

# SENSOR PRODUCTS SELECTION MANUAL



# 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





#### Sensor characteristics

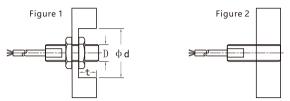
### GTRIC

#### Installation conditions

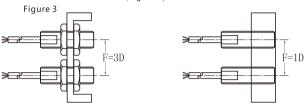
Non shielded proximity switches can achieve maximum operating distance (with the diameter of the relevant); but in order to prevent the switch around the metal impact on the switch, the sensor head must be in a certain gap with the surrounding metal (Figure 1).

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.



In order to prevent mutual interference, we must keep the minimum distance between each other (Figure 3).



Please refer to the specific data of various types of instructions.

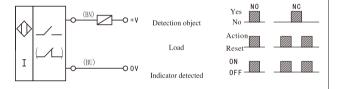
#### Sensor characteristics



#### Output mode and electrical characteristics

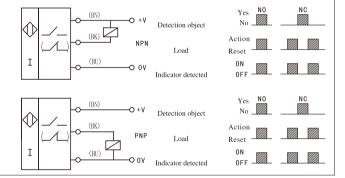
#### DC 2-wire system NO or NC

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.



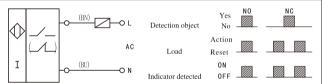
#### DC 3 -wire system(N,P type) NO or NC

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.



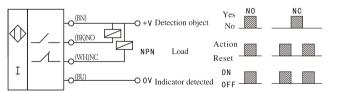
#### AC **2** -wire system NO or NC

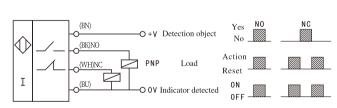
The load must be connected in series in the sensor, in the closed circuit, the switching element has a smaller voltage drop.



#### DC 4-wire system (NPN,PNP Type) NO+NC $\,$

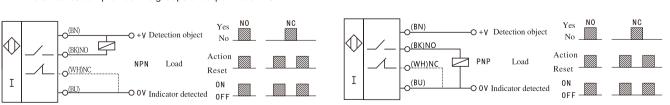
Sensor switches can provide 2 groups of output NO+NC



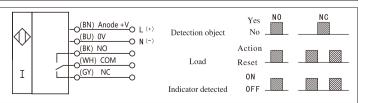


#### DC ${f 4}$ -wire system (NPN,PNP Type) NO/NC

The switches can provide two groups of output NO or NC



NO+NC Ac/Dc five wire (relay output) NO + NC
These switches can provide to often open, closed two group relay output.





#### Sensor characteristics

## GTRIC

OR connection of PNP output

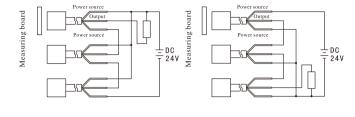
PNP connection of AND output

#### 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.

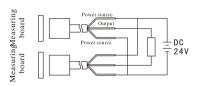
#### \* AND connection (series)

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.



Series and parallel connection of proximity switch

AND connection (series) NPN, PNP mixed-use



NPN connection of AND output

OR connection of NPN output

#### Promixity switches matters need attention

#### Cautions when connected or disconnected with the power supply

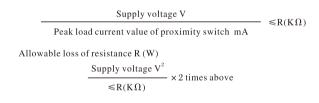
When connecting the proximity switch with the counter and the programmable controller, there isn't any problem because of the built-in initialized reset circui Please avoid the conditions mentioned below

Measuring board

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)

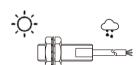
#### Capacitor, light load

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 cuttent set by current-limiting resistance Ris within the load cuttent of the procimity switch; Make sure to connect through load.

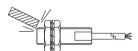


#### installation notice of proximity switch

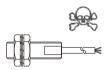
Don't use it in the open air, and use a protective cover, if necessary.



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



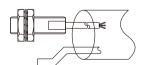
Don't use it in the environment with corrosive objects.



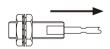
Don't fasten it with a big force, but fasten it with spring washer



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.





- Small size, suitable for all kinds of small space occasions



Selection Guide					GTRIC	
LS	06	— D	20M	N	1	
1	2	3	4	(5)	6	
(1) Model: LS: L	acar Sancar					

- ① Model:LS: Laser Sensor
- ②DIA. of sensing side:Number: DIA. of sensing side (unit:mm)
- ③Sensing type:S: Diffuse reflective type、R: Retroreflective type、D: Through-beam type
- Sensing distance: Number: Sensing distance (unit:M)
- **⑤Control output**:N: NPN、P: PNP
- **© Operation mode:**1: Light ON、2: Dark ON

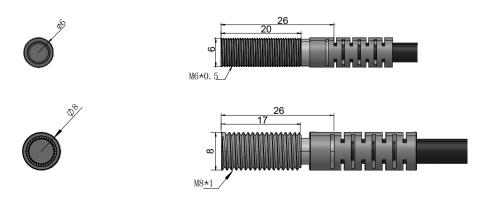
#### Specifications



Specifications							
	NPN.NO	LS06-D20MN1	LS08-D20MN1				
Model	NPN.NC	LS06-D20MN2	LS08-D20MN2				
	PNP.NO	LS06-D20MP1	LS08D20MP1				
	PNP.NC	LS06-D20MP2	LS08-D20MP2				
Detection type		Through-beam					
Spot and beam		beam invisible Spot visible size: 2/1/0.5mm					
Sensingdistance		20 M					
Hysteresis		≤10%					
Light pointing angle		3°					
Standard targe		white card reficetion rate 90%					
Detection target		Opaque Objects and Transparent Objects					
Supplyvoltage		DC:10-30VDC					
Leakagecurrent		≤0.6mA					
Responsefrequency(F)		600Hz(DC)					
Ambient illuminance incandescent		incandescent lights3000Lux sunshines100Lu					
Consunpuoncuirent		Through-beam:≤25mA					
Loadcurrent		200mA					
Voltagedrop		DC≤1V					
Circuitprotection		short-circuit.EMIprotectionrevers Epolarityprotection					
(	Outputindicator	RedLEd					
Ambienttemperature		-20~+55					
Shock		500m/s(50G)ineachX,YZdirectionfor3times					
Vibration		1mmamplitudeatfrequency10~55Hz(forlmin)ineachXYZdirectionfor2hours					
Protectiondegree		IP65					
Connection		2m PVC cable or connector					
Meterial		Nickel-copperalloy					

Dimension







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