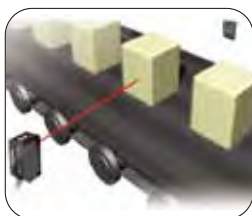


Z / BGS-Z series

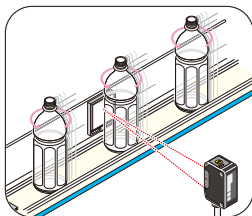


- High Performance, Low Cost! All models offer cost and space savings.
 - ZR-Q series. Ideal for detection of transparent objects! Plastic bottles, film, etc.
 - ZR-X/QX series, Coaxial beam. Sensing through narrow opening is possible!
 - BGS-Z series. High performance in small package!!
- Tough sensor! 100G shock resistance and IP67 ratings.

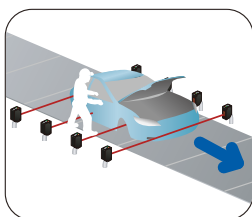
Applications



For material handling
(ZR-350)



Beverage industry
(ZR-QX200)



Car on the production line
(ZT-1200)



PCB
(BGS-Z10N)

Thru-Beam type



ZT-1200N / ZT-1200P
ZT-1200CN / ZT-1200CP

Convergent type



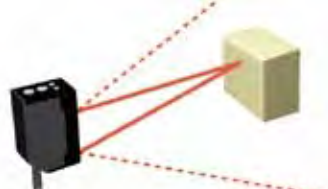
ZD-L09N / ZD-L09P
ZD-L09CN / ZD-L09CP

Retro Reflective type



ZR-350N / ZR-350P
ZR-350CN / ZR-350CP

Diffuse type (incl, divergent type)



Diffuse
ZD-70N / ZD-70P
ZD-70CN / ZD-70CP

Divergent
ZD-W20N / ZD-W20P
ZD-W20CN / ZD-W20CP

BGS type



BGS-Z30N / BGS-Z30P
BGS-Z30CN / BGS-Z30CP
BGS-Z10N / BGS-Z10P
BGS-Z10CN / BGS-Z10CP

Coaxial LED type



General use
ZR-X250N / ZR-X250P
ZR-X250CN / ZR-X250CP
Transparent objects
ZR-QX200N / ZR-QX200P
ZR-QX200CN / ZR-QX200CP

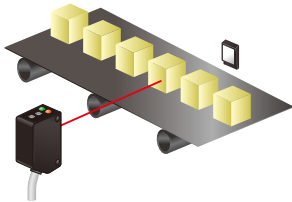
General Purpose

- **100G shock resistance, IP67 ratings. Tough sensor !**
- **ZR-Q series, ideal for detection of PET bottles, transparent objects, etc.**
- **Standard models for cost saving.**

Features

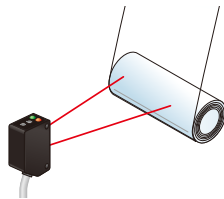
500μsec response

Good for fast moving objects.



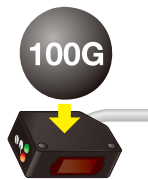
ZD-W20 wide angle applications

The Divergent type ZD-W20 provides a wide angle beam that can be used to detect transparent film by collecting the reflected light from the material surface.



Rugged 100G shock rating

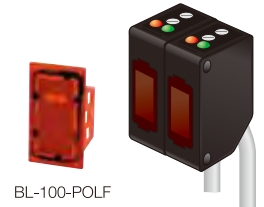
Rigid design for high resistance to mechanical shock



Cross-talk prevention

With built-in cross-talk prevention, it is possible to mount two sensors side-by-side without mutual interference.

(Use part number BL-100-POLF for thru-beam type sensors.)



IP67 rating

Hose it down!
Water-tightness is tested to IP67.



Threaded mounting holes

Prevents sensor from being damaged when it's mounted.



Specifications

Model		Thru-beam	Polarized Retro-reflective	Diffuse-reflective	Convergent	Divergent	Glass detection
Cable type	NPN	ZT-1200N	ZR-350N	ZD-70N	ZD-L09N	ZD-W20N	ZR-Q200N
	PNP	ZT-1200P	ZR-350P	ZD-70P	ZD-L09P	ZD-W20P	ZR-Q200P
M8 Connector type	NPN	ZT-1200CN	ZR-350CN	ZD-70CN	ZD-L09CN	ZD-W20CN	ZR-Q200CN
	PNP	ZT-1200CP	ZR-350CP	ZD-70CP	ZD-L09CP	ZD-W20CP	ZR-Q200CP
Sensing distance		12 m	3.5m (V-61 reflector)	70cm	1-9 cm	1-200 mm	2 m (V-61 reflector)
Response time		0.5 msec					
Spot size		1.5m @ 12 meter	350mm @ 3.5 meter	100mm @ 700mm	12mm @ 90mm	30mm @ 50mm	300mm @ 2 meter
Operating mode		Light On/Dark On selectable					
Hysteresis		NIL			20% Max	10% Max	20% Max
Light source		Red LED					
Sensitivity adjustment		1-turn trimmer (240 degree)					
Control output		NPN or PNP Open collector, 100mA Max / 30V DC					
Supply voltage		DC 10 - 30V incl. 10% ripple					
Power consumption		20mA Max					
LED Indicator		Dual Indicator (Output : orange, Stable : green)					
Protection category		IP67					
Shock resistance		100G (1,000m/S ²)					
Environmental illuminance		Sunlight : 10,000 lux Max., Incandescent lamp : 3,000 lux max.					
Operating temp/humidity		-25 to 55°C / 35 to 85%RH					
Materials		ABS with glass fiber (Case), PMMA (Lens)					

Retro-Reflective with Coaxial LED

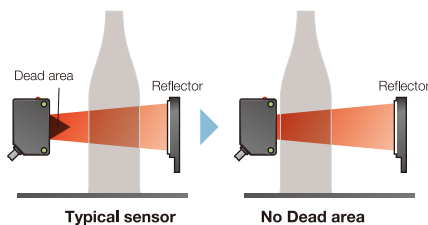
The best for transparent Plastic / Glass detection

- **Coaxial LED source gives extremely tight alignment to the target.**
- **Alignment of sensor is easy thanks to bright projected LED spot.**
- **250 μ sec fast response (ZR-X, coaxial beam type)**
- **World's standard model ZR-Q (general type) and ZR-QX (coaxial beam type) for Plastic and Glass applications.**

Features

Zero dead area!

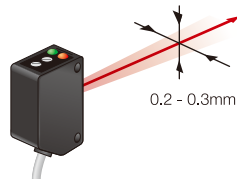
The sensor has no dead area in the sensing field. This makes it ideal for use on conveyors where the position of the target changes.



Repeat Accuracy

Very tight Repeat Accuracy, 0.2 - 0.3mm for BGS type. Even Thru-beam and Retro types have 0.3mm Repeat Accuracy(*).

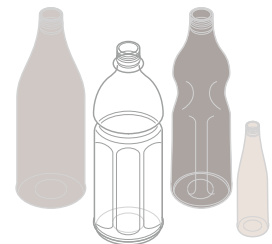
*=Tested at the middle point of sensing range.



Good selection of sensors for various types of bottles.

Glass and plastic bottles come in various shapes / sizes and with many different contours which require testing in the field to determine the best sensor for the application.

The Z series is offered with both Co-axial and Conventional LED light sources to provide a solution for the detection of any bottle type.



Coaxial LED

Coaxial LED light source provides extremely tight alignment to the target, Alignment of sensor is very easy thanks to bright projected LED spot.



Specifications

Model		Retro Reflective for Transparent				Polarized Retro-reflective (Coaxial Beam)	
		General Use		Coaxial Beam			
				2m Cable	M8QD 4pin	2m Cable	M8QD 4pin
Type	NPN PNP	ZR-Q200N ZR-Q200P	ZR-Q200CN ZR-Q200CP	ZR-QX200N ZR-QX200P	ZR-QX200CN4 ZR-QX200CP4	ZR-X250N ZR-X250P	ZR-X250CN4 ZR-X250CP4
Sensing distance		0.01 - 2 meter (V-61 reflector)		0 - 2 meter (P250F reflector)		0 - 2.5 meter (V-61 reflector)	
Response time		0.5 msec				250μs	
Spot size		φ300mm / at 2m		φ60mm / at 2m		φ60mm / at 2m	
Operating mode		Light On / Dark On selectable					
LED Indicator		Output : orange, Stable : green		Output : orange		Output : orange, Stable : green	
Light source		Red LED					
Sensitivity adjustment		1-turn pot.					
Control output		NPN or PNP open collector, 100mA max / DC30V					
Supply voltage		DC 10 - 30V, including 10% ripple					
Power consumption		20mA max					
Protection category		IP 67					
Shock resistance		100G (1,000m/S²)					
Environmental illuminance		Sunlight : 10,000 lux max., Incandescent lamp : 3,000 lux max					
Operating temp/humidity		-25 to 55°C/ 35 to 85% RH					
Materials		ABS(Case). PMMA(Lens)					

"M8-QD in 3 pins for European machines " are available with extension code of -CN(P)3, for instance, "ZR-QX200CN3".

BGS - LED Type

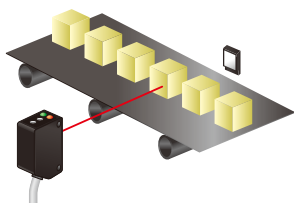
General purpose applications

- **BGS (Background Suppression Type) Sensors are not influenced by the background, available with conventional LED light source.**

Features

500 μ sec response

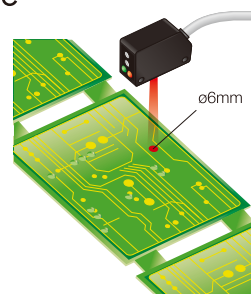
Good for fast moving objects.



Large projected spot size

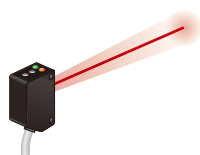
The LED version of the BGS sensors projects a large 6 mm spot that will not be affected by small holes in a PC board.

For PC boards that may have larger holes, the BGS-Z30 has an 18 mm projected spot size.



High power narrow beam LED

LED beam spot can be seen easily even in bright environment that helps installation.



4 Turn adjustment pot.

A four turn adjustment pot. is built-in for precise adjustment of the sensing distance. The potentiometer has a slip clutch that protects it from damage when it is turned past the end.



Specifications

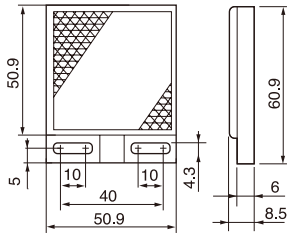
Model		long distance		short distance	
		2m Cable	M8QD 4pin	2m Cable	M8QD 4pin
Type	NPN	BGS-Z30N	BGS-Z30CN	BGS-Z10N	BGS-Z10CN
	PNP	BGS-Z30P	BGS-Z30CP	BGS-Z10P	BGS-Z10CP
Adjustable distance		50 - 300 mm (*1)		20 -100 mm (*1)	
Sensing distance		10 - 300 mm (*1)		5 -100 mm (*1)	
Response time		500μs			
Spot size		φ30mm / 300mm		φ10mm / 100mm	
Hysteresis (white to white)		5%		3%	
Operating mode		Light On / Dark On selectable			
LED Indicator		Output : orange, Stable : green			
Light source		Red LED			
Sensitivity adjustment		4-turn, endless pot.			
Control output		NPN or PNP open collector, 100mA max / DC30V			
Supply voltage		DC 10 - 30V, including 10% ripple			
Power consumption		30mA max			
Protection category		IP 67			
Shock resistance		100G (1,000m/S ²)			
Environmental illuminance		Sunlight : 10,000 lux max., Incandescent lamp : 3,000 lux max			
Operating temp / humidity		-25 to 55oC / 35 to 85% RH			
Materials		ABS(Case). PMMA(Lens)			

"M8-QD in 3 pins for European machines " are available with extension code of -CN(P)3, for instance, "ZR-QX200CN3".

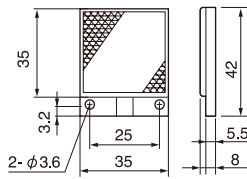
*1 white paper 100 X 100mm

Reflectors for LED Type

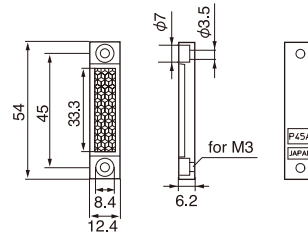
Standard reflector V-61
(Standard, LED type)



Small reflector V-42
(Optional, LED type)

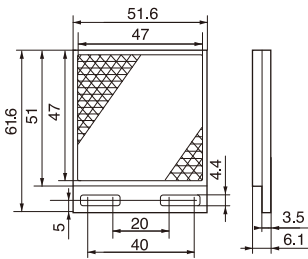


Tiny reflector P-45A
(Optional, LED type)

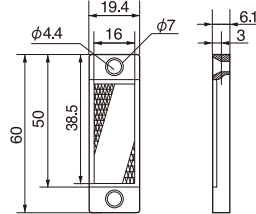


Reflectors for Coaxial LED Type

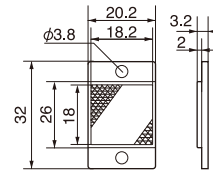
P250F
(Standard, ZR-QX200)



PL20F
(Optional)



PL10F
(Optional)



Detection distance by reflectors

	P250F	PL20F	PL10F
ZR-QX	4.0	2.8	1.0

(Unit : meter)

Options

Standard reflector V-61
(Except ZR-QX200)



Small reflector V-42



Tiny reflector P-45



P250F (ZR-QX200, standard)



PL20F (Optional)



PL10F (Optional)



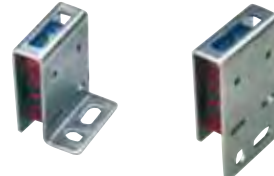
JCN-S : M8 Straight type



JCN-L : L-shape M8 type



Protective mounting brackets
LK-S01 LK-S02



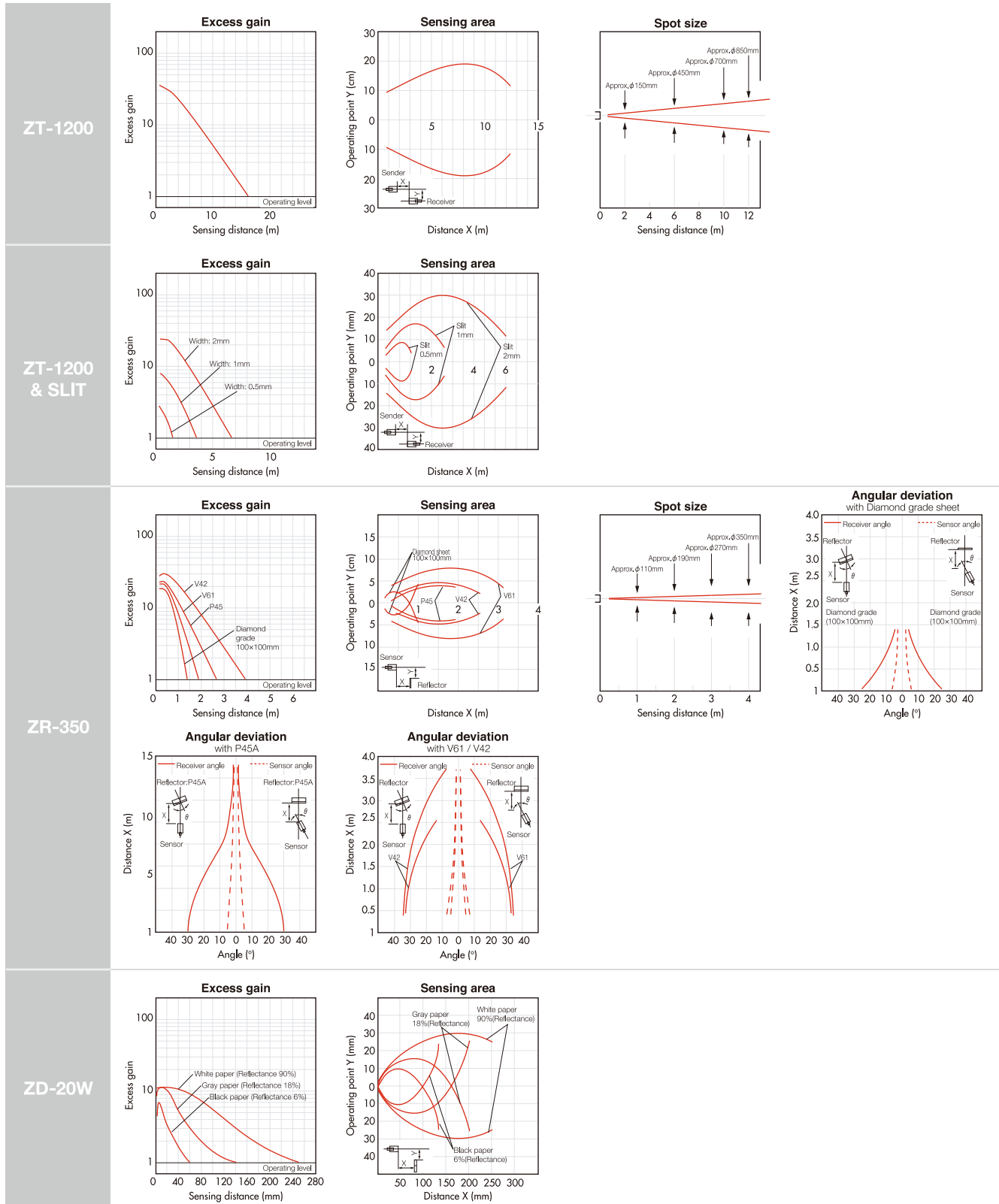
BL-100-POLF: Cross-talk prevention filter for ZT-1200



JCN-S : 2 meter
JCN-SS : 5 meter
JCN-10S : 10 meter

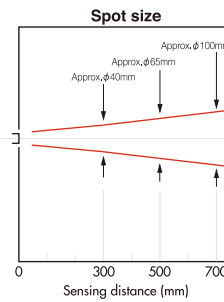
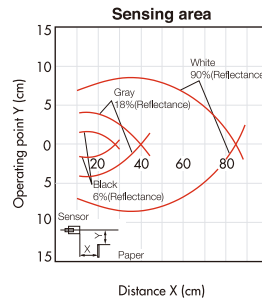
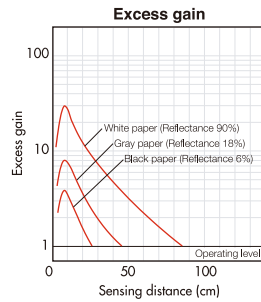
JCN-L : 2 meter
JCN-5L : 5 meter
JCN-10L : 10 meter

Reference (typical)

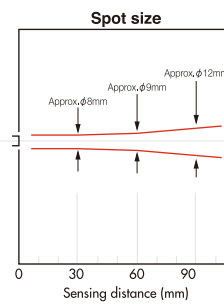
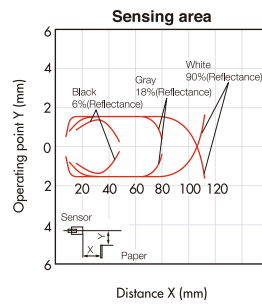
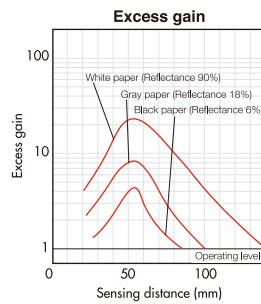


Reference (typical)

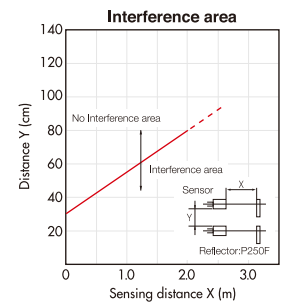
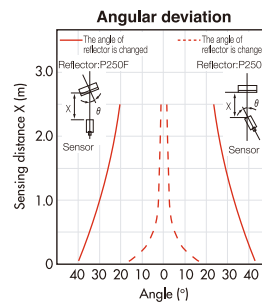
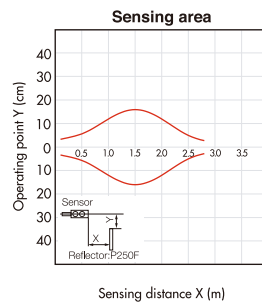
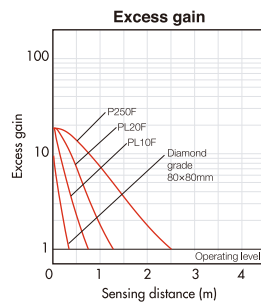
ZD-70



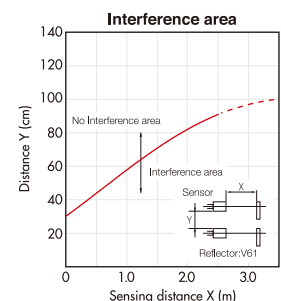
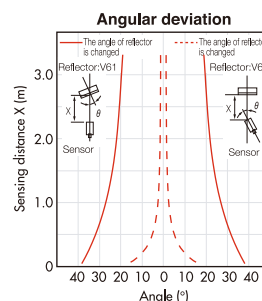
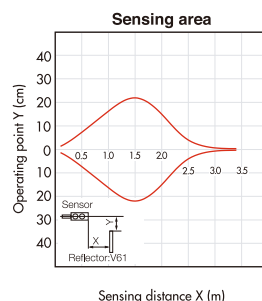
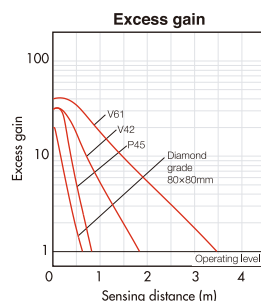
ZD-L09



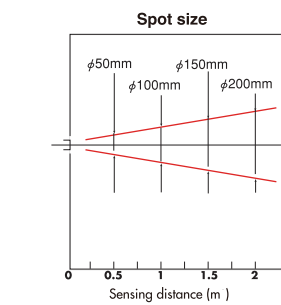
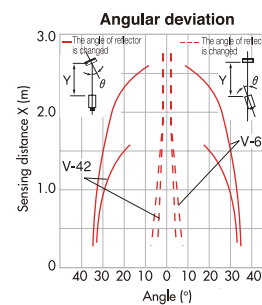
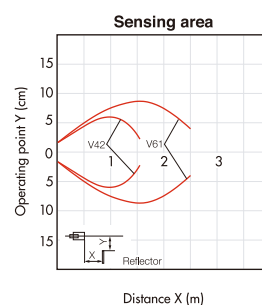
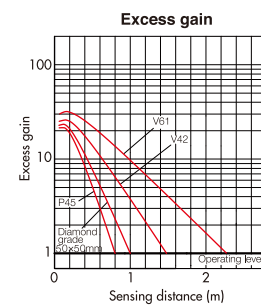
ZR-QX200



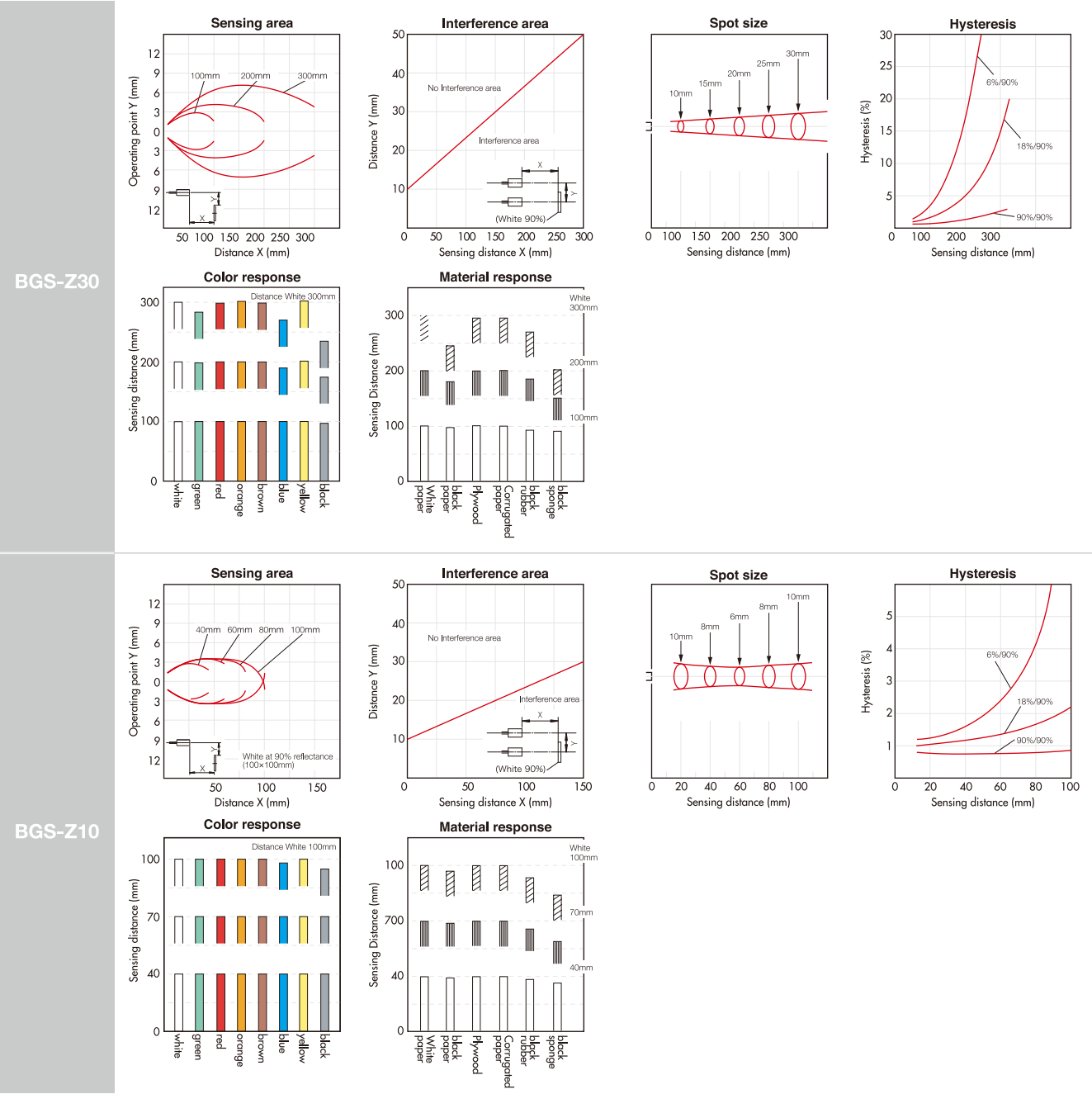
ZR-X250



ZR-Q200



Reference (typical)



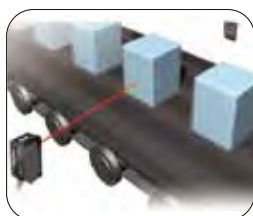
Photoelectric Sensor

Z2 series

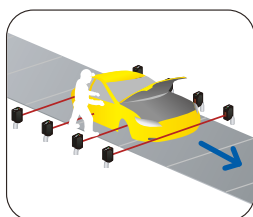


- Best-in-class Photosensors realized by high power LED.
- 3 basic types with detecting distance of 20 meter (thru-beam)

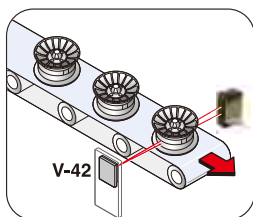
Applications



For material handling
(Z2R-400)



Car on the production line
(Z2T-2000)



Counting wheels
(Z2R-400)

Thru-Beam type



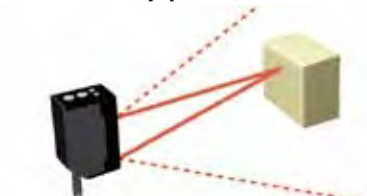
Z2T-2000N / Z2T-2000P
Z2T-2000N4 / Z2T-2000P4

Retro Reflective type



Z2R-400N / Z2R-400P
Z2R-400N4 / Z2R-400P4

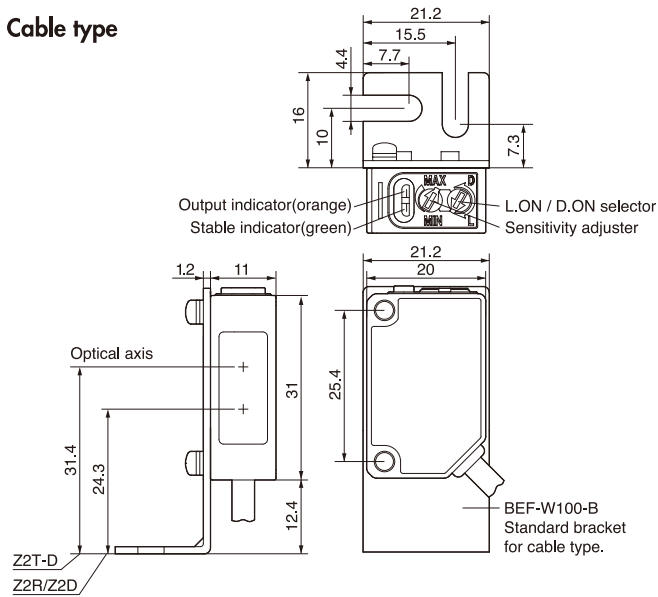
Diffuse type (incl, divergent type)



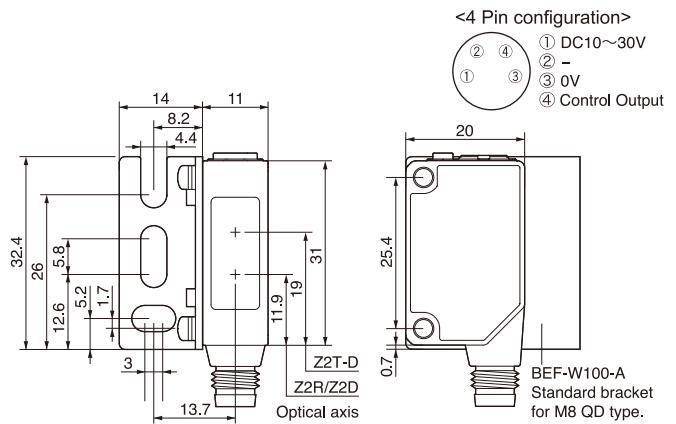
Z2D-80N / Z2D-80P
Z2D-80N4 / Z2D-80P4

Dimensions (mm)

Cable type

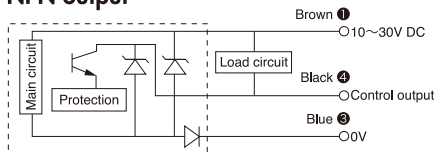


M8 QD type

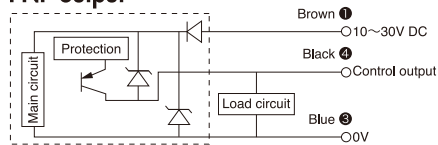


Circuit diagram

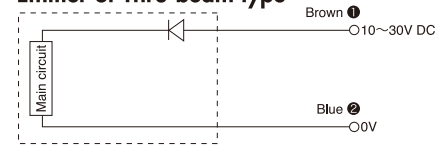
NPN output



PNP output

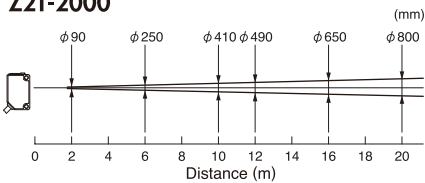


Emitter of Thru-beam type

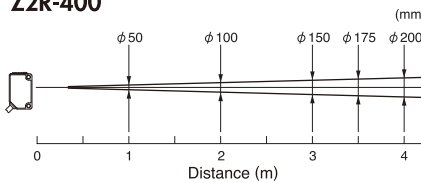


Spot size

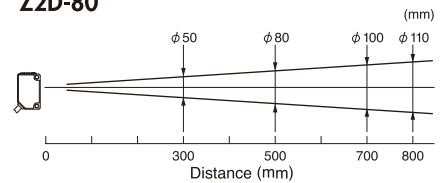
Z2T-2000



Z2R-400



Z2D-80



Specifications

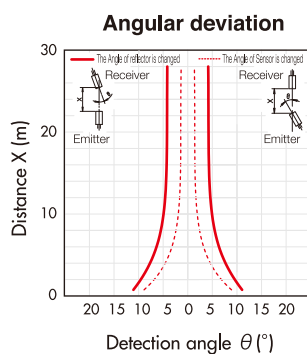
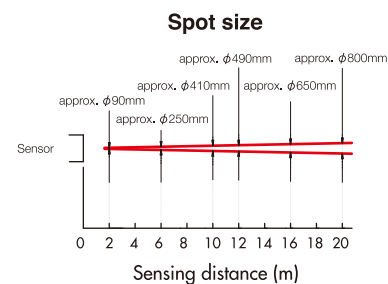
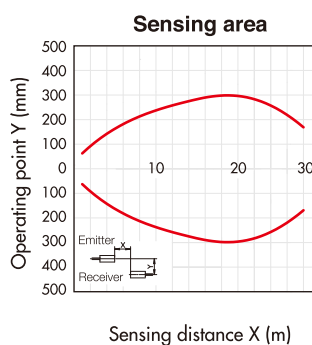
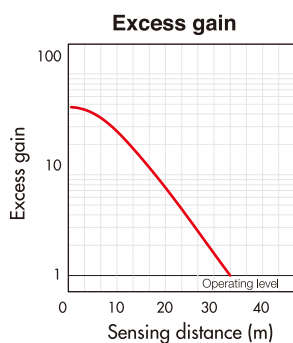
Model	Thru-beam	Retro-reflective	Diffuse-reflective
Cable type	Z2T-2000(N,P)	Z2R-400(N,P)	Z2D-80(N,P)
M8 QD type	Z2T-2000C(N4,P4)	Z2R-400C(N4,P4)	Z2D-80C(N4,P4)
Sensing distance	20m	0.01～4m ※1	0～80cm ※2
Response time	500μs max.		
Spot size	φ800mm @ 20m	φ200mm @ 4m	φ110mm @ 80cm
Operating mode	Light ON / Dark ON selectable		
LED Indicator	Output : orange, Stable : green		
Light source	Red LED		
Sensitivity adjustment	1-turn volume		
Control output	NPN or PNP Open collector, 100mA Max. DC30V Max. (Residual voltage 1.8V Max.)		
Supply voltage	DC10-30V Including 10% ripple(P-P)		
Power consumption	Emitter : 20mA Max.	20mA Max.	
	Receiver : 15mA Max.		
Protection category	IP67		
Shock Resistance	100G		
Vibration Resistance	10-55Hz, 15mm X,Y,Z, each. 2 hours		
Ambient temp. / humidity	-25～+55℃ / 35～85% RH (No condensation or freezing)		
Storage temp. / humidity	-40～+70℃ / 35～95% RH (No condensation or freezing)		
Material	Case : ABS (glass included) Front Cover , Lens : PMMA		

※1. Reflector V-61

※2. White 90% 100mm×100mm

Reference (typical)

Z2T-2000



Reference (typical)

Z2T-2000 + Slit	Excess gain	Sensing area	
	Angular deviation (Slit 2.0mm)	Angular deviation (Slit 1.0mm)	Angular deviation (Slit 0.5mm)
	Excess gain	Sensing area	Spot size
	Angular deviation		
Z2D-80	Excess gain	Sensing area	Spot size



Good Thinking, Good Future

Photoelectric Sensor with Built-in Amplifier

Z3 Series

* FASTUS is a product brand of Optex FA.

- Through-beam type
Z3T-2500□
- Retro-reflective type
Z3R-400□
- Diffuse-reflective type
Z3D-100□
- Limited-reflective type
Z3D-L09□
- Transparent object detection
Z3R-Q200□
(Scheduled for release in August 2014)



The New Industry-standard Sensor

Longest-in-class
sensing distance of **25m**
* Red LED and through-beam types

Significantly reduced
dead zone

Indicators clearly
visible from anywhere

The next evolution of the globally acclaimed Z series standard photoelectric sensor



The Z series photoelectric sensor has shipped over three million units globally. Now, the FASTUS Z3 series, which retains the ease of use of the Z series, is a photoelectric sensor with built-in amplifier that features greatly improved detection performance.

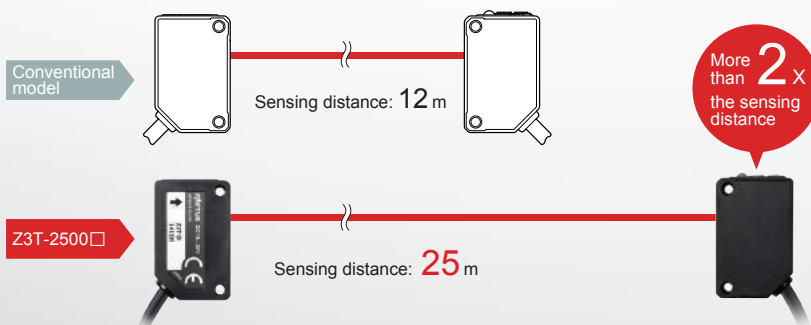
It provides performance, usability, and value for money that easily exceed the attributes required of general-purpose photoelectric sensors.

High Power LED Provides Stable Detection

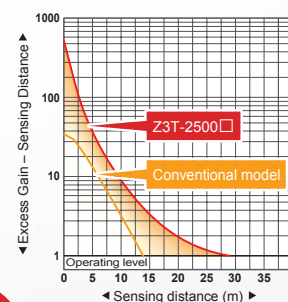
The Z3 series through-beam type sensor has a 25 m sensing distance, the longest in its class. This high power provides a significant increase in excess gain, which helps the sensor overcome interference from dust or other fine particles.

Plus

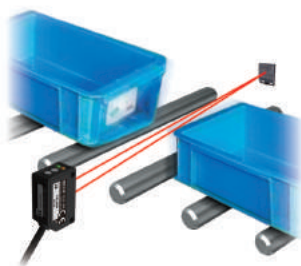
- Easy optical axis adjustment thanks to a large spot size with good visibility
- Four-element LED helps reduce beam degradation during long-term use



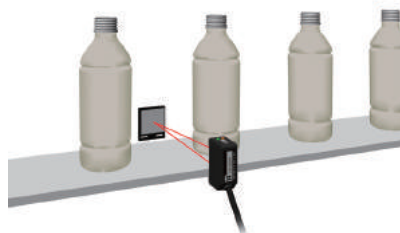
Excess Gain – Sensing Distance



Applications



Detecting or counting boxes flowing through a process (Retro-reflective type)



Detecting plastic bottles on a conveyor (Retro-reflective type for transparent object detection)



Detecting tires protruding from conveyors (Through-beam type)

Output and stability indicators are brighter than those of conventional models and easier to view from any direction.

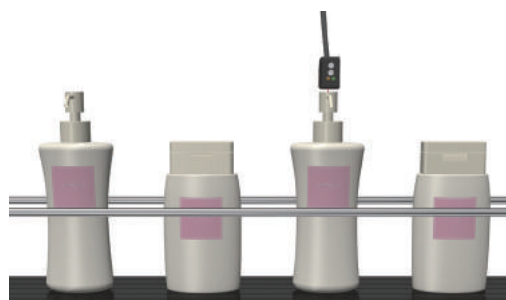


Significantly Reduced Dead Zone

The diffuse-reflective type features an optimized optical receiver system that successfully minimizes the dead zone in front of the lens. This makes it easier to detect workpieces with a low reflectivity that pass close to the sensor even on lines that convey workpieces of varying heights.

Close range dead zone (typical values)

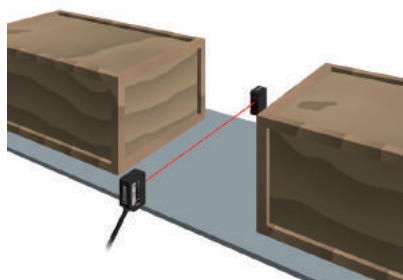
Gray paper (18%)	Conventional model	Up to 2 mm	No dead zone even with gray paper
	Z3D-100□	0	
Black paper (6%)	Conventional model	Up to 13 mm	Less than one-sixth the dead zone of previous models
	Z3D-100□	Up to 2 mm	



Lineup

Type	Appearance	Sensing range	Model (Connector type)	
			NPN type	PNP type
Through-beam		25 m	Z3T-2500N (Z3T-2500CN4)	Z3T-2500P (Z3T-2500CP4)
Retro-reflective*		0.01 to 4 m	Z3R-400N (Z3R-400CN4)	Z3R-400P (Z3R-400CP4)
Diffuse-reflective		0 to 1 m	Z3D-100N (Z3D-100CN4)	Z3D-100P (Z3D-100CP4)
Limited-reflective		10 to 90 mm	Z3D-L09N (Z3D-L09CN4)	Z3D-L09P (Z3D-L09CP4)
Transparent object detection* *Coming soon		0.01 to 2 m	Z3R-Q200N (Z3R-Q200CN4)	Z3R-Q200P (Z3R-Q200CP4)

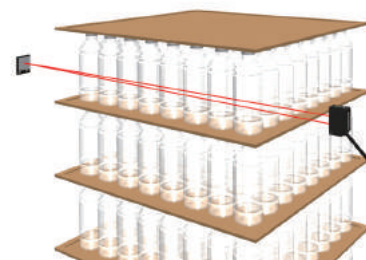
*Reflectors sold separately



Detecting large packed items on a conveyor (Through-beam type)



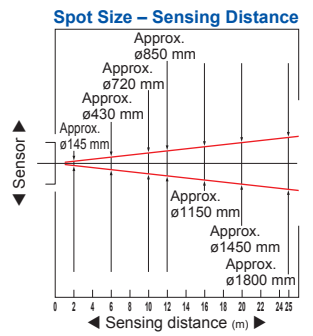
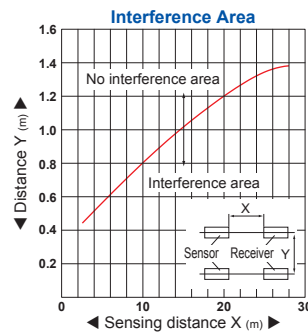
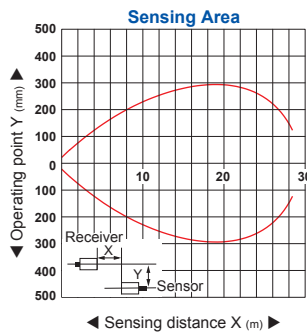
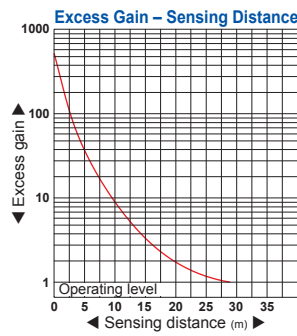
Detecting boxes protruding from shelves (Through-beam type)



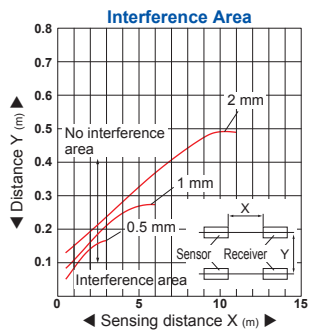
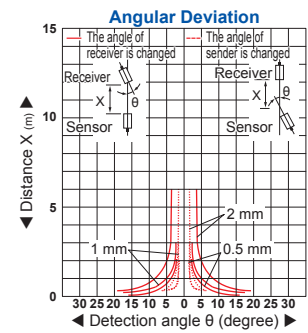
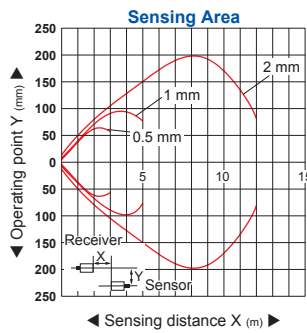
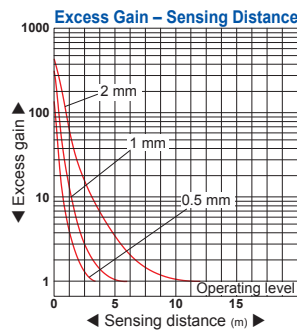
Detecting palletized plastic bottles (Retro-reflective type for transparent object detection)

Characteristic Diagrams (typical data)

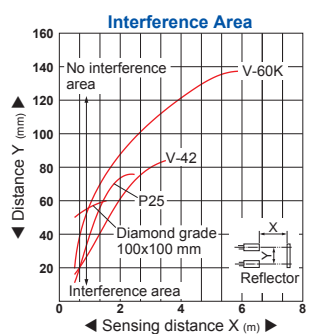
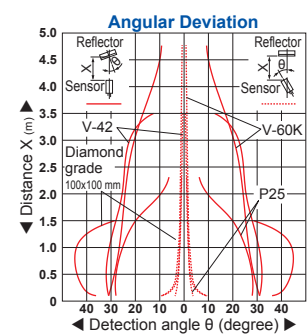
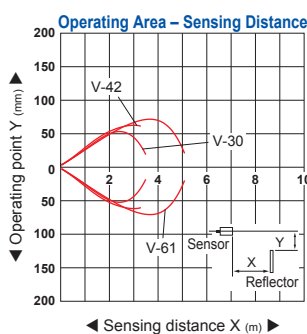
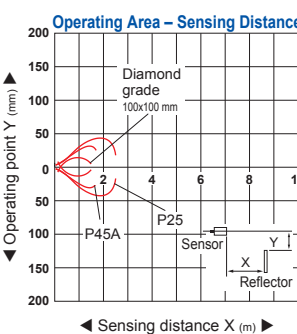
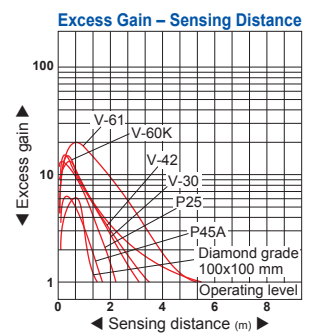
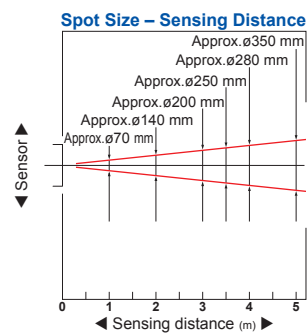
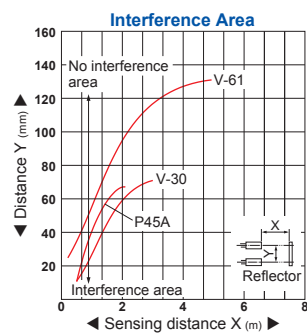
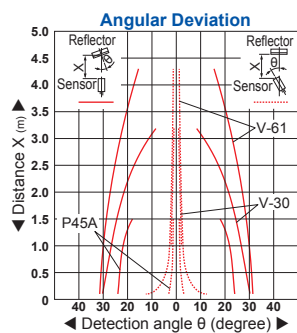
Z3T-2500



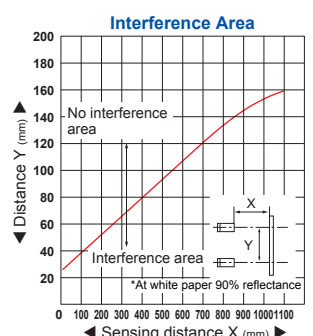
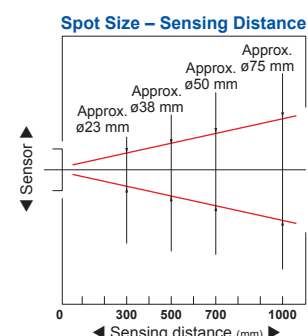
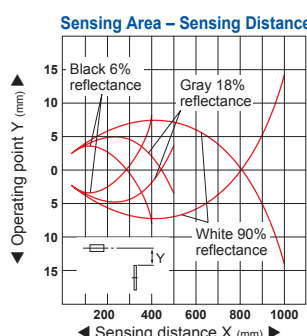
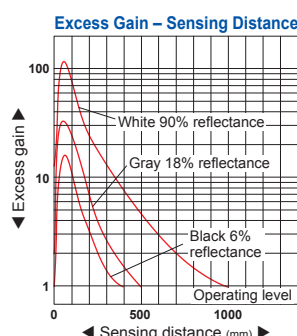
With slit mask attached Z3T-2500



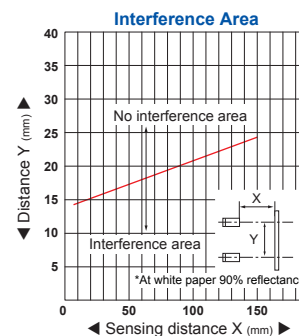
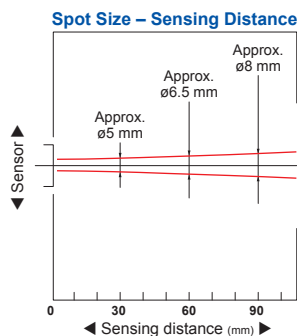
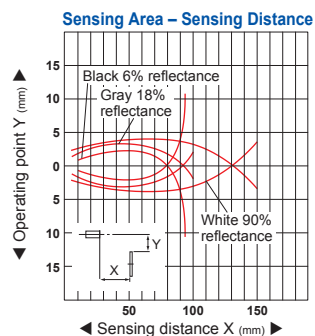
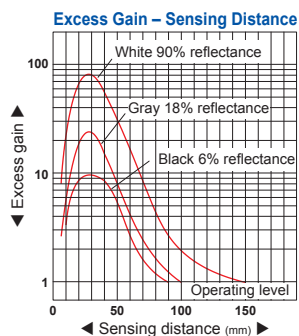
Z3R-400



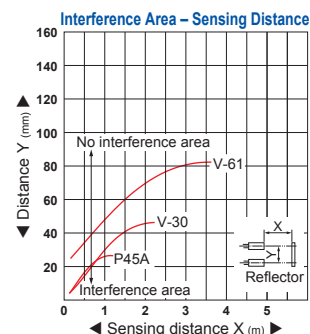
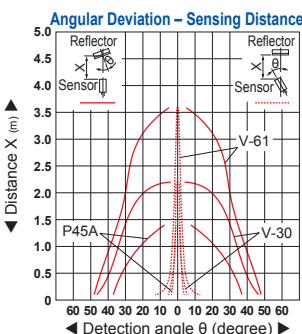
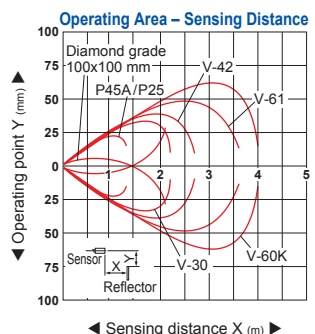
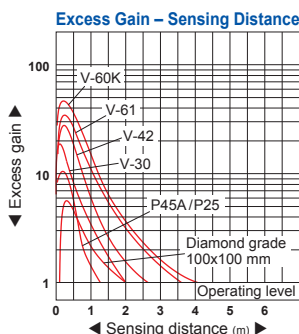
Z3D-100



Z3D-L09

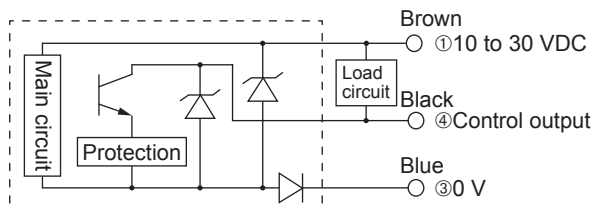


Z3R-Q200

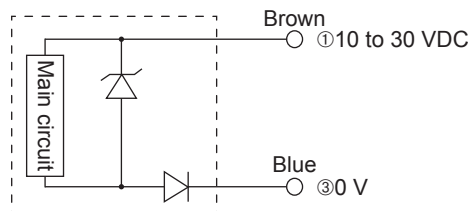


Input and Output Circuit Diagram

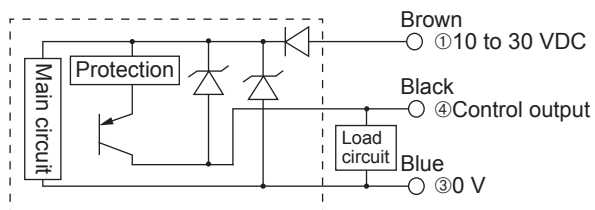
NPN type



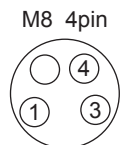
Through beam emitter



PNP type



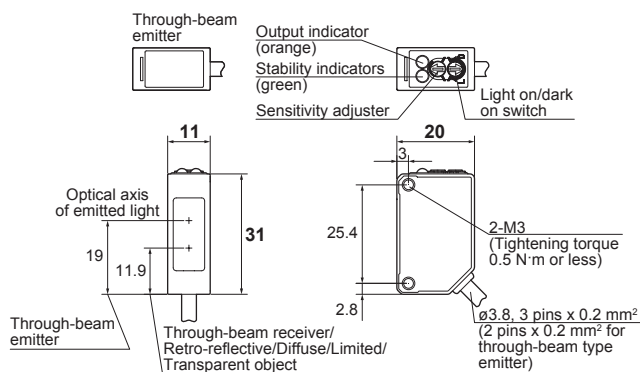
Connector pin No.



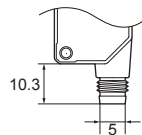
- ① ••• 10 to 30 VDC
- ③ ••• 0 V
- ④ ••• Control output

Dimensions (mm)

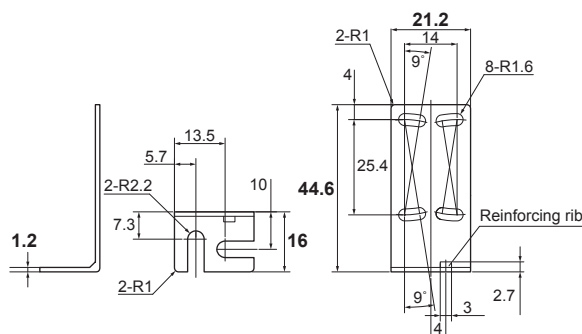
■ Cable type



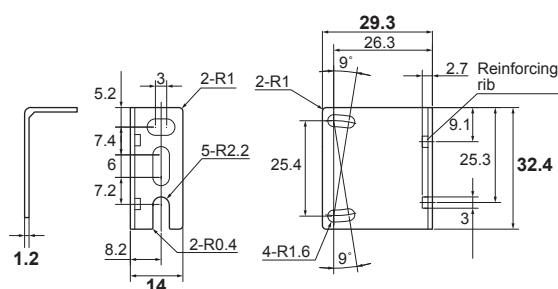
- Connector type



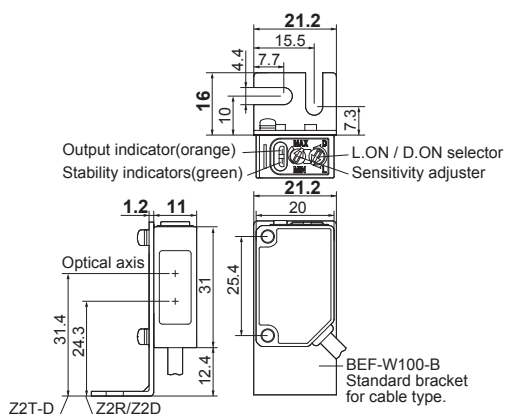
■ Mounting bracket BEF-W100-B For cable type



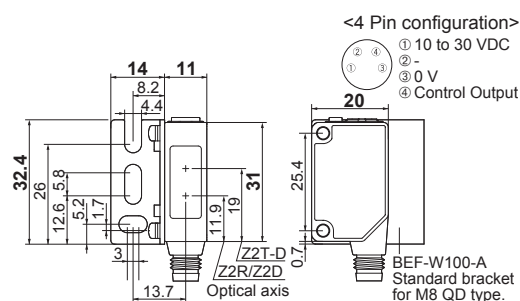
■ Mounting bracket BEF-W100-A For connector type



- Cable type with mounting bracket

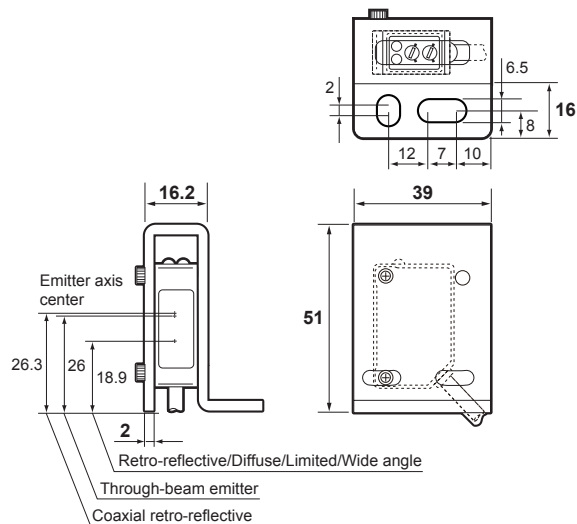


- Connector type with mounting bracket

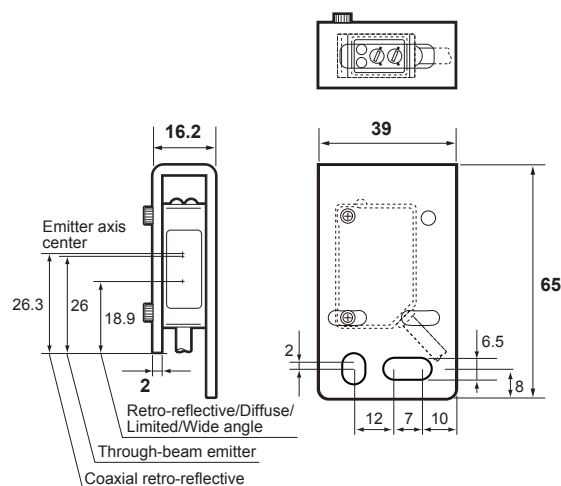


Protective bracket (only for cable type)

■ LK-S01

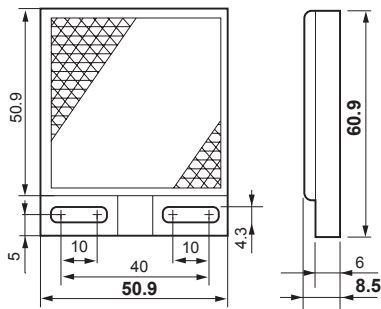


LK-S02

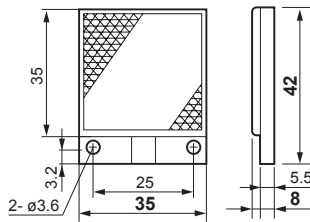


■ Reflectors for LED type (optional)

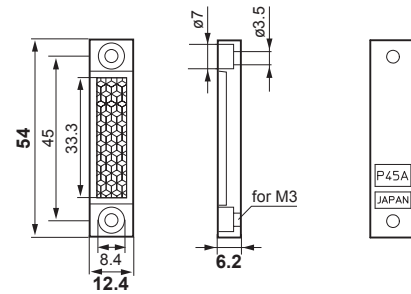
Standard reflector V-61



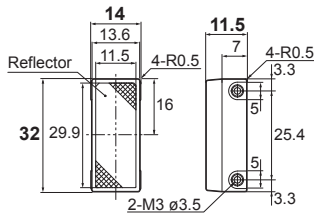
Small reflector V-42



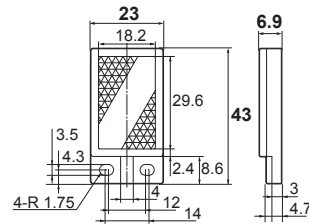
Tiny reflector P45A



■ P25: Ultra-compact reflector (optional)



■ V-30: Ultra-compact reflector (optional)



Optional Products

All optional products are sold separately. Select appropriate options based on sensing distance and installation requirements.

Reflector (required for retro-reflective type)



Standard V-61
60.9 x 50.9 mm
Sensing distance:
Z3R-400□, Z3R-Q200□
0.01 to 4 m



Small V-42
42 x 35 mm
Sensing distance:
Z3R-400□, Z3R-Q200□
0.01 to 2.4 m



Upright P45A
54 x 12.4 mm
Sensing distance:
Z3R-400□, Z3R-Q200□
0.01 to 1.4 m



Side-mounted P25
32 x 14 mm
Sensing distance:
Z3R-400□, Z3R-Q200□
0.01 to 1.6 m



Ultra-small V-30
42 x 23 mm
Sensing distance:
Z3R-400□, Z3R-Q200□
0.01 to 2.2 m

Reflective sheet



Diamond grade sheet
Sensing distance:
Z3R-400□, Z3R-Q200□
0.1 to 1 m
100 x 100 mm (adhesive type)

Mounting bracket



For cable type Floor-mounted BEF-W100-B



For connector type Back-mounted BEF-W100-A
Cannot be used with JCN-□L connector cables.

Connector cable (required for connector type)

Straight



● 2 m JCN-S
● 5 m JCN-5S
● 10 m JCN-10S

L-shaped



● 2 m JCN-L
● 5 m JCN-5L
● 10 m JCN-10L

Protective brackets for cable type

- Ultra-robust 2 mm thick type
- Stainless steel for good rust resistance



LK-S01



LK-S02

Slit mask



Slit mask for through-beam type (adhesive type) BL-W100
Shipped as set containing masks with 0.5 mm, 1.0 mm, and 2.0 mm wide slits x 2 each.

Stainless steel slit mask



Stainless steel slit mask for through-beam type BL-100-M1 BL-100-M05
M1 is 1 mm slit, 05 is 0.5 mm slit x 1 each.

Anti-interference filter



For through-beam type (set of four) BL-100-POLF

■ Specifications

Type			Through-beam type	Retro-reflective type	Diffuse-reflective type	For transparent object detection	Limited-reflective type
Model	NPN	Cable type	Z3T-2500N	Z3R-400N	Z3D-100N	Z3R-Q200N	Z3D-L09N
		Connector type	Z3T-2500CN4	Z3R-400CN4	Z3D-100CN4	Z3R-Q200CN	Z3D-L09CN4
	PNP	Cable type	Z3T-2500P	Z3R-400P	Z3D-100P	Z3R-Q200P	Z3D-L09P
		Connector type	Z3T-2500CP4	Z3R-400CP4	Z3D-100CP4	Z3R-Q200CP4	Z3D-L09CP4
Sensing distance			25 m	0.01 to 4 m*1	0 to 1 m*2	0.01 to 2 m*1	10 to 90 mm*3
Light source			Four-element red LED, wavelength 632 nm				
Spot size			ø1800 mm (at distance of 25 m)	ø280 mm (at distance of 4 m)	ø75 mm (at distance of 1 m)	ø140 mm (at distance of 2 m)	ø8 mm (at distance of 90 mm)
Response time			500 μs or less				
Differential distance			—	—	20% Max.	—	10% Max.
Sensitivity adjustment			Single-turn adjuster				
Indicators			Output display: orange LED, Stability display: green LED (through-beam type emitter has no indicators)				
Control output			NPN/PNP type open collector Max.100 mA/30 VDC				
Operating mode			Light on, Dark on (Selectable by switch)				
Connections			Cable type: cable length 2 m x ø3.8 mm/Connector type: M8 4 pin				
Power supply voltage			10 to 30 VDC Including ripple (P-P) 10%				
Current consumption			Emitter: 20 mA max.	20 mA max.	25 mA max.	20 mA max.	
			Receiver: 15 mA max.				
Operating temperature/humidity			-25°C to +55°C (no freezing)/35 to 85%RH (no condensation)				
Operating illuminance			Sunlight: 10000 lx or less, high-frequency lamp: 3000 lx or less				
Vibration resistance			10 to 55 Hz; double amplitude 1.5 mm; 2 hours in each of the X, Y, and Z directions				
Shock resistance			Approximately 100 G (1000 m/s ²), 3 times in each of the X, Y, and Z directions				
Protection category			IP67				
Material			Housing: ABS Front cover: PMMA				
Weight (excluding cord)			Approximately 10 g				
Included items			Instruction manual (mounting bracket and reflector are not included)				

*1 When using reflector V-61 (optional)

*2 When using 200 x 200 mm square of white paper

*3 When using 100 x 100 mm square of white paper

Attention: Not to be Used for Personnel Protection.

Never use these products as sensing devices for personnel protection. Doing so could lead to serious injury or death. These sensors do not include the self-checking redundant circuitry necessary to allow their use in personnel safety applications. A sensor failure or malfunction can cause either an energized or de-energized sensor output condition. Please consult our distributors about safety products which meet OSHA, ANSI and IEC standards for personnel protection.

- Specifications are subject to change without prior notice.
- Specifications and technical information not mentioned here are written in Instruction Manual. Or visit our website for details.
- All the warnings and cautions to know prior to use are given in Instruction Manual.

