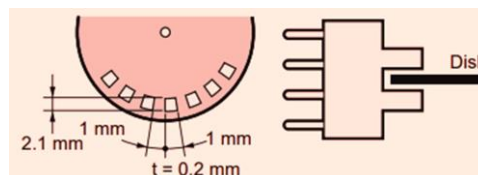


Ratings and Specifications

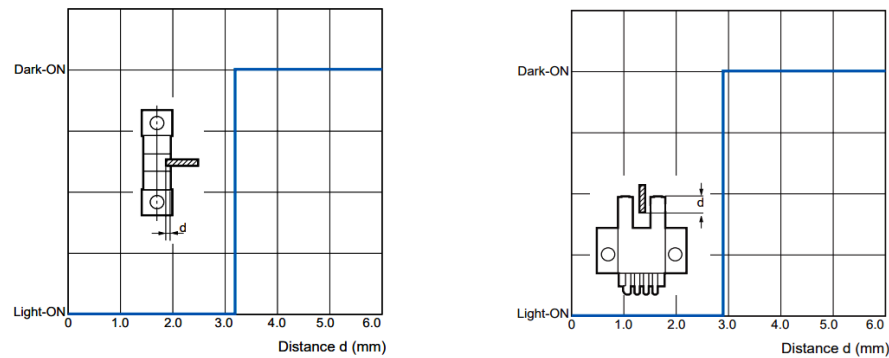
Economic type/ photoelectric sensor/ U-slot Sensor				
Item	NPN models	ZT-OE677	ZT-OE677A	ZT-OE477
	PNP models	ZT-OE677P	ZT-OE677R	
Sensing distance		5 mm (slot width)		
Sensing object		Opaque: 2 X1.2 mm		
Differential distance		0.025 mm		
Light source		Infrared LED with a peak wavelength of 940 nm		
Indicator *1		Light indicator (red) (turns ON when light is interrupted for models with A or R suffix)		
Supply voltage		5 to 24 VDC $\pm 10\%$, ripple (p-p): 10% max.		
Current consumption		12 mA max		
Control output		NPN open collector: 5 to 24 VDC, 100 mA max. 100 mA load current with a residual voltage of 0.8 V max. 40 mA load current with a residual voltage of 0.4 V max. OFF current (leakage current): 0.5 mA max. PNP open collector: 5 to 24 VDC, 50 mA max. 50 mA load current with a residual voltage of 1.3 V max. OFF current (leakage current): 0.5 mA max.		
Protection	Power polarity	Yes, The sensor will not be damaged and will stop working if the power supply polarity is connected reversely.		
	Load short	Yes, The sensor will remain intact and stop operating when the load circuit is short-circuited.		
Warning		Yes, An orange indicator light turns on to give an alarm when the sensor load circuit is short-circuited.		
Response frequency *2		Above 2KHz		
Ambient illumination		1,000 lx max. with fluorescent light on the surface of the receiver.		
Ambient temperature range		Operating: -25 to $+55^{\circ}\text{C}$, Storage: -30 to $+70^{\circ}\text{C}$ (with no icing or condensation)		
Ambient humidity range		Operating: 5% to 85%, Storage: 5% to 95% (with no icing or condensation)		
Vibration resistance		Destruction: 20 to 2,000 Hz (peak acceleration: 100 m/s^2) 1.5-mm double amplitude for 2 h (4-min periods) each in X, Y, and Z directions		
Shock resistance		Destruction: 500 m/s^2 for 3 times each in X, Y, and Z directions		
weight		Approx. 3.1 g		
Material	Case	Polybutylene phthalate (PBT)		
	Cover	Polycarbonate		

*1. The indicator is a GaP red LED.

*2. The response frequency was measured by detecting the rotating disk shown at the right.



Sensing Position Characteristics



Note: The data applies to dark status. Operation may be affected by external light interference or light coming through the sensing object.

Timing charts& Circuit Diagrams

NPN output

Model	Output Mode	Timing charts	Pin Description	Output circuit
ZT-OE677	Light-ON		Short-circuited between “L” terminal and positive “+” terminal *1 *2	
	Dark-ON		Open between “L” terminal and positive “+” term	
ZT-OE677A	Light-ON		Short-circuited between “L” terminal and positive “+” terminal	*The terminal arrangement depends on the model. Check the dimensional diagrams.
	Dark-ON		Open between “L” terminal and positive “+” terminal *1 *2	
ZT-OE477	Light-ON		—	

*1. Do not connect the L terminal to 0 V when using dark-ON operation.
*2. If you do not use the L terminal wire ((2) pink or white) when you use a Connector with Cable for an EE-1006 or EE-1010-series Photoelectric, noise may affect the Photoelectric sensor. To prevent the effects of noise, cut the unused L terminal wire at the base of the connector and wrap it with insulating tape to prevent it from coming in contact with other terminals.

Model	Output Mode	Timing charts	Pin Description	Output circuit
ZT-OE677P	Light-ON		Short-circuited between "L" terminal and positive "+" terminal	
	Dark-ON		Open between "L" terminal and positive "+" terminal	
ZT-OE677R	Light-ON		Short-circuited between "L" terminal and positive "+" terminal	
	Dark-ON		Open between "L" terminal and positive "+" terminal *1 *2	

*1. Do not connect the L terminal to 0 V when using dark-ON operation.
*2. If you do not use the L terminal wire ((2) pink or white) when you use a Connector with Cable for an EE-1006 or EE-1010-series Photoelectric sensor, noise may affect the Photoelectric sensor. To prevent the effects of noise, cut the unused L terminal wire at the base of the connector and wrap it with insulating tape to prevent it from coming in contact with other terminals.

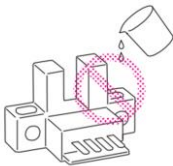
Safety Precautions

Refer to Warranty and Limitations of Liability.

WARNING
This product is not designed or rated for ensuring safety of persons either directly or indirectly.
Do not use it for such purposes.

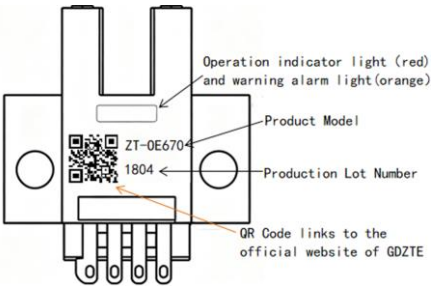
Precautions for Safe Use

Operating Environment
These sensors have an IP50 (conforms to IEC) enclosure and do not have a water-proof or dust-proof structure. Therefore, do not use them in applications in which the sensor will be subjected to splashes from water, oil, or any other liquid. Liquid entering the Sensor may result in malfunction.



Precautions for Correct Use

Make sure that this product is used within the rated ambient environment conditions.
Installation
When direct soldering to the terminals, Keep the soldering iron temperature steadily below 330°C, and complete soldering within 3 seconds.
The terminal base uses a polycarbonate resin, which could be deformed by excessive soldering heat, resulting in damage to the product's functionality.
Lot Number and Model Number Legend
In the following diagrams, ZT363 indicates the lot number and factory where the product was manufactured. Do not include this code with the model number when ordering.



Terms and Conditions Agreement

Thank you for your interest in GDZTE brand sensor products. Prior to purchase, please read and fully understand all technical specifications of the products, and verify that your requirements are consistent with the published specifications of GDZTE.

1. Warranty Terms

1.1 Exclusive Warranty

GDZTE warrants its products for twelve (12) months from the date of product delivery, or for such other period as otherwise agreed in writing by GDZTE.

1.2 Limitation of Liability

GDZTE shall not be liable for any express or implied warranty claims if the products are free from defects in materials, workmanship and electrical parameters.

GDZTE makes no express or implied representations or warranties regarding third-party intellectual property infringement, merchantability or fitness for a particular purpose of the products. The Buyer acknowledges that it shall independently determine whether the purchased products meet actual application requirements.

GDZTE shall assume no warranty liability or related obligations for any claims, costs arising from intellectual property infringement involving the products or other circumstances.

1.3 Repair Solutions

GDZTE reserves the right to choose one of the following remedies for non-conforming products under these terms:

- (1) Replace the non-conforming product in accordance with the original delivery specifications; labor costs arising from product disassembly and installation shall be borne by the Buyer;
- (2) Repair the non-conforming product;
- (3) Refund the payment for the non-conforming product or deduct the equivalent amount from the Buyer's account.

Prerequisite: GDZTE shall only perform the above obligations after inspection confirms that the product has been properly transported, stored, installed and maintained, and has not been contaminated, manually damaged, improperly used or arbitrarily modified. Otherwise, GDZTE shall be released from all liabilities including warranty, repair, compensation and other related claims and expenses for such product. The Buyer must obtain prior written approval from GDZTE before returning any products.

GDZTE accepts no liability for the compatibility or operating performance of the products when used with electrical and electronic components, circuits, system assemblies or other materials and media, or operated in specific environments. All advice and reference information provided verbally or in writing by GDZTE shall not be deemed as amendments or supplements to these warranty terms.

For public documents, please visit GDZTE official website: <http://www.gdztesensor.top>

2. Restrictions and Other Provisions

Whether claims are raised based on contract, warranty, negligence or strict liability, GDZTE and its affiliates shall not be liable for any special, indirect, incidental, consequential loss, loss of profit, production downtime loss or other operational losses arising in connection with the products.

In addition, the total compensation liability of GDZTE shall not exceed the unit selling price of the involved product.

3. Compatibility Statement

If the Buyer uses the products together with other equipment, GDZTE shall not be responsible for the compliance of the complete equipment with applicable standards, codes and regulations. The above documents alone cannot determine the product compatibility with terminal

equipment, machinery, systems and other application scenarios. The Buyer shall independently assess and take full responsibility for the product compatibility with its own application scenarios, finished products and systems.

The products are prohibited from being used in scenarios with significant risks to personal and property safety. For bulk deployment, the complete system must be equipped with complete risk protection design, and the rated parameters and installation methods of GDZTE products shall fully meet the operational requirements of the overall equipment and system.

4. Performance Specifications Statement

All data published on GDZTE official website, product catalogs and other materials are for reference only during product selection and do not constitute any product warranty commitment. Such data is obtained under GDZTE's test environment, and the Buyer shall compare it with actual operating conditions. The actual performance of the products is subject to the foregoing warranty

and liability limitation clauses.

5. Specification Changes

Product specifications and accessories may be adjusted at any time for product optimization and other reasons. In general, GDZTE will update product models synchronously if there are major changes to rated parameters, functions or main structures. Partial adjustments to product specifications will be made without prior notice.

If you require fixed key parameters for long-term use, you may apply for dedicated model specification locking, including ODM or customization services. To confirm the actual specifications of purchased products, please contact GDZTE sales representatives to sign a written confirmation document.

6. Disclaimer for Errors and Omissions

GDZTE and its affiliates have carefully reviewed all published information to ensure accuracy, but accept no liability for errors or omissions occurring during data entry, typesetting and proofreading.

Product specifications are subject to change for continuous performance optimization without prior notice.

Guangdong Zhongtai Electromechanical Technology Co., Ltd., China
Sensor Division

Website: <http://www.gdztesensor.top/> Copyright © 2026 GDZTE. All Rights Reserved.