Photoelectric Sensor

FASTUS

Z3 SERIES

- Z3T-2500 □□
- Z3R- 400 □□
- Z3D- 100 □□
- Z3R- Q200 □□
- Z3D- L09 □□

INSTRUCTION MANUAL

● I Please confirm if specifications fulfill your needs.
● I Please read this manual carefully before the use and keep this for future reference.

Safety Precautions

⚠

● It is dangerous to wire or attach/remove the connector with the power on. Make sure to turn off the power before operation.
● Make sure to use the product with the protective cover attached and closed.
● Installing in the following places may result in malfunction:
  1. A dusty or steamy place
  2. A place generating corrosive gas
  3. A place directly receiving scattering water or oil.
  4. A place suff ered from heavy vibration or impact.
● The product is not designed for outdoor use.
● Do not use the sensor in transient state after power on (approx. 100 ms).
● Do not wire with the high voltage cable or the power line. Failure to do this will cause malfunction by induction or damage.
● The sensor performance or digital display values may depend on the individual units or the condition of detected product.
● This product is not an explosion-proof construction. Do not use the product under fl ammable, explosive gas or liquid environment.
● Do not use the product in water.
● Do not disassemble, repair, or convert the product. Failure to do this may cause failure, fi re, or electric shock.
● Operate within the rated range.

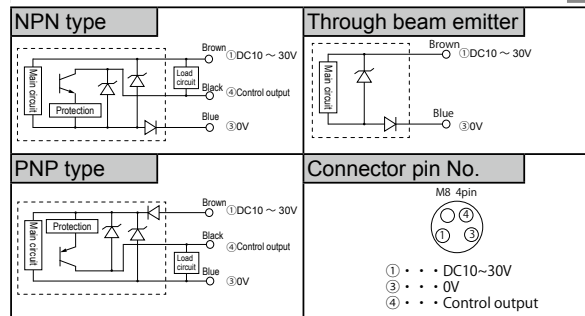**This product cannot be used as a safety device to protect human body.**

SPECIFICATION

		Through	Retro ref.	Diffused ref.	Transparent objects	Limited range
Cable type		Z3T-2500(N/P)	Z3R-400(N/P)	Z3D-100(N/P)	Z3R-Q200(N/P)	Z3D-L09(N/P)
Connector type		Z3T-2500C(N4/P4)	Z3R-400C(N4/P4)	Z3D-100C(N4/P4)	Z3R-Q200C(N4/P4)	Z3D-L09C(N4/P4)
Nominal distance[*1]		25m	0.01~4m	0~1m	0.01~2m	10~90mm
Light Source		Red LED				
Spot size		φ 1800mm /25 m	φ 280mm /4 m	φ 75mm /1200mm	φ 140mm /2 m	φ 8mm /90mm
Supply voltage		DC10 ~ 30V Including ripple (P-P) 10%				
Current consumption	Sender : 20mA max	20mA max	25mA max	20mA max	
	Receiver : 15mA max.				
Response time		500μs max				
Control output		NPN/PNP Open collector 100mA max. / DC30V max. (Residual voltage 1.8V max.)				
Operation mode		Light ON, Dark ON Selectable by switch				
Sensitivity adjustment		1 turn volume				
Indicator		Output indicator (orange LED) / Stable indicator (green LED)				
Ambient temp. ／ humidity		-25 ~ 55℃ /35 ~ 85%RH (No condensation or freezing)				
Storage temp. ／ humidity		-40 ~ 70℃ /35 ~ 95%RH (No condensation or freezing)				
protection category/material		IP67 / Case : ABS , Front Cover : PMMA				

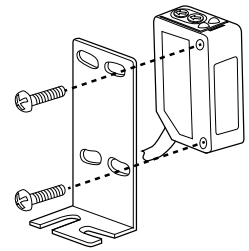[*1] Sensing distance showed in above table is typical value in each type.
  ・ Retro ref. /Transparent objects types：Reflector V-61(option)
  ・ Diffused ref. type：Whtie plate 200x200mm
  ・ Limited range type：White plate 100x100mm

INPUT AND OUTPUT CIRCUIT DIAGRAM

NPN type

Brown ① DC10 ~ 30V
Black ④ Control output
Blue ③ 0V

Through beam emitter

Brown ① DC10 ~ 30V
Blue ③ 0V

PNP type

Brown ① DC10 ~ 30V
Black ④ Control output
Blue ③ 0V

Connector pin No.

M8 4pin

① ・・・ DC10~30V
③ ・・・ 0V
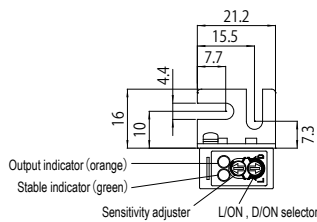④ ・・・ Control output

Attachment

- Tightening torque need to be under 0.5N•m.
- Use M3 screw to mount.

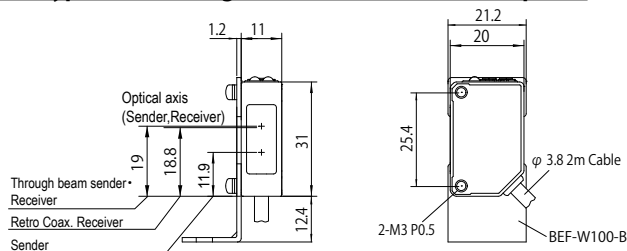## DIMENSIONS
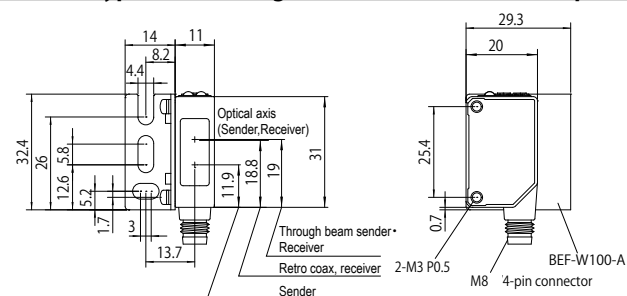
Brackets for installation are optional and not included in this kit.
(Not standard accessory and please purchase if needed.)

Output indicator (orange)
Stable indicator (green)
Sensitivity adjuster   L/ON , D/ON selector

Cable type : When using brackets of BEF-W100-B (option)

Optical axis (Sender,Receiver)
Through beam sender・Receiver
Retro Coax. Receiver
Sender
φ 3.8 2m Cable
2-M3 P0.5
BEF-W100-B

Connector type : When using brackets of BEF-W100-A (option)

Optical axis (Sender,Receiver)
Through beam sender・Receiver
Retro coax, receiver
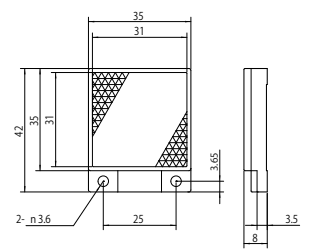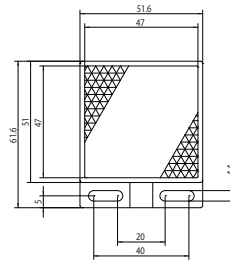Sender
2-M3 P0.5
M8 4-pin connector
BEF-W100-A

Adjusting the potentiometer

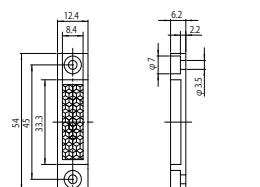| ①	A	Set the detectable object at the detection position and turn the potentiometer from MIN toward MAX until the output indicator(orange) light up. Call it position A.
②	B	Remove detectable object and turn the potentiometer from MAX toward MIN position where the output indicator(orange) is extinguished. Call it position B.
③	A. C. B	Point C midway between A and B is the optimum sensitivity position. The position A and B may reverse by types and detecting situation .

Reflectors（option）

For Retro Reflective use only
Please confirm appropriate type considering sensing distance and conditions to use.
Reflectors are optional and not included in this kit.
(Not standard accessory and please purchase if needed.)

● Standard Type   Type：V-61
  Sensing distance：0.01~4m(Retro Reflective Type)

● Small reflector   Type：V-42
  Sensing distance：0.01~2.4m(Retro Reflective Type)

● Small reflector   Type：P-45A
  Sensing distance：0.01~1.4m(Retro Reflective Type)

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