

Company introduction

Wenzhou Gtric Technology Co., Ltd. is located in Yueqing IoT sensors Park, which covers 5,000 square meters, with over 100 employees. We are focuses on intelligent manufacturing and industrial automation, our main businesses are sensors, encoders, button switch, coupling, expansion set and other industrial automation products, providing standard and individual products and solutions for customers.

Our products cover over 20 series, 1000specificatison, which have passed CCC, CE, UL, ISO9001 certification as well as EU RoHS Environmental Directives.

Based on our technical advantages, Gtric can provide industrial automation solution according to customers' requirements.

**We support OEM & ODM, if you need
please feel free to contact us**



Installation conditions

Non shielded proximity switches can achieve maximum operating distance (with the diameter of the relevant); but in order to prevent the switch around the metal impact on the switch, the sensor head must be in a certain gap with the surrounding metal (Figure 1).

Due to the special shielding effect inside the shield, the radial magnetic field of the side is reduced, and the induction distance is about 60% of the non shield type, because it can be flush mounted in the metal (Figure 2).

The magnetic sensor is not affected by the conditions of installation, as long as the material around the material is not magnetized.



Output mode and electrical characteristics

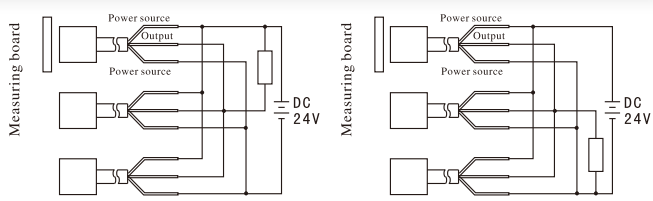
<p>DC 2-wire system NO or NC</p> <p>The load must be connected in series in the sensor to work, there is a polarity and short circuit protection function; in the open circuit state, there is a very small leakage current; in the closed circuit, the switching element has a smaller voltage drop.</p>	<div></div> <div><p>Detection object</p><p>Load</p><p>Indicator detected</p></div> <div><table><tr><td>Yes</td><td>NO</td><td>NC</td></tr><tr><td>No</td><td></td><td></td></tr><tr><td>Action</td><td></td><td></td></tr><tr><td>Reset</td><td></td><td></td></tr><tr><td>ON</td><td></td><td></td></tr><tr><td>OFF</td><td></td><td></td></tr></table></div>	Yes	NO	NC	No			Action			Reset			ON			OFF																				
Yes	NO	NC																																			
No																																					
Action																																					
Reset																																					
ON																																					
OFF																																					
<p>DC 3-wire system(N,P type) NO or NC</p> <p>These switches are connected to the load and power supply separately; the polarity, short circuit and overload protection function, and the residual current can be ignored.</p>	<div></div> <div><p>Detection object</p><p>Load</p><p>Indicator detected</p></div> <div><table><tr><td>Yes</td><td>NO</td><td>NC</td></tr><tr><td>No</td><td></td><td></td></tr><tr><td>Action</td><td></td><td></td></tr><tr><td>Reset</td><td></td><td></td></tr><tr><td>ON</td><td></td><td></td></tr><tr><td>OFF</td><td></td><td></td></tr></table></div> <div></div> <div><p>Detection object</p><p>Load</p><p>Indicator detected</p></div> <div><table><tr><td>Yes</td><td>NO</td><td>NC</td></tr><tr><td>No</td><td></td><td></td></tr><tr><td>Action</td><td></td><td></td></tr><tr><td>Reset</td><td></td><td></td></tr><tr><td>ON</td><td></td><td></td></tr><tr><td>OFF</td><td></td><td></td></tr></table></div>	Yes	NO	NC	No			Action			Reset			ON			OFF			Yes	NO	NC	No			Action			Reset			ON			OFF		
Yes	NO	NC																																			
No																																					
Action																																					
Reset																																					
ON																																					
OFF																																					
Yes	NO	NC																																			
No																																					
Action																																					
Reset																																					
ON																																					
OFF																																					
<p>AC 2-wire system NO or NC</p> <p>The load must be connected in series in the sensor, in the closed circuit, the switching element has a smaller voltage drop.</p>	<div></div> <div><p>Detection object</p><p>Load</p><p>Indicator detected</p></div> <div><table><tr><td>Yes</td><td>NO</td><td>NC</td></tr><tr><td>No</td><td></td><td></td></tr><tr><td>Action</td><td></td><td></td></tr><tr><td>Reset</td><td></td><td></td></tr><tr><td>ON</td><td></td><td></td></tr><tr><td>OFF</td><td></td><td></td></tr></table></div>	Yes	NO	NC	No			Action			Reset			ON			OFF																				
Yes	NO	NC																																			
No																																					
Action																																					
Reset																																					
ON																																					
OFF																																					
<p>DC 4-wire system (NPN,PNP Type) NO+NC</p> <p>Sensor switches can provide 2 groups of output NO+NC</p>	<div></div> <div><p>Detection object</p><p>Load</p><p>Indicator detected</p></div> <div><table><tr><td>Yes</td><td>NO</td><td>NC</td></tr><tr><td>No</td><td></td><td></td></tr><tr><td>Action</td><td></td><td></td></tr><tr><td>Reset</td><td></td><td></td></tr><tr><td>ON</td><td></td><td></td></tr><tr><td>OFF</td><td></td><td></td></tr></table></div> <div></div> <div><p>Detection object</p><p>Load</p><p>Indicator detected</p></div> <div><table><tr><td>Yes</td><td>NO</td><td>NC</td></tr><tr><td>No</td><td></td><td></td></tr><tr><td>Action</td><td></td><td></td></tr><tr><td>Reset</td><td></td><td></td></tr><tr><td>ON</td><td></td><td></td></tr><tr><td>OFF</td><td></td><td></td></tr></table></div>	Yes	NO	NC	No			Action			Reset			ON			OFF			Yes	NO	NC	No			Action			Reset			ON			OFF		
Yes	NO	NC																																			
No																																					
Action																																					
Reset																																					
ON																																					
OFF																																					
Yes	NO	NC																																			
No																																					
Action																																					
Reset																																					
ON																																					
OFF																																					
<p>DC 4-wire system (NPN,PNP Type) NO/NC</p> <p>The switches can provide two groups of output NO or NC</p>	<div></div> <div><p>Detection object</p><p>Load</p><p>Indicator detected</p></div> <div><table><tr><td>Yes</td><td>NO</td><td>NC</td></tr><tr><td>No</td><td></td><td></td></tr><tr><td>Action</td><td></td><td></td></tr><tr><td>Reset</td><td></td><td></td></tr><tr><td>ON</td><td></td><td></td></tr><tr><td>OFF</td><td></td><td></td></tr></table></div> <div></div> <div><p>Detection object</p><p>Load</p><p>Indicator detected</p></div> <div><table><tr><td>Yes</td><td>NO</td><td>NC</td></tr><tr><td>No</td><td></td><td></td></tr><tr><td>Action</td><td></td><td></td></tr><tr><td>Reset</td><td></td><td></td></tr><tr><td>ON</td><td></td><td></td></tr><tr><td>OFF</td><td></td><td></td></tr></table></div>	Yes	NO	NC	No			Action			Reset			ON			OFF			Yes	NO	NC	No			Action			Reset			ON			OFF		
Yes	NO	NC																																			
No																																					
Action																																					
Reset																																					
ON																																					
OFF																																					
Yes	NO	NC																																			
No																																					
Action																																					
Reset																																					
ON																																					
OFF																																					
<p>NO+NC Ac/Dc five wire (relay output) NO + NC</p> <p>These switches can provide to often open, closed two group relay output.</p>	<div></div> <div><p>Detection object</p><p>Load</p><p>Indicator detected</p></div> <div><table><tr><td>Yes</td><td>NO</td><td>NC</td></tr><tr><td>No</td><td></td><td></td></tr><tr><td>Action</td><td></td><td></td></tr><tr><td>Reset</td><td></td><td></td></tr><tr><td>ON</td><td></td><td></td></tr><tr><td>OFF</td><td></td><td></td></tr></table></div>	Yes	NO	NC	No			Action			Reset			ON			OFF																				
Yes	NO	NC																																			
No																																					
Action																																					
Reset																																					
ON																																					
OFF																																					

Sensor characteristics

GTRIC®

❖ Series and parallel connection of proximity switch

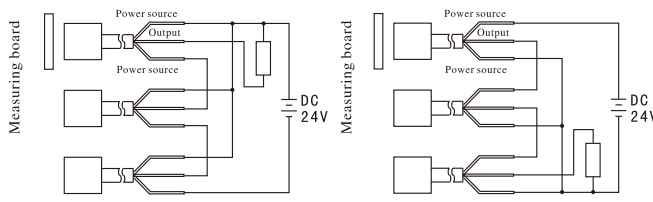
OR connection (NPN and PNP types can be used mixed) series When the proximity switch is OR connected, the action of any proximity switch can drive load. The quantity of the proximity switches depends on the sum of leakage current. More connections are available given that it doesn't affect the loading action.



OR connection of NPN output OR connection of PNP output

❖ AND connection (series)

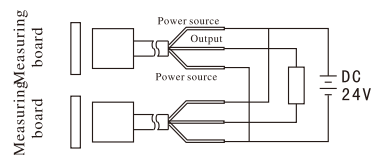
When the proximity switch is AND connected, the action of all proximity switches can drive load. The quantity of the proximity switches depends on the sum of saturation voltage. More connections are available given that it doesn't affect the supply voltage of the proximity switch. The response frequency of the proximity switch is the accumulation of initialized reset of various proximity switch.



NPN connection of AND output PNP connection of AND output

❖ Series and parallel connection of proximity switch

AND connection (series) NPN, PNP mixed—use



Promixity switches matters need attention

❖ Cautions when connected or disconnected with the power supply

When connecting the proximity switch with the counter and the programmable controller, there isn't any problem because of the built-in initialized reset circuit. Please avoid the conditions mentioned below

The detection object lies around the detection distance of the proximity switch; For DC voltage type and DC switch type, when power supply is turned on (turned off), time constant rises (drops) greatly; There is self-excitation and noise when the AC switch type proximity switch is power-on (off)

❖ Capacitor, light load

The proximity switch can't have the capacitor or light that has larger jumping current as the load directly connected to be connected through a relay or series connected with a current-limiting resistance. The peak current set by current-limiting resistance R is within the load current of the proximity switch; Make sure to connect through load.

Supply voltage V

Peak load current value of proximity switch mA

≤R(KΩ)

Allowable loss of resistance R (W)

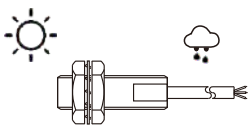
Supply voltage V²

≤R(KΩ)

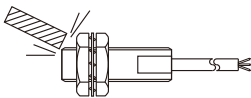
× 2 times above

❖ Installation notice of proximity switch

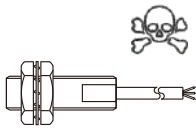
Don't use it in the open air, and use a protective cover, if necessary.



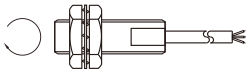
Don't knock the detection surface with hard objects and use a protective cover, if necessary.



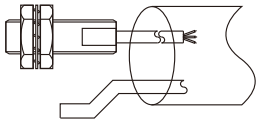
Don't use it in the environment with corrosive objects.



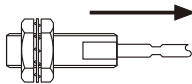
Don't fasten it with a big force, but fasten it with spring washer



The proximity switch must be equipped individually with metal flexible pipe, and don't make it with the electric line and power line in the same metal flexible pipe



Don't stretch the power line of the proximity switch with a big force.



- ❖ Intermediate relay output extends sensor service life
- ❖ Dual potentiometers can adjust the sensing distance and NO or NC
- ❖ Multiple specifications of sensing distance are available



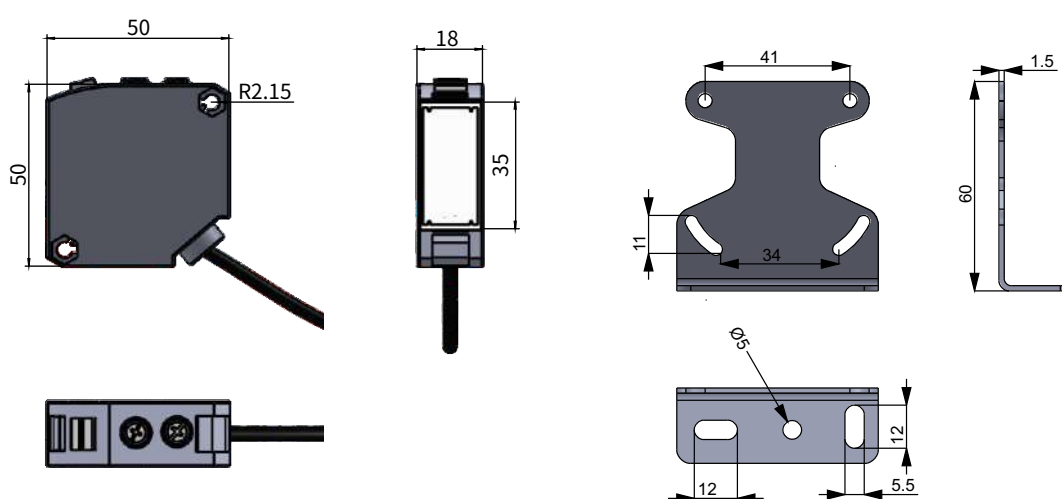
Specifications

GTRIC

Model	Specifications		
	E3JK-DR11	E3JK-RR11	E3JK-TR11
	E3JK-DR12	E3JK-RR12	E3JK-TR12
Detection type	Diffuse reflection	Retro-refective	Through-beam
Sensing distance	E3JK-DR11:30CM-2M	E3JK-RR11:0-7M	E3JK-TR11:40M
Sensing distance	E3JK-DR12:15-50CM	E3JK-RR12:0-4M	E3JK-TR12:15M
Supply voltage	24-230V AC/DC universal		
Operation mode	Light-ON/Dark-ON selectable		
Light source	Red LED (624 nm)		
Directional angle	1.5°min		
Ccontrol output	5-wire Relay output		
Power consumption	2 W max.		
Life expectancy (relay output)	Electrical: 100 thousand times or more (switching frequency 1800 times/hour) Mechanical: 50 million times or more (switching frequency 18000 times/hour)		
Response time	20 ms max		
Sensitivity setting	Single-turn adjustment		
Ambient illuminance	Incandescent lamp: 3.000 x ;Sunlight: 11.000 1x		
Degree of protection	IP64		
Indicator	Operation indicator (orange), Stability indicator (green)		
Connection method	Pre-wired models (Cable length 2 m)		

Dimension

GTRIC®





Wenzhou Gtric Technology Co., Ltd.

Wenzhou Gtric Technology Co., Ltd.
TEL:0577-62734566
Web:<http://www.gtric.com>
Mail:yaohaofeng@gtric.com