansion unit]



Digital display indicates gloss levels **Industrial first**

Easy setup with dual digital display

The measured value and the setting value can be viewed simultaneously. In addition, the sensitivity can be easily fine-tuned with a touch of a button.

FILM mode for detecting presence/absence of films (Patent pending)

World's first

The amplifier features a built-in FILM mode, which can be selected for difficult detection of such targets as packaging films for cigarettes or Compact Discs. These films exhibit birefringence, which can prevent stable detection in conventional photoelectric sensors.



Detecting presence/absence of wrapping film

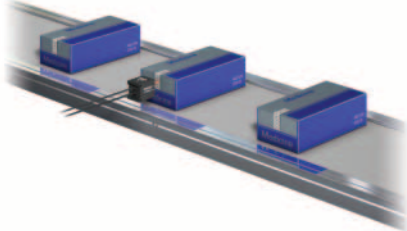
Response frequency 200μs **Fastest in its class**

One unit can detect 4 different glossy levels **Most levels in its class**

Luster Detection Sensor Head ----- Applications in various industries

Food/Pharmaceutical

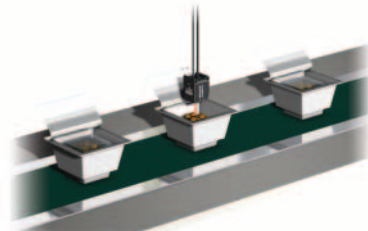
Detecting presence/absence of sealing tape



Detects presence/absence of sealing tape. It stably detects patterned transparent sticker without being affected by background colors or patterns.

Food/Pharmaceutical

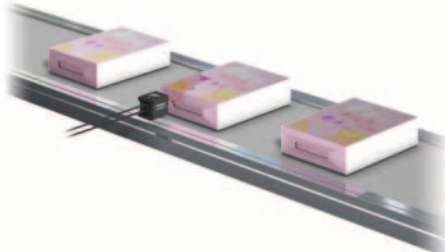
Detecting presence/absence of transparent film



Detects presence/absence of transparent film. It can stably detect targets without being affected by vibration.

Packaging

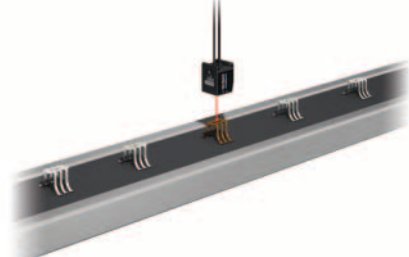
Detecting defect of shrink packaging



Detects shrink film wrapping defects. FILM mode reduces dual refraction from films to stably detect targets.

Electric/Electronic industry

Detecting presence/absence of plating at contact points



Detects presence/absence of plating electrodes. With selectable large/small beam spots, it can stably detect small targets.

Automotive/Metal

Detecting presence/absence of plating



Detects presence/absence of plating. It digitally indicates luster level. Sensitivity setting or fine adjustment are easily performed with simple push buttons.

Automotive/Metal

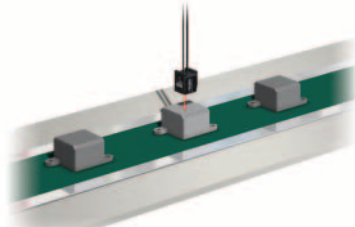
Detecting presence/absence of adhesive agent on a sealer (low temperature)



Detects presence/absence of adhesive. The sensor head is half the size of conventional models, enabling more flexible mounting.

Plastic/Molding

Detecting presence/absence of flat paint on plastics



Detects different types of molded articles by checking presence/absence of flat paint. It can recognize up to 4 different types of targets without tooling changes.

General

Detecting presence/absence of hot-melt coating/adhesive agent



Detects presence/absence of hot-melt coating. It stably detects targets without being affected by the targets' colors or patterns.

Specifications

Sensor head

Type	Luster detection (Adjustable beam spot)	Adjustable spot	Luster-cancel	Luster-cancel, small beam spot	Fluorescence detection UV
Model	CZ-H72 NEW	CZ-H32	CZ-H35S	CZ-H37S	CZ-H52
Detection range	0.59° 15 mm (Center) ²	1.97° to 3.74° 50 to 95 mm (Recommended: 2.76° 70 mm)	1.10° to 2.05° 28 to 52 mm (Recommended: 1.57° 40 mm)	0.43° to 0.79° 11 to 20 mm (Recommended: 0.59° 15 mm)	0.98° to 2.17° 25 to 55 mm (Recommended: 1.38° 35 mm)
Smallest spot diameter	Small: 0.12" 3 mm dia. Large: 0.20" 5 mm dia. at reference distance of 0.59° 15 mm	Small: 0.12" 3 mm dia. Medium: 0.18" 4.5 mm dia. Large: 0.22" 5.5 mm dia. at respective reference distance ¹	0.18" 4.5 mm dia. at reference distance of 1.57° 40 mm	0.04" 1 mm dia. at reference distance of 0.63° 16 mm	0.39" 10 mm dia. at reference distance of 0.98° 25 mm
Detection angle	Small: Horizontal ±4°, vertical ±3° Large: Horizontal ±4.5°, vertical ±3°	–	–	–	–
Light source	Red LED (665 nm)	Red LED (665 nm)/Green LED (520 nm)/Blue LED (465 nm)			UV (ultraviolet) LED (375 nm) ³
Receivable wavelength (Receiver)	–	–			425 to 550 nm
Minimum bend radius of fiber	0.98" 25 mm	0.98" 25 mm	0.59" 15 mm	–	–
Ambient light	Incandescent light: 10,000 lux max., Sunlight: 20,000 lux max.				
Ambient temperature	-10 to +55°C (14 to 131°F), No condensation				
Vibration	10 to 55 Hz, double amplitude: 0.06" 1.5 mm, 2 hours in each of X, Y and Z axis directions				
Enclosure rating	IP40				
Material	Fiberglass reinforced plastic				
Housing	Glass	Polyarylate	Triacetate, Polyarylate (Metal section: TYPE 304 stainless steel)	Glass	Glass
Lens cover	–	–	–	–	–
Weight (including 6.6' 2-m cable)	Approx. 50 g	Approx. 40 g	Approx. 45 g	Approx. 40 g	–

- Reference distance: 2.56" 65 mm for Small, 2.36" 60 mm for Medium, and 1.97" 50 mm for Large
- Small beam spot: 0.59° ±0.12" 15 ±3 mm, Large beam spot: 0.59° ±0.20" 15 ±5 mm
- The CZ-H52 emits ultraviolet light from the transmitter. Do not directly look at the light source while in operation.

Amplifiers for CZ-H72

Model	CZ-V21A		CZ-V22A	
	NPN	PNP	CZ-V21AP	CZ-V22AP
Unit type (Main/expansion)	Main unit		Expansion unit	
Response time	200 μs (HIGH SPEED)/1 ms (FINE)/4 ms (TURBO)/8 ms (SUPER)			
Control output ¹	NPN (PNP) open-collector x 4 channels, 40 VDC (30 VDC) max., Up to 100 mA for one output, Up to 200 mA in total of 4 outputs, Residual voltage: 1.0 V max.			
Protection circuit	Reverse-polarity protection, overcurrent protection, surge absorber			
External calibration input	Non-voltage input, Input time: 20 ms min.			
External shift input	Non-voltage input, Input time: 20 ms min.			
Timer function	Timer OFF/OFF-delay/ON-delay/One-shot, Timer time: 1 to 1,000 ms adjustable			
Power supply	24 VDC, Ripple (P-P): 10% max.			
Current consumption	Normal mode: 1.5 W (62.5 mA max.), Eco-mode: 1 W (42.0 mA max.)			
Ambient temperature ²	-10 to +55°C (14 to 131°F), No condensation			
Vibration	10 to 55 Hz, double amplitude: 0.06" 1.5 mm, 2 hours in each of X, Y and Z axis directions			
Material	Housing, cover: Polycarbonate			
Weight (with 6.6' 2-m cable)	Approx. 110 g		Approx. 100 g	

Amplifiers for CZ-H32/H35S/H37S/H52

Model	CZ-V21		CZ-V22	
	NPN	PNP	CZ-V21P	CZ-V22P
Unit type (Main/expansion)	Main unit		Expansion unit	
Response time	200 μs (HIGH SPEED)/1 ms (FINE)/4 ms (TURBO)/8 ms (SUPER)			
Control output ¹	NPN (PNP) open-collector x 4 channels, 40 VDC (30 VDC) max., Up to 100 mA for one output, Up to 200 mA in total of 4 outputs, Residual voltage: 1.0 V max.			
Protection circuit	Reverse-polarity protection, overcurrent protection, surge absorber			
External calibration input	Non-voltage input, Input time: 20 ms min.			
External bank switch input (C/C+I mode), External shift input (Super I mode)	Non-voltage input, Input time: 20 ms min.			
Timer function	Timer OFF/OFF-delay/ON-delay/One-shot, Timer time: 1 to 1,000 ms adjustable (for each bank respectively)			
Power supply	24 VDC, Ripple (P-P): 10% max.			
Current consumption	Normal mode: 1.5 W (62.5 mA max.), Eco-mode: 1 W (42.0 mA max.)			
Ambient temperature ²	-10 to +55°C (14 to 131°F), No condensation			
Vibration	10 to 55 Hz, double amplitude: 0.06" 1.5 mm, 2 hours in each of X, Y and Z axis directions			
Material	Housing, cover: Polycarbonate			
Weight (with 6.6' 2-m cable)	Approx. 110 g		Approx. 100 g	

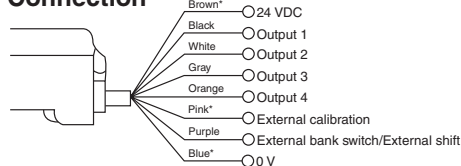
1.20 mA max. when several units are connected.

2. When several units are connected, the acceptable ambient temperature varies depending on the conditions given below. To connect several units, be sure to mount them to a DIN rail and to limit the output current to a maximum of 20 mA. When 1 or 2 units are connected: -10 to +50°C (14 to 122°F) When 3 units are connected: -10 to +45°C (14 to 113°F)

Note: The expansion unit of the FS-V20 Series cannot be connected to the main unit of the CZ-V20 Series. To connect the FS and CZ Series units, connect the expansion unit of the CZ-V20 Series to the main unit of the FS-V20 Series. To connect two or more expansion units, connect the CZ-V20 Series units on the right of the FS-V20 Series units.

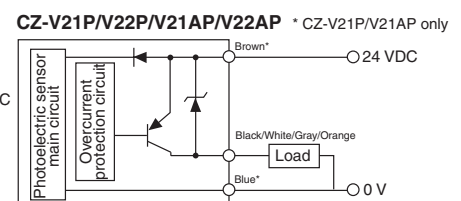
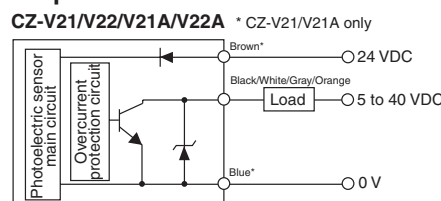
Input/output circuit

Connection

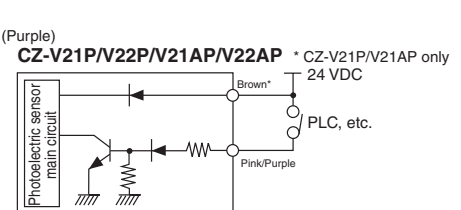
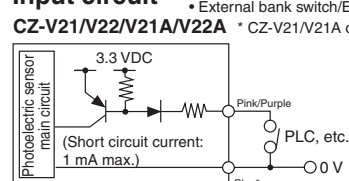


* CZ-V21/ V21A/V21P/V21AP only

Output circuit



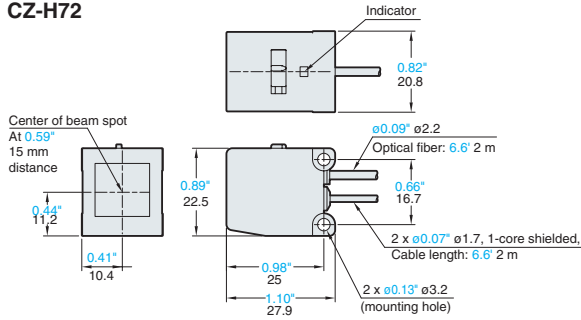
Input circuit



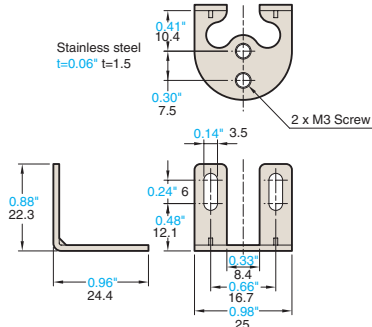
Dimensions

Unit: inch/mm

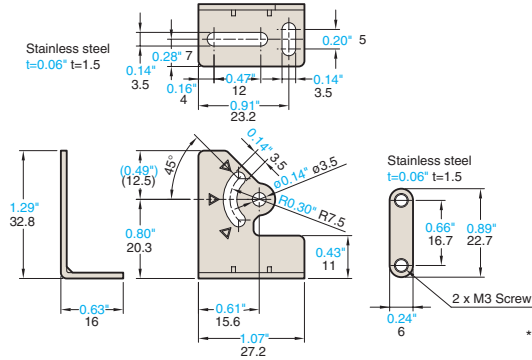
CZ-H72



Mounting bracket A*



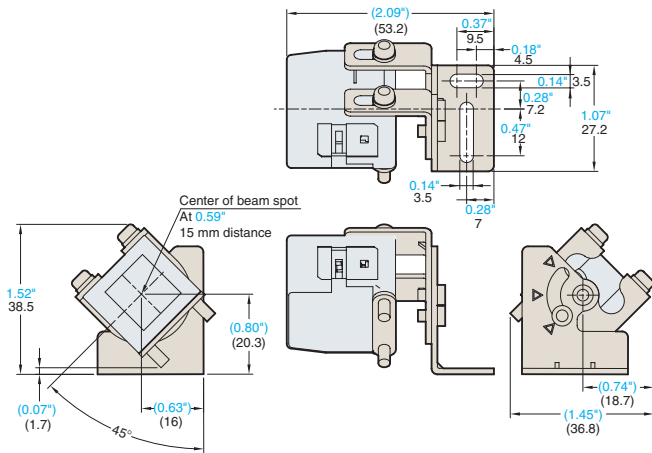
Mounting bracket B*



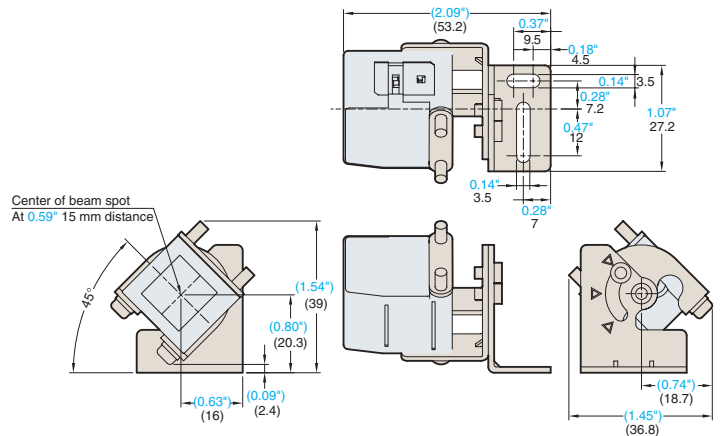
* Mounting bracket A/B is attached to CZ-H72

When the mounting bracket is attached

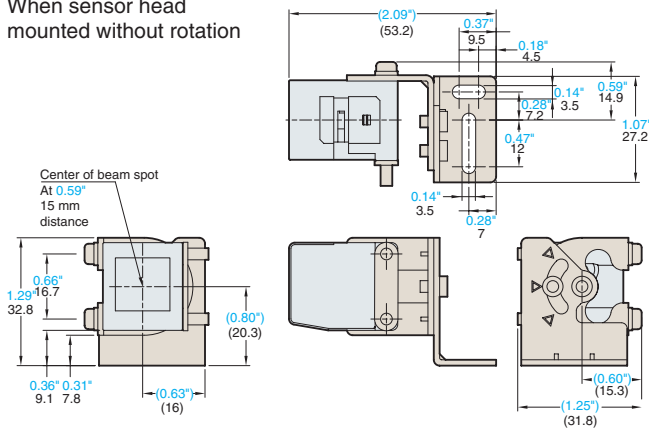
When sensor head rotated at 45° clockwise



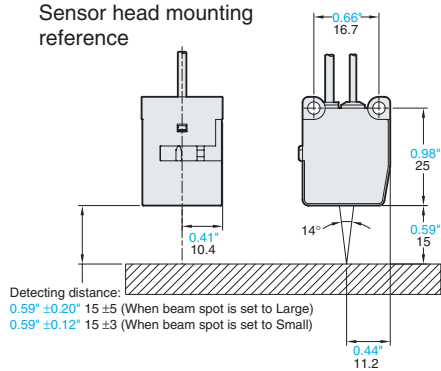
When sensor head rotated at 45° counterclockwise



When sensor head mounted without rotation



Sensor head mounting reference



Digital RGB Sensor Line-up

Luster canceling diffuse reflective

CZ-H35S/ CZ-H37S

Detects subtle difference of colors or patterns.
Unaffected by a target's luster.



Unaffected by surface conditions such as warpage, vibration, inclination of luster

Long detection distance diffuse reflective

CZ-H32

Can be mounted at a distance from targets. Unaffected by vibration.



3 Adjustable beam spots

Fluorescence detection UV sensor

CZ-H52

Unaffected by patterns or colors of targets to detect fluorescent marks



It radiates ultraviolet to detect fluorescent substances or marks. Unaffected by patterns or colors of targets to detect fluorescent marks.

"Detecting fluorescent substances or marks"

Specifications are subject to change without notice.



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