

IMS



E3ZT-□□□□

INSTRUCTION MANUAL

! WARNING

Thank you for selecting IMS product. This sheet primarily describes precautions required in installing and operating the product. Before operating the product, read the sheet thoroughly to acquire sufficient knowledge of the product. For your convenience, keep the sheet at your disposal.

! CAUTION

Failure to follow these instructions may result in serious injury or death :
Fail-safe device must be installed when using the unit with machinery that may cause serious injury or substantial economic loss. (e.g. nuclear power control, medical equipment, ships, vehicles, railways, aircraft, combustion apparatus, safety equipment, crime/disaster prevention devices, etc.)
Failure to follow these instructions may result in product damage :
Do not use this unit over rated voltage ;
Do not use this unit where there is flammable or explosive gas ;
Do not use this unit where there is vibration or impact ;
In cleaning the unit, do not use water or an oil-based detergent.

■ Features

- High performance ASIC based advance sensor
- Long product life time, 5us modulated pulse with 1/10 duty cycle reduced aging of LED
- Build in 100ms power on delay, self-recover short circuit protection, reverse polarity, over voltage protection
- Excellent noise immunity to DC light with modulated light source and CDS signal process technology
- Mode selection for light on and dark on
- Visible super bright red light for easy alignment
- Distance adjustable
- IP65 grade

■ Ordering information

E3ZT D 1 M - N L T - C - (Light source code)

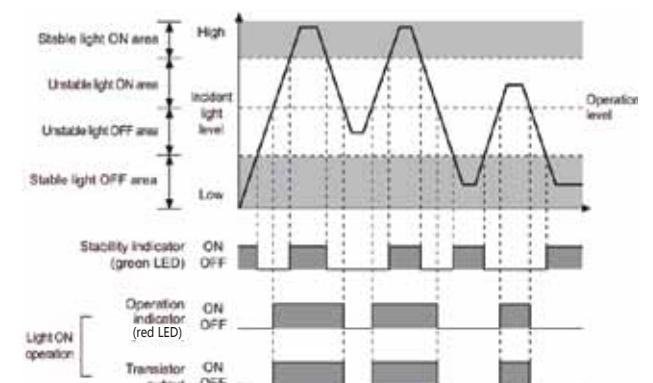
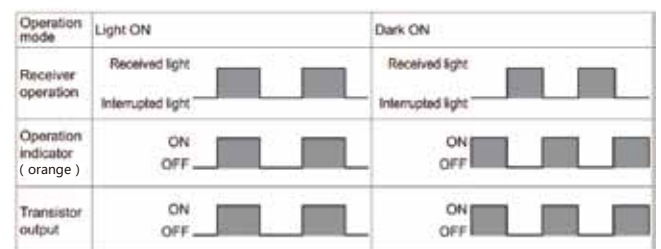
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■ Specifications

Sensing method		Diffuse reflective		Retro-reflective	
Model	NPN	E3ZT-D500NST	E3ZT-D1mNST	E3ZT-R2mNST	E3ZT-B500NST*(1)
	PNP	E3ZT-D500PST	E3ZT-D1mPST	E3ZT-R2mPST	E3ZT-B500PST
Sensing distance		500mm	1m	2m	500mm
Standard sensing object		White paper 300*300mm		Opaque: 50mm dia.	500ml transparent round bottle
Hysteresis		Max. 20% at rated sensing distance		—	—
Blind area		10mm		—	—
Light source		Red LED	Infrared	Red LED	Red LED
Power supply		10~24VDC (voltage ripple of 10%(p-p)max.)			
Current consumption		Max. 25mA			
Load current		Max. 100mA			
Operation mode		Selectable light on or dark on by key			
Indicators		Operation indicator: red, stability indicator: green			
Circuit protection		Power supply reverse polarity protection, Output short-circuit protection, and Output reverse polarity protection			
Response time		1ms			
Sensitivity adjustment		Key			
Ambient illumination		Incandescent lamp: Max. 3,000lx/Sunlight: Max. 10,000lx			
Ambient temperature		Operation: -25 ~ 55 °C/Storage: -25 ~ 65 °C (with no icing and condensation)			
Ambient humidity		Operation: 35 ~ 85 %/Storage: 35% ~ 95% (with no condensation)			
Insulation resistance		Min. 20MΩ (500VDC)			
Dielectric strength		1,000 VAC at 50/60 Hz for 1 min. between current-carrying parts and case			
Vibration resistance		1.5mm amplitude at frequency of 10 to 55Hz in each of X,Y,Z direction for 2 hours			
Shock resistance		500m/s ² in X,Y,Z directions for 3 times			
Protection Degree		IEC: IP65			
Connection method		Cable			
Line color definition		Brown: 10~24VDC, Blue: GND, Black: output			
Weight		Approx. 50g			
Material	Case	PBT			
	Lens	PMMA			

*(1) E3ZT-B is for transparent objects detection.

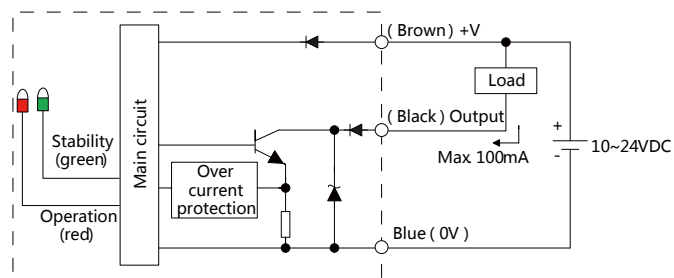
■ Operating timing diagram



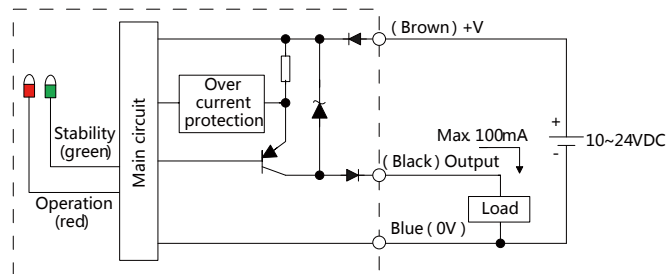
※ The waveforms of " Operation indicator " and " Transistor output " are for Light on mode.

Control output circuit diagram

• NPN open collector output



• PNP open collector output



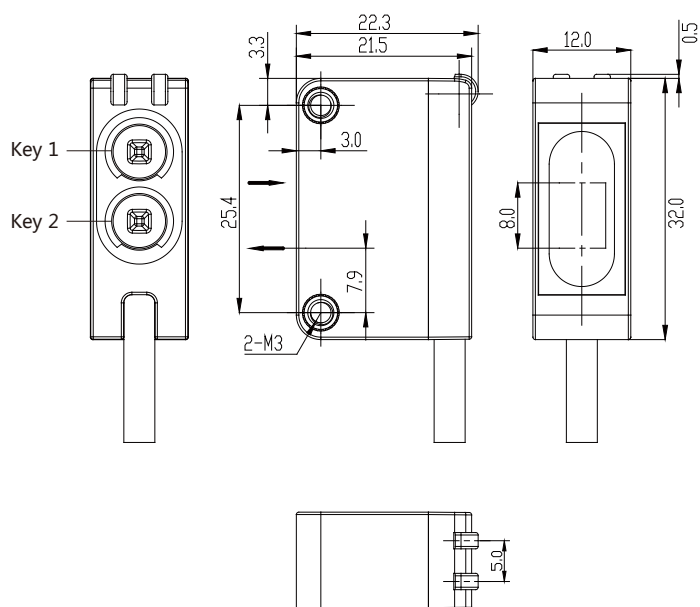
Caution for using

1. Please make sure the wiring is correct before power-on.
2. Use a visor or a hood so that excessive light (e.g. sunlight, spotlight) does not directly enter into the inclination angle of the sensor.
3. When more than 2 sets of Through-beam type sensor are used closely, it might cause interference each other. Be sure to put enough space between them in order to avoid malfunction.
4. When more than 2 sets of diffuse reflective beam type or narrow beam reflective type are installed adjacently, it can occur malfunction by light beam from the other target. So it must be installed at an enough interval.
5. If the sensor is installed directly on a flat surface, the reflection off the surface may cause malfunction. Make sure there is enough space between the sensor and the surface.
6. If the sensor is wired with a high voltage line or power line, it may cause product damage or malfunction. Use separate wiring or a dedicated conduit.
7. Please use short cables for wiring the sensors. Power surge from extended wiring may cause product malfunction ;
8. When the lens is stained by foreign substances, clean the lens lightly with dry cloth. Do not use chemical or organic solvents.

Main product

- Photoelectric sensor
- Light curtain
- Proximity sensor
- Pressure sensor
- Counting sensor
- Distance sensor
- Liquid level sensor
- Label sensor
- Hall sensor
- Pressure meter
- Counting machine
- Dust sensor

Dimensions



Key 1: adjust sensing distance

Long press to 3 seconds: enter to auto-adjustment mode

Short press: increase sensing distance shortly

Key 2: switch operation mode

Long press to 3 seconds: switch light on or dark on

Short press: decrease sensing distance shortly

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