

Application

Laser sensor consists of laser, laser detector and measurement circuit. It is a new measuring instrument, its advantage is to achieve non-contact distance measurement, fast speed, high precision, large range, strong ability for light resistance and electronic interference.

Laser can induct work accurately by adjusting the induction distance, minimum induction work is 2cm, max is 40cm. Detect distance, could detect 0.1mm of tiny objects. can add light visibility, can perform simple adjustment at 40cm spot, more convenient adjustment. Laser can be used in dusty environment, must clean the lens regularly, red laser beams can be lined up on the target location.



Parameter

Induction way		Standard induction type
Model	NPN NO	EL18-D1T40NA
	PNP NC	EL18-D1T40PA
	NPN NC	EL18-D1T40NB
	PNP NC	EL18-D1T40PB
Induction distance		40cm(white paper 100mmx10mm)
Spot size		0.5mm at 25cm
Standard inductor		More than 0.5mm at 30cm
Minimum detected object		Φ0.5mm stainless steel pin gauge at 30cm distance
Black and white error		10% at 30cm
Light source		Red LD(650nm), JIS grade 1, IEC grade 1
Supply voltage		DC10-30V ± 10%, pulse (p-p) < 10%
Consumption current		< 30mA
Control output		Load supply voltage < DC26.4V, load current < 200mA, open collector output
Rest output voltage		Load current < 10mA: < 1V Load current is 10-200mA: < 2.7v
Protection circuit		Power supply reverse connect protection, output voltage protection
Response time		Action or reset : < 0.5ms
Sensitivity adjustor		Rotate regulator
Ambient temperature		Action: -10~+55°C, storage: -25~+70°C (no-icing, condensation)
Connection way		With standard 2meters
Display lamp		LED Action display red LED

Connection Mode

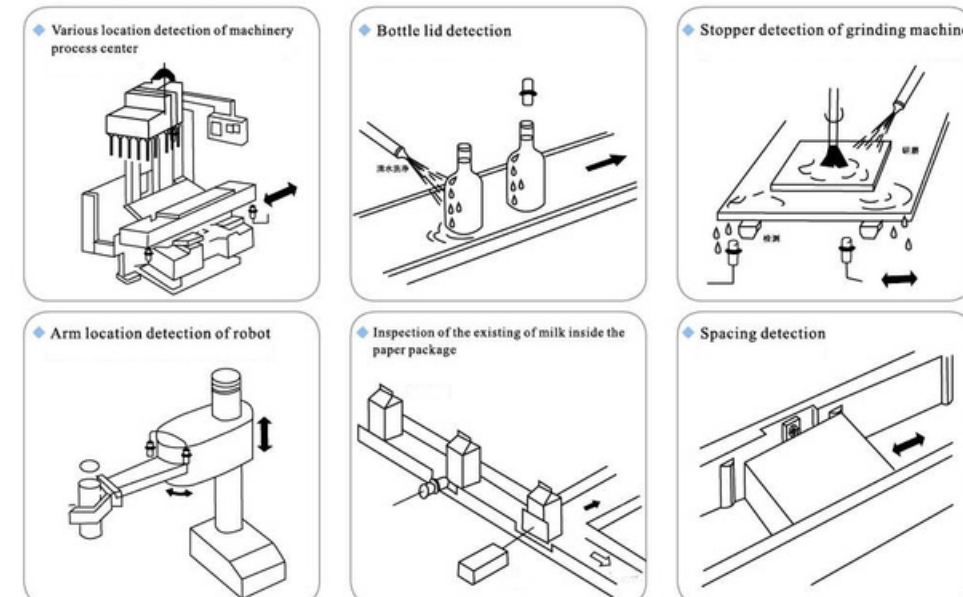
Wire	NPN NO	NPN NC	PNP NO	PNP NC
Leaded				
M8 Connector				
M12 Connector				

Model composition and definition of infrared ray laser sensor.

EL 18 - 3 A 40 N A □
 1 2 - 3 4 5 6 7 8

N.o	Composition	Code and definition
1	Basic form	EL: Laser sensor
2	Outward appearance code	18, 50, 76.....
3	Working voltage	2: 90-250VAC 3: 10-30VDC 4: 12-240VDC/24-240VAC 5: Special voltage
4	Detection way	A: diffused reflection type(scattered reflection type) B: feedback reflection type mirror(mirror reflection type) C: penetration type(correlation type) D: marking detection type G: optical fiber type
5	Detection distance	05: 5cm 10: 10cm 30: 30cm 40: 40cm 101: 10m
6	Output form	N: NPN transistor output P: PNP transistor output J: Relay contact output L: AC two-wire output S: with two outputs: NPN and PNP
7	Output state	A: Normally open(light entering NO) B: Normally close(light sheltering NC) C: normally open+normally close
8	Subsidiary	T1: front delay T2: rear delay T: with aviation connector I: special requirement

Illustration of laser sensor applications

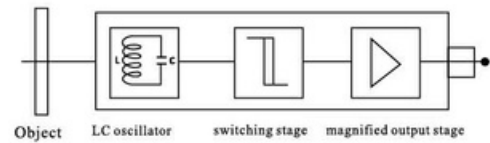


Model explanation of proximity switch

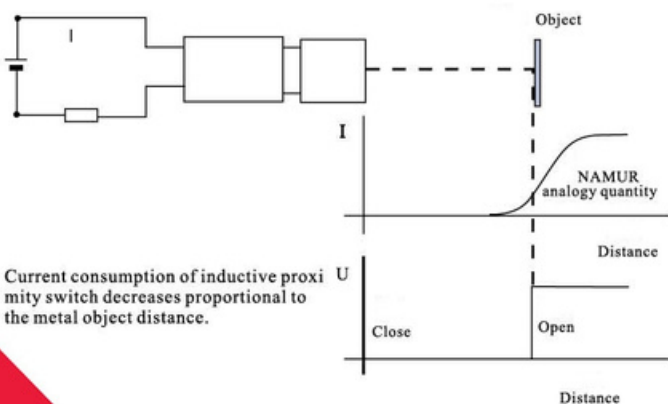
L M 18 - 30 05 N A □ / L
1 2 3 4 5 6 7 8

N.o	Composition	Code and definition
1	Switch category	LM: inductance type CM: capacitance type SM: Hall type AM: safety explosion-proof type XM: mimic linear type HM: reed type
2	Outward appearance code	□ : Cylinder type F: Angular column type and plane installation type
3	Working voltage	30:6-36VDC 310:5-24VDC 320:12-60VDC 330:10-30VDC 340:10-55VDC 350:10-60VDC 360:5-36VDC 20:90-250VAC 210:24-250VAC 220:380VAC 40:12-240VDC/24-240AC 50: Special voltage
4	Detection distance	01:1mm 05:5mm 10:10mm
5	Output form	N: NPN three-wire DC NPN output P: PNP three-wire DC PNP output L: two-wire DC output □ : AC two-wire output J: Relay contact output NP: NPN+PNP double output
6	Output state	A: (NO) Normally open(NO) B: (NC) Normally close (NC) C: (NO+NC) normally open+normally close(NO+NC) MU: Mimic voltage MI Mimic current
7	Subsidiary functions	T: with aviation connector Y: water proof,oil proof I: special requirement H: high temp resistance R: ring type
8	Long-distance	L: Long-distance

Working principle inductive of proximity switch



Inductive proximity switch is composed of three parts: oscillator, switch circuit and magnified output circuit. The oscillator will generate an alternating electric field. When metal object approaches this electric field and reaches the induction distance, whirlpool will generate in metal object, resulting in attenuation of vibrati on and then stop. The change of vibration and stop of oscillator is treated by behind stage magnified circuit and converted to switching sign, triggering driving control for non-contact detection.



Application illustration of proximity switch

◆ Various location detection of machinery process center

◆ Bottle lid detection

◆ Stopper detection of grinding machine

◆ Arm location detection of robot

◆ Inspection of the existing of milk inside the paper package

◆ Spacing detection

Features of proximity switch

◆ Main features

Take high frequency oscillation type proximity sensor(front detector)as representative example to briefly explain general features of proximity switch

Item	Explanation	Features
The size of detected object and detection distance	If the detected object is square metal sheet with constant thickness(t=1mm), detect at detection distance X when change its side length dmm. 	<ul style="list-style-type: none"> When the detected object is bigger than standard detected object, on the main, the detection distance is constant. According to different machine type, sometimes the features will be different with that mentioned on the left. To through type, the detection object is like cylinder metal bar.
The thickness of detected object and detection distance	Detect at detection distance Xmm(front detector) when change the thickness of the assigned standard detected object 1mm. 	For more than 1mm thick magnetic metal like iron, on the main, the detection distance will not change.
The effects resulted from the thickness of detected object and cladding material	Because the detection to standard detected object will be effected by its shape, size, material, and various cladding material, confirm through detection distance Xmm measurement. 	The effects resulted from detection distance and cladding material of the metal exclude-iron will be different according to different machine type. On the main, the machine type which detects all the metals will not be effected by cladding material.

◆ About detected object

- When the material of detected object is non magnetic metal, the distance of action should decrease. But when the foil material is approximately thicker than a. 01mm, the detection distance will be the same as that of magnetic object. If the film plating is extremely thin or non-conductive, detection cannot be conducted.
- The effect of cladding material, when detected object has cladding material, take note of the changing of detection distance.

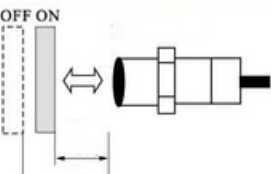
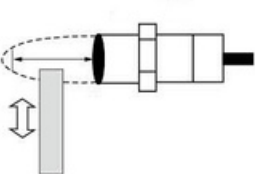
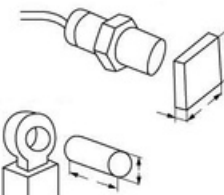
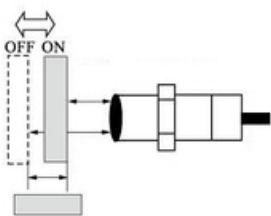
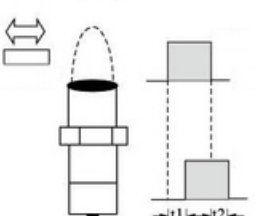
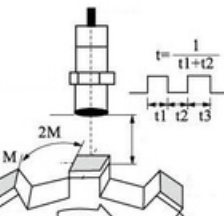
◆ About ambient weather

- In order to maintain reliable action and long service life, please avoid the (outdoor) occasion beyond the stipulated ambient temperature. Do not drench it with water or water-soluble cutting lubricant when it is used with cover, although the proximity sensor is waterproof. Do not use in the occasions with chemical agents, especially strong base, acid, nitric acid, hot strong sulfuric acid and so on.

◆ About maintenance and overhaul

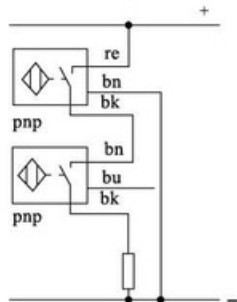
- In order to keep the proximity sensor to work stably for long time, the following regular examinations should be performed just like general control.
 - Check the installation position of detected object and proximity sensor if any deviation, loosening or deformation exists.
 - Check the attached wires and connecting parts if any loosening, bad contact or wire breaking off exists.
 - Check if there is any metallic powder accumulation or not.
 - Check if the temperature condition and surrounding environment condition are normal or not.
 - Check if the detection distance is normal or not.

Explanation of technical terms

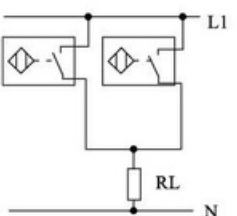
Detection distance	Setting distance	Standard detected object
 <p>• Move the detected object according to assigned method, the distance from the reference position (reference plane) to the detecting action (resetting)</p>	 <p>• Including the effects like temperature and voltage, without error action, the distance passed through from the practical detection surface to the object.</p>	 <p>• Take as standard detected object to detect the basic performance. The shape, size and material have been determined.</p>
Differential distance	Response time	Response frequency
 <p>• The absolute value of the distance difference between the distance to action and the distance to resetting</p>	 <p>T1: when the object enters the action zone, the time from proximity sensor being in action state to output appearance. T2: The time from leaving action zone to output disappearance.</p>	 <p>• Work out the tracking output times per second by repeatedly approaching the detected object. • Brief detection method sees the above diagram.</p>

Series connection and parallel connection

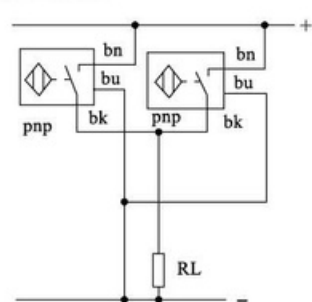
Series connection of three-wire DC and three-wire DC sensor



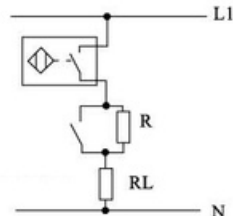
Parallel connection of two-wire AC sensor



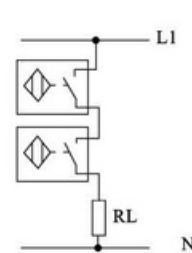
Parallel connection of three-wire DC and three-wire DC sensor



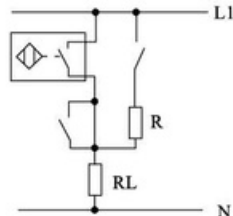
Series connection of machinery switch and AC sensor



Series connection of two-wire AC sensor



Parallel connection of machinery switch and AC sensor

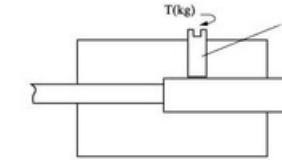
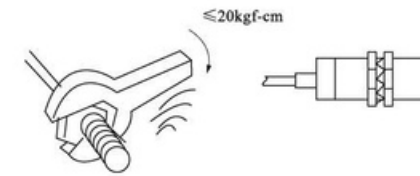


Main features

- ◆ Compact volume
- ◆ High precision of repeated location
- ◆ Diversified exterior structures
- ◆ Good performance of anti-interference
- ◆ Many output forms
- ◆ High on-off frequency
- ◆ Wide voltage range
- ◆ Dust proof, vibration proof, water proof and oil proof
- ◆ with short-circuit protection and inverted connecting protection
- ◆ Long service life

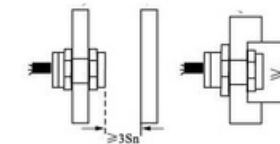
Correct use, installation and cautions

- ◆ Mounting screw switch
- ◆ Do not tighten with over-torque when mounting the switch. Adopt toothed washer when tightening
- ◆ Mounting non screw type pillar switch
- ◆ When adopt adjusting screw, the tightening torque should be within 2~4kgf-cm.



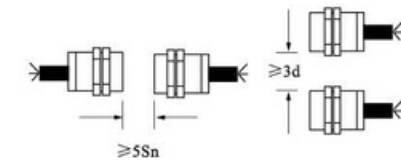
Protection against the interference of non detected object

When mounting the proximity switch on the metal part, do refer to the following diagram. Remain a certain space in advance according to the shown diagram so as to prevent the switch from error action.



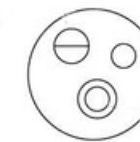
Protection against mutual interference between switches

Mount according to the size which is bigger than that in the following diagram to prevent the switch from error action resulted from mutual interference if mount the switches contra-positively or in parallel.



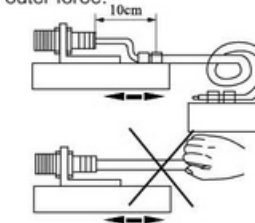
Adjustable switch action distance (sensitivity)

The action distance (sensitivity) of proximity switch can be adjusted by the means of trimming potentiometer. Increase the action distance and reduce sensitivity when turn clockwise. Vice versa. Do not use in the critical state of max. action distance.



Guard of switch lead-wire

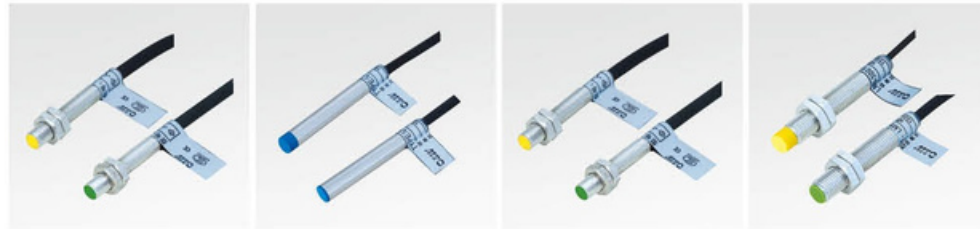
When mount switch, fix the lead-wire at a distance about 10cm from the switch with wire clip so as to prevent the switch lead-wire from damage from outer force.



Cautions

- ◆ DC switch should adopt insulation transformer and ensure stable voltage mains corrugation.
- ◆ If any electric power line or dynamic line passes through the surrounding of switch leadwire, in order to prevent the switch from damage or error action, cover the metal bushing on the switch lead-wire and ground it to the earth.
- ◆ Set the switch use distance within the rated distance to avoid the effects from temperature and voltage.
- ◆ Wiring while power-on is strictly prohibited. Connecting the wires strictly according to the wiring diagram and output return elementary diagram.
- ◆ If there are any special requirements to the switch like water proof, oil proof, acid proof, base proof, high temperature proof or with any other specifications, the users are required to give clear indication when placing an order. We can produce according to the requirements of the user.

- Structural category: Cylinder type
- Outward appearance illustration



Outward appearance code		LM5	LM6	LM06	LM8		
Overall dimensions							
Flush	Detection distance	1mm	1mm	1mm	1mm		
		DC 6~36 VDC	NPN	NO	LM5-3001PA	LM6-3001NA	LM06-3001NA
	NC				LM6-3001NB		LM8-3001NB
	NO+NC						
	PNP	NO	LM5-3001PA	LM6-3001PA	LM06-3001PA	LM8-3001PA	
		NC		LM6-3001PB		LM8-3001PB	
		NO+NC					
	two wire system	NO		LM6-3001LA		LM8-3001LA	
		NC		LM6-3001LB		LM8-3001LB	
	AC 90~250 VAC	SCR Control-lable silicon	NO				
NC							
NO+NC							
Relay output							
Non-flush	Detection distance		1.5mm		2mm		
		DC 6~36 VDC	NPN	NO	LM6-3002NA		LM8-3002NA
	NC			LM6-3002NB		LM8-3002NB	
	NO+NC						
	PNP	NO	LM6-3002PA		LM8-3002PA		
		NC	LM6-3002PB		LM8-3002PB		
		NO+NC					
	two wire system	NO	LM6-3002LA		LM8-3002LA		
		NC	LM6-3002LB		LM8-3002LB		
	AC 90~250 VAC	SCR Control-lable silicon	NO			LM8-2002A	
NC					LM8-2002B		
NO+NC							
Relay output							
Output current	DC	100mA	150mA	100mA	150mA		
	SCR/Relay				150mA		
Output voltage drop	DC/AC	DC < 3V, AC < 10V					
Consumption current		DC < 15mA, AC < 10mA					
Standard detected object		6 x 6 x 1 (A3 iron)	8 x 8 x 1 (A3 iron)	8 x 8 x 1 (A3 iron)	8 x 8 x 1 (A3 iron)		
Repeated precision		0.01	0.01	0.01	0.01		
DC/AC Response frequency		500Hz	500Hz	500Hz	500Hz/25Hz		
Working environment temperature		-25°C ~+70°C	-25°C ~+75°C	-25°C ~+70°C	-25°C ~+75°C		
Insulation resistance		≥ 50MΩ	≥ 30MΩ	≥ 50MΩ	≥ 50MΩ		
Shell material		Metal	Stainless steel	Metal	Metal		
Protection grade		IP67	IP67	IP67	IP67		
Alternative model at home and abroad					E2E-X1R5 □□		



LM12	LM14	LM18	LM20	LM22
2mm	3mm	5mm		7mm
LM12-3002NA	LM14-3003NA	LM18-3005NA		LM22-3007NA
LM12-3002NB	LM14-3003NB	LM18-3005NB		LM22-3007NB
LM12-3002NC	LM14-3003NC	LM18-3005NC		LM22-3007NC
LM12-3002PA	LM14-3003PA	LM18-3005PA		LM22-3007PA
LM12-3002PB	LM14-3003PB	LM18-3005PB		LM22-3007PB
LM12-3002PC	LM14-3003PC	LM18-3005PC		LM22-3007PC
LM12-3002LA	LM14-3003LA	LM18-3005LA		LM22-3007LA
LM12-3002LB	LM14-3003LB	LM18-3005LB		LM22-3007LB
LM12-2002A	LM14-2003A	LM18-2005A		LM22-2007A
LM12-2002B	LM14-2003B	LM18-2005B		LM22-2007B
		LM18-2005C		LM22-2007C
4mm	5mm	8mm	10mm	10mm
LM12-3004NA	LM14-3005NA	LM18-3008NA	LM20-3010NA	LM22-3010NA
LM12-3004NB	LM14-3005NB	LM18-3008NB	LM20-3010NB	LM22-3010NB
LM12-3004NC	LM14-3005NC	LM18-3008NC	LM20-3010NC	LM22-3010NC
LM12-3004PA	LM14-3005PA	LM18-3008PA	LM20-3010PA	LM22-3010PA
LM12-3004PB	LM14-3005PB	LM18-3008PB	LM20-3010PB	LM22-3010PB
LM12-3004PC	LM14-3005PC	LM18-3008PC	LM20-3010PC	LM22-3010PC
LM12-3004LA	LM14-3005LA	LM18-3008LA	LM20-3010LA	LM22-3010LA
LM12-3004LB	LM14-3005LB	LM18-3008LB	LM20-3010LB	LM22-3010LB
LM12-2004A	LM14-2005A	LM18-2008A	LM20-2010A	LM22-2010A
LM12-2004B	LM14-2005B	LM18-2008B	LM20-2010B	LM22-2010B
		LM18-2008C	LM20-2010C	LM22-2010C
200mA	200mA	200mA	200mA	200mA
300mA	300mA	300mA	300mA/1A	300mA
15 x 15 x 1 (A3 iron)	15 x 15 x 1 (A3 iron)	18 x 18 x 1 (A3 iron)	20 x 20 x 1 (A3 iron)	22 x 22 x 1 (A3 iron)
0.01	0.02	0.02	0.05	0.05
400Hz/25Hz	300Hz/25Hz	200Hz/25Hz	200Hz/25Hz	200Hz/25Hz
-25°C ~+75°C	-25°C ~+75°C	-25°C ~+75°C	-25°C ~+75°C	-25°C ~+75°C
≥ 50MΩ	≥ 50MΩ	≥ 50MΩ	≥ 50MΩ	≥ 50MΩ
金属 Metal	Metal	Metal	ABS Plastic	Metal
IP67	IP67	IP67	IP67	IP67
E2E-X5 □□	LJ14A3- □□	LJ18A3-8- □□		LJ22A □ - □ - □□

- Structural category: Cylinder type
- Outward appearance illustration



Outward appearance code			LM24	LM30	LM34	LM35	
Overall dimensions							
Flush	Detection distance		8mm	10mm			
	DC 6~36 VDC	NPN	NO	LM24-3008NA	LM30-3010NA		
			NC	LM24-3008NB	LM30-3010NB		
			NO+NC	LM24-3008NC	LM30-3010NC		
		PNP	NO	LM24-3008PA	LM30-3010PA		
			NC	LM24-3008PB	LM30-3010PB		
			NO+NC	LM24-3008PC	LM30-3010PC		
	AC 90~250 VAC	two wire system	NO	LM24-3008LA	LM30-3010LA		
			NC	LM24-3008LB	LM30-3010LB		
		SCR Control-lable silicon	NO	LM24-2008A	LM30-2010A		
NC			LM24-2008B	LM30-2010B			
Relay output			LM30-2010JC				
Non-flush	Detection distance		10mm	15mm	17mm	17mm	
	DC 6~36 VDC	NPN	NO	LM24-3010NA	LM30-3015NA	LM34-3017NA	LM35-3017NA
			NC	LM24-3010NB	LM30-3015NB	LM34-3017NB	LM35-3017NB
			NO+NC	LM24-3010NC	LM30-3015NC	LM34-3017NC	LM35-3017NC
		PNP	NO	LM24-3010PA	LM30-3015PA	LM34-3017PA	LM35-3017PA
			NC	LM24-3010PB	LM30-3015PB	LM34-3017PB	LM35-3017PB
			NO+NC	LM24-3010PC	LM30-3015PC	LM34-3017PC	LM35-3017PC
	AC 90~250 VAC	two wire system	NO	LM24-3010LA	LM30-3015LA	LM34-3017LA	LM35-3017LA
			NC	LM24-3010LB	LM30-3015LB	LM34-3017LB	LM35-3017LB
		SCR Control-lable silicon	NO	LM24-2010A	LM30-2015A	LM34-2017A	LM35-2017A
NC			LM24-2010B	LM30-2015B	LM34-2017B	LM35-2017B	
Relay output			LM30-2015JC	LM34-2017JC	LM35-2017JC		
Out-put current	DC		200mA	200mA	200mA	200mA	
	SCR/ Relay		300mA	300mA/1A	300mA/1A	300mA/1A	
Output voltage dropDC/AC			DC < 3V, AC < 10V				
Consumption current			DC < 15mA, AC < 10mA				
Standard detected object			24 × 24 × 1(A3 iron)	30 × 30 × 1(A3 iron)	34 × 34 × 1(A3 iron)	40 × 40 × 1(A3 iron)	
Repeated precision			0.05	0.05		.1	
DC/AC Response frequency			200Hz/25Hz	200Hz/25Hz	100Hz/15Hz	00Hz/15Hz	
Working environment temperature			-25°C ~+75°C	-25°C ~+75°C	-25°C ~+75°C	-25°C ~+75°C	
Insulation resistance			≥ 50MΩ	≥ 50MΩ	≥ 250MΩ	≥ 50MΩ	
Shell material			金属 Metal	Metal	Metal	ABS Resin	
Protection grade			IP67	IP67	IP67	IP67	
Alternative model at home and abroad			LJ24A3-10- □□	E2E-X18M □			



LM38	LM40	LM480	LM36	LM42
12mm				
LM38-3012NA				
LM38-3012NB				
LM38-3012NC				
LM38-3012PA				
LM38-3012PB				
LM38-3012PC				
LM38-3012LA				
LM38-3012LB				
LM38-2012A				
LM38-2012B				
LM38-2012C				
18mm	20mm	25mm	15mm	20mm
LM38-3018NA	LM40-3020NA	LM480-3025NA	LM36-3015NA	LM42-3020NA
LM38-3018NB	LM40-3020NB	LM480-3025NB	LM36-3015NB	LM42-3020NB
LM38-3018NC	LM40-3020NC	LM480-3025NC	LM36-3015NC	LM42-3020NC
LM38-3018PA	LM40-3020PA	LM480-3025PA	LM36-3015PA	LM42-3020PA
LM38-3018PB	LM40-3020PB	LM480-3025PB	LM36-3015PB	LM42-3020PB
LM38-3018PC	LM40-3020PC	LM480-3025PC	LM36-3015PC	LM42-3020PC
LM38-3018LA	LM40-3020LA		LM36-3015LA	LM42-3020LA
LM38-3018LB	LM40-3020LB		LM36-2015LB	LM42-3020LB
LM38-2018A	LM40-2020A	LM480-2025A	LM36-2015A	LM42-2020A
LM38-2018B	LM40-2020B	LM480-2025B	LM36-2015B	LM42-2020B
LM38-2018C	LM40-2020C	LM480-2025C		
LM38-2018JC	LM40-2020JC			
200mA	200mA	200mA	200mA	200mA
300mA	300mA	300mA/1A	300mA	300mA
DC < 3V, AC < 10V				
DC < 15mA, AC < 10mA				
40 × 40 × 1(A3 铁 iron)	45 × 45 × 1(A3 iron)	50 × 50 × 1(A3 iron)	45 × 45 × 1(A3 iron)	25 × 25 × 1(A3 iron)
		0.1	0.05	0.2
		100Hz/25Hz	200Hz/10Hz	200Hz/10Hz
-25°C ~+75°C		-25°C ~+75°C	-25°C ~+75°C	-25°C ~+75°C
≥ 50MΩ	≥ 50MΩ	≥ 50MΩ	≥ 50MΩ	≥ 50MΩ
ABS Plastic	Metal	Metal	ABS Plastic	ABS Plastic
IP67		IP67	IP67	IP67
LJ38A4-18- □□	SC- □□	SFE- □□		

- Structural category: Cylinder type
- Outward appearance illustration



Plane installation type

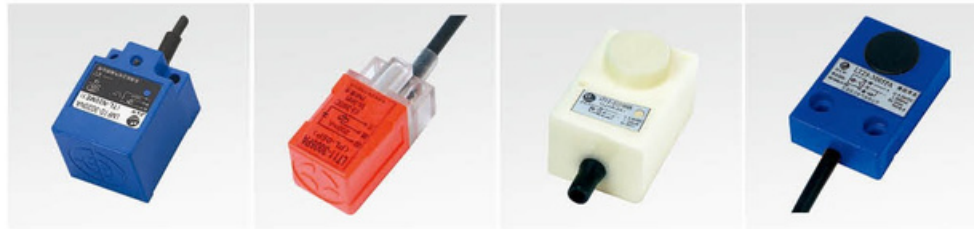
角柱型 Angular column type

外形编号 Outward appearance code		LM48	LM55	LMF1	LMF2		
Overall dimensions							
Flush	DC 6~36 VDC	NPN	NO		5mm	5mm	
			NC		LMF1-3005NA	MF2-3005NA	
	NO+NC			LMF1-3005NB	LMF2-3005NB		
	PNP	NO		LMF1-3005PA	LMF2-3005PA		
		NC		LMF1-3005PB	LMF2-3005PB		
		NO+NC					
	two wire system	NO		LMF1-3005LA	LMF2-3005LA		
		NC			LMF2-3005LB		
	AC 90~250 VAC	Control-able silicon	NO				
			NC				
NO+NC							
	Relay output						
Non-flush	DC 6~36 VDC	NPN	NO	20mm	25mm		
			NC	LM48-3020NA	LM55-3025NA		
	NO+NC		LM48-3020NB	LM55-3025NB			
	PNP	NO	LM48-3020NC	LM55-3025NC			
		NC	LM48-3020PA	LM55-3025PA			
		NO+NC	LM48-3020PB	LM55-3025PB			
	two wire system	NO	LM48-3020PC	LM55-3025PC			
		NC	LM48-3020LA	LM55-3025LA			
	AC 90~250 VAC	SCR Control-able silicon	NO	LM48-3020LA	LM55-3025LA	LMF1-2005A	LMF2-2005A
			NC	LM48-3020LB	LM55-3025LB		
NO+NC		LM48-2020A	LM55-2025A				
	Relay output	LM48-2020B	LM55-2025B				
		LM48-2020C	LM55-2025C				
Out-put current	DC	200mA	200mA	200mA	200mA		
	SCR/Relay	300mA	300mA	200mA	200mA		
Output voltage dropDC/AC		DC < 3V, AC < 10V					
Consumption current		DC < 15mA, AC < 10mA					
Standard detected object		60 × 60 × 1(A3 iron)	55 × 55 × 1(A3 iron)	0 × 20 × 1(A3 iron)	20 × 20 × 1(A3 iron)		
Repeated precision		0.2	0.2	0.02	0.02		
DC/AC Response frequency		200Hz/10Hz	200Hz/10Hz	400Hz/25Hz	400Hz/25Hz		
Working environment temperature		-25°C ~+75°C	-25°C ~+75°C	-25°C ~+75°C	-25°C ~+75°C		
Insulation resistance		≥ 50MΩ	≥ 50MΩ	≥ 50MΩ	≥ 50MΩ		
Shell material		ABS Plastic	ABS Plastic	ABS Plastic	ABS Plastic		
Protection grade		IP67	IP67	IP67	IP67		
Alternative model at home and abroad		SD- □□	SE- □□	SN04-N	TL-Q5MC1		



LMF3	LMF4	LMF5	LMF6	LMF7
5mm	5mm	2mm	8mm	10mm
LMF3-3005NA	LMF4-3005NA	LMF5-3002NA	LMF6-3008NA	LMF7-3010NA
LMF3-3005NB	LMF4-3005NB	LMF5-3002NB	LMF6-3008NB	LMF7-3010NB
LMF3-3005PA	LMF4-3005PA	LMF5-3002PA	LMF6-3008PA	LMF7-3010PA
LMF3-3005PB	LMF4-3005PB	LMF5-3002PB	LMF6-3008PB	LMF7-3010PB
LMF3-3005LA	LMF4-3005LA	LMF5-3002LA	LMF6-3008LA	LMF7-3010LA
LMF3-3005LB	LMF4-3005LB	LMF5-3002LB	LMF6-3008LB	LMF7-3010LB
			LMF6-2008A	LMF7-2010A
			LMF6-2008B	LMF7-2010B
				LMF7-2010C
		4mm	10mm	15mm
		LMF5-3004NA	LMF6-3010NA	LMF7-3015NA
		LMF5-3004NB	LMF6-3010NB	LMF7-3015NB
		LMF5-3004NC	LMF6-3010NC	LMF7-3015NC
		LMF5-3004PA	LMF6-3010PA	LMF7-3015PA
		LMF5-3004PB	LMF6-3010PB	LMF7-3015PB
		LMF5-3004PC	LMF6-3010PC	LMF7-3015PC
		LMF5-3004LA	LMF6-3010LA	LMF7-3015LA
		LMF5-3004LB	LMF6-3010LB	LMF7-3015LB
LMF3-2005A			LMF6-2010A	LMF7-2015A
LMF3-2005B			LMF6-2010B	LMF7-2015B
				LMF7-2015C
200mA	200mA	200mA	200mA	200mA
200mA		200mA	300mA	300mA
DC < 3V, AC < 10V		DC < 3V, AC < 10V		
DC < 15mA, AC < 10mA		DC < 15mA, AC < 10mA		
20 × 20 × 1(A3 iron)	20 × 20 × 1(A3 iron)	15 × 15 × 1(A3 iron)	30 × 30 × 1(A3 iron)	35 × 35 × 1(A3 iron)
0.02	0.03	0.03	0.05	0.05
400Hz/25Hz	300Hz	400Hz	200Hz/15Hz	200Hz/15Hz
-25°C ~+75°C	-25°C ~+70°C	-25°C ~+70°C	-25°C ~+75°C	-25°C ~+75°C
≥ 50MΩ	≥ 50MΩ	≥ 50MΩ	≥ 50MΩ	≥ 50MΩ
ABS Plastic	ABS Plastic	ABS Plastic	ABS Plastic	ABS Plastic
IP67	IP67	IP67	IP67	IP67
PS17-5PN	PS05-N, PS05-P		TL-N5ME □□	TL-N10M □

- Structural category: Angular column type
- Outward appearance illustration



Outward appearance code		LMF10	LMF11	LMF12	LMF29	
Overall dimensions						
Flush	Detection distance		15mm	5mm	5mm	
	DC 6~36 VDC	NPN	NO	LMF10-3015NA	LMF11-3005NA	LMF29-3005NA
			NC	LMF10-3015NB	LMF11-3005NB	LMF29-3005NB
			NO+NC	LMF10-3015NC	LMF11-3005NC	LMF29-3005NC
		PNP	NO	LMF10-3015PA	LMF11-3005PA	LMF29-3005PA
			NC	LMF10-3015PB	LMF11-3005PB	LMF29-3005PB
			NO+NC	LMF10-3015PC	LMF11-3005PC	LMF29-3005PC
	two wire system	NO	LMF10-3015LA	LMF11-3005LA	LMF29-3005LA	
		NC	LMF10-3015LB	LMF11-3005LB		
	AC 90~250 VAC	Control-lable silicon	NO	LMF10-2015A		LMF29-2005A
NC			LMF10-2015B		LMF29-2005B	
Relay output		NO+NC	LMF10-2015C			
Non-flush	Detection distance		20mm	8mm	8mm	
	DC 6~36 VDC	NPN	NO	LMF10-3020NA	LMF12-3008NA	LMF29-3008NA
			NC	LMF10-3020NB	LMF12-3008NB	LMF29-3008NB
			NO+NC	LMF10-3020NC	LMF12-3008NC	LMF29-3008NC
		PNP	NO	LMF10-3020PA	LMF12-3008PA	LMF29-3008PA
			NC	LMF10-3020PB	LMF12-3008PB	LMF29-3008PB
			NO+NC	LMF10-3020PC	LMF12-3008PC	LMF29-3008PC
	two wire system	NO	LMF10-3020LA	LMF12-3008LA	LMF29-3008LA	
		NC	LMF10-3020LB	LMF12-3008LB	LMF29-3008LB	
	AC 90~250 VAC	Control-lable silicon	NO	LMF10-2020A	LMF12-2008A	LMF29-2008A
NC			LMF10-2020B	LMF12-2008B	LMF29-2008B	
Relay output		NO+NC	LMF10-2020C			
Out-put current	DC	200mA	200mA	200mA	200mA	
	SCR/Relay	300mA		300mA	300mA	
Output voltage dropDC/AC		DC < 3V, AC < 10V				
Consumption current		DC < 15mA, AC < 10mA				
Standard detected object		5 × 45 × 1(A3 iron)	20 × 20 × 1(A3 iron)	25 × 25 × 1(A3 iron)	25 × 25 × 1(A3 iron)	
Repeated precision		0.05	0.05	0.04	0.05	
DC/AC Response frequency		100Hz/15Hz	500Hz	200Hz/15Hz	300Hz	
Working environment temperature		-25°C ~+70°C	-25°C ~+70°C	-25°C ~+70°C	-25°C ~+70°C	
Insulation resistance		≥ 50MΩ	≥ 50MΩ	≥ 50MΩ	≥ 50MΩ	
Shell material		ABS Plastic	ABS Plastic	ABS Plastic	ABS Plastic	
Protection grade		IP67	IP67	IP67	IP67	
Alternative model at home and abroad		TL-N20M □	PL-05N PL-05P	LJ1A-24		

- Structural category: Plane installation type
Angular column type
- Outward appearance illustration



Outward appearance code		LMF36	LMF37	LMF38	LMF39		
Overall dimensions							
Flush	Detection distance			15mm			
	DC 6~36 VDC	NPN	NO	LMF37-3015NA			
			NC	LMF37-3015NB			
			NO+NC	LMF37-3015NC			
		PNP	NO	LMF37-3015PA			
			NC	LMF37-3015PB			
			NO+NC	LMF37-3015PC			
	two wire system	NO	LMF37-3015LA				
		NC	LMF37-3015LB				
	AC 90~250 VAC	Control-lable silicon	NO	LMF37-2015A			
NC			LMF37-2015B				
Relay output		NO+NC	LMF37-2015C	LMF37-2015JC			
Non-flush	Detection distance		1~20mm	20mm	1~40mm	1~50mm	
	DC 6~36 VDC	NPN	NO	LMF36-3020NA	LMF37-3020NA	LMF38-3040NA	LMF39-3050NA
			NC	LMF36-3020NB	LMF37-3020NB	LMF38-3040NB	LMF39-3050NB
			NO+NC	LMF36-3020NC	LMF37-3020NC	LMF38-3040NC	LMF39-3050NC
		PNP	NO	LMF36-3020PA	LMF37-3020PA	LMF38-3040PA	LMF39-3050PA
			NC	LMF36-3020PB	LMF37-3020PB	LMF38-3040PB	LMF39-3050PB
			NO+NC	LMF36-3020PC	LMF37-3020PC	LMF38-3040PC	LMF39-3050PC
	two wire system	NO	LMF36-3020LA	LMF37-3020LA	LMF38-3040LA		
		NC	LMF36-3020LB	LMF37-3020LB			
	AC 90~250 VAC	Control-lable silicon	NO	LMF36-2020A	LMF37-2020A	LMF38-2040A	LMF39-2050A
NC			LMF36-2020B	LMF37-2020B	LMF38-2040B	LMF39-2050B	
Relay output		NO+NC	LMF36-2020C	LMF37-2020C	LMF38-2040C	LMF39-2050C	
Out-put current	DC	200mA	200mA	200mA	200mA		
	SCR/Relay	300mA/2A	300mA/2A	300mA/2A	300mA/2A		
Output voltage dropDC/AC		DC < 3V, AC < 10V					
Consumption current		DC < 15mA, AC < 10mA					
Standard detected object		50 × 50 × 1(A3 iron)	50 × 50 × 1(A3 iron)	100 × 100 × 1(A3 iron)	120 × 120 × 1(A3 iron)		
Repeated precision		0.2	0.2	0.5	0.5		
DC/AC Response frequency		200Hz/15Hz	200Hz/15Hz	50Hz/10Hz	50Hz/10Hz		
Working environment temperature		-25°C ~+70°C	-25°C ~+70°C	-25°C ~+75°C	-25°C ~+75°C		
Insulation resistance		ABS Plastic	ABS Plastic	ABS Plastic	ABS Plastic		
Shell material		ABS Plastic	BS Resin	Resin · Fiber glass reinforced plastics	Resin · Fiber glass reinforced plastics		
Protection grade		IP67	IP67	IP65	IP65		
Alternative model at home and abroad			HY-A20 □	TCD-2040 □	TCA-2050 □		

- o Structural category:
Plane installation type
Angular column type
- o Outward appearance illustration



Outward appearance code		LMF40	LMF41	LMF42	LMF43		
Overall dimensions							
Flush	Detection distance						
	DC 6~36 VDC	NPN	NO				
			NC				
			NO+NC				
		PNP	NO				
			NC				
			NO+NC				
	AC 90~250 VAC	two wire system	NO				
		NC					
		SCR Control-	NO				
lable silicon		NC					
Relay output	NO+NC						
Non-flush	Detection distance		80mm	0-120mm	0-25mm	40mm	
	DC 6~36 VDC	NPN	NO	LMF40-3080NA	LMF41-30120NA	LMF42-3025NA	LMF43-3040NA
			NC	LMF40-3080NB	LMF41-30120NB	LMF42-3025NB	LMF43-3040NB
			NO+NC	LMF40-3080NC	LMF41-30120NC	LMF42-3025NC	LMF43-3040NC
		PNP	NO	LMF40-3080PA	LMF41-30120PA	LMF42-3025PA	LMF43-3040PA
			NC	LMF40-3080PB	LMF41-30120PB	LMF42-3025PB	LMF43-3040PB
			NO+NC	LMF40-3080PC	LMF41-30120PC	LMF42-3025PC	LMF43-3040PC
	two wire system	NO					
	NC						
	AC 90~250 VAC	SCR	NO	LMF40-2080A	LMF41-20120A	LMF42-2025A	LMF43-2040A
Control-		NC	LMF40-2080B	LMF41-20120B	LMF42-2025B	LMF43-2040B	
lable silicon		NO+NC	LMF40-2080C	LMF41-20120C	LMF42-2025C	LMF43-2040C	
Relay output			LMF40-2080JC	LMF41-20120JC	LMF42-2025JC	LMF43-2040JC	
Out-put current	DC	200mA	200mA	200mA	200mA		
	SCR/Relay	300mA/3A	300mA/5A	300mA/2A	300mA/2A		
Output voltage dropDC/AC		DC < 3V, AC < 10V					
Consumption current		DC < 15mA, AC < 10mA					
Standard detected object		160 x 160 x 1(A3 iron)	250 x 250 x 1(A3 iron)	80 x 80 x 1(A3 iron)	100 x 100 x 1(A3 iron)		
Repeated precision		0.5	0.5	0.05	0.05		
DC/AC Response frequency		10Hz/5Hz	10Hz/5Hz	50Hz/10Hz	30Hz/10Hz		
Working environment temperature		-25°C ~+75°C	-25°C ~+75°C	-25°C ~+70°C	-25°C ~+70°C		
Insulation resistance		50MΩ	50MΩ	50MΩ	50MΩ		
Shell material		Fiber glass reinforced plastics	Fiber glass reinforced plastics	ABS Resin	ABS Resin		
Protection grade		IP65	IP65	IP65	IP65		
Alternative model at home and abroad		TCB-2080 □	TCC-2120 □				



LMF45	LMF55	LMF340	LMF370	LMF380
0-50mm	25mm	20mm	40mm	40mm
LMF45-3050NA	LMF55-3025NA	M340-3020NA	LMF370-3040NA	LMF380-3040NA
LMF45-3050NB	LMF55-3025NB	M340-3020NB	LMF370-3040NB	LMF380-3040NB
LMF45-3050NC	LMF55-3025NC	M340-3020NC	LMF370-3040NC	LMF380-3040NC
LMF45-3050PA	LMF55-3025PA	M340-3020PA	LMF370-3040PA	LMF380-3040PA
LMF45-3050PB	LMF55-3025PB	M340-3020PB	LMF370-3040PB	LMF380-3040PB
LMF45-3050PC	LMF55-3025PC	M340-3020PC	LMF370-3040PC	LMF380-3040PC
LMF45-3050LA		M340-3020LA	LMF370-3040LA	LMF380-3040LA
LMF45-3050LB			LMF370-3040LB	LMF380-3040LB
LMF45-2050A	LMF55-2025A	M340-2020A	LMF370-2040A	LMF380-2040A
LMF45-2050B	LMF55-2025B	M340-2020B	LMF370-2040B	LMF380-2040B
	LMF55-2025C			
200mA	300mA	200mA	200mA	200mA
300mA	300mA/2A	300mA	300mA	300mA
Output voltage dropDC/AC		DC < 3V, AC < 10V		
Consumption current		DC < 15mA, AC < 10mA		
80 x 80 x 1(A3 iron)	70 x 70 x 1(A3 iron)	35 x 35 x 1(A3 iron)	55 x 55 x 1(A3 iron)	50 x 50 x 1(A3 iron)
0.5	0.2	.05	0.5	0.05
200Hz/5Hz	200Hz/10Hz	00Hz/10Hz	200Hz/10Hz	500Hz/10Hz
-25°C ~+70°C	-25°C ~+70°C	25°C ~+70°C	-25°C ~+70°C	-25°C ~+70°C
50MΩ	50MΩ	0MΩ	50MΩ	50MΩ
ABS Plastic	ABS Resin	ABS Plastic	ABS Plastic	BC Plastic
IP65	IP65	P65	IP65	P65
				J40P-FP-A2-P1

- Structural category:
Angular column type
Connector type
- Outward appearance illustration



Outward appearance code		LM8- □ □ T	LM8- □ □ T3	LM12- □ T		
Overall dimensions						
Flush	Detection distance		1mm	1mm	2mm	
	DC 6~36 VDC	NPN	NO	LM8-3001NAT	LM8-3001NAT3	LM12-3002NAT
			NC	LM8-3001NBT	LM8-3001NBT3	LM12-3002NBT
			NO+NC			LM12-3002NCT
		PNP	NO	LM8-3001PAT	LM8-3001PAT3	LM12-3002PAT
			NC	LM8-3001PBT	LM8-3001PBT3	LM12-3002PBT
			NO+NC			LM12-3002PCT
	two wire system	NO	LM8-3001LAT	LM8-3001LAT3	LM12-3002LAT	
		NC			LM12-3002LBT	
		SCR	NO		LM12-2002AT	
	AC 90~250 VAC	Control- lable silicon Relay output	NC		LM12-2002BT	
			NO+NC			
Non-flush	Detection distance		2mm	2mm	4mm	
	DC 6~36 VDC	NPN	NO	LM8-3002NAT	LM8-3002NAT3	LM12-3004NAT
			NC	LM8-3002NBT	LM8-3002NBT3	LM12-3004NBT
			NO+NC			LM12-3004NCT
		PNP	NO	LM8-3002PAT	LM8-3002PAT3	LM12-3004PAT
			NC	LM8-3002PBT	LM8-3002PBT3	LM12-3004PBT
			NO+NC			LM12-3004PCT
	two wire system	NO	LM8-3002LAT	LM8-3002LAT3	LM12-3004LAT	
		NC			LM12-3004LBT	
		SCR	NO	LM8-2002AT	LM8-2002AT	LM12-2004AT
	AC 90~250 VAC	Control- lable silicon Relay output	NC		LM12-2004BT	
			NO+NC			
Out- put current	DC	150mA	150mA	200mA		
	SCR/Relay		150mA	200mA		
Output voltage dropDC/AC		DC < 3V, AC < 10V				
Consumption current		DC < 15mA, AC < 10mA				
Standard detected object		8 × 8 × 1(A3 iron)	8 × 8 × 1(A3 iron)	12 × 12 × 1(A3 iron)		
Repeated precision		0.01	0.01	0.01		
DC/AC Response frequency		500Hz/10Hz	500Hz/10Hz	400Hz/10Hz		
Working environment temperature		-25°C ~+70°C	-25°C ~+70°C	-25°C ~+70°C		
Insulation resistance		50MΩ	50MΩ	50MΩ		
Shell material		Metal	Metal	Metal		
Protection grade		IP67	IP67	IP67		
Alternative model at home and abroad		E2E-X1R5-M1	E2E-X2ME1-M1	E2E-X2E1-M1		

- Structural category: Connector type
- Outward appearance illustration



Outward appearance code		LM12- □ T3	LM18- □ T	LM18- □ T3	LM22- □ T		
Overall dimensions							
Flush	Detection distance		2mm	5mm	5mm	7mm	
	DC 6~36 VDC	NPN	NO	LM12-3002NAT3	LM18-3005NAT	LM18-3005NAT3	LM22-3007NAT
			NC	LM12-3002NBT3	LM18-3005NBT	LM18-3005NBT3	LM22-3007NBT
			NO+NC	LM12-3002NCT3	LM18-3005NCT	LM18-3005NCT3	LM22-3007NCT
		PNP	NO	LM12-3002PAT3	LM18-3005PAT	LM18-3005PAT3	LM22-3007PAT
			NC	LM12-3002PBT3	LM18-3005PBT	LM18-3005PBT3	LM22-3007PBT
			NO+NC	LM12-3002PCT3	LM18-3005PCT	LM18-3005PCT3	LM22-3007PCT
	two wire system	NO	LM12-3002LAT3	LM18-3005LAT	LM18-3005LAT3	LM22-3007LAT	
		NC	LM12-3002LBT3	LM18-3005LBT	LM18-3005LBT3	LM22-3007LBT	
		SCR	NO	LM12-2002AT3	LM18-2005AT	LM18-2005AT3	LM22-2007AT
	AC 90~250 VAC	Control- lable silicon Relay output	NC	LM12-2002BT3	LM18-2005BT	LM18-2005BT3	LM22-2007BT
			NO+NC				
Non-flush	Detection distance		4mm	8mm	8mm	10mm	
	DC 6~36 VDC	NPN	NO	LM12-3004NAT3	LM18-3008NAT	LM18-3008NAT3	LM22-3010NAT
			NC	LM12-3004NBT3	LM18-3008NBT	LM18-3008NBT3	LM22-3010NBT
			NO+NC	LM12-3004NCT3	LM18-3008NCT	LM18-3008NCT3	LM22-3010NCT
		PNP	NO	LM12-3004PAT3	LM18-3008PAT	LM18-3008PAT3	LM22-3010PAT
			NC	LM12-3004PBT3	LM18-3008PBT	LM18-3008PBT3	LM22-3010PBT
			NO+NC	LM12-3004PCT3	LM18-3008PCT	LM18-3008PCT3	LM22-3010PCT
	two wire system	NO	LM12-3004LAT3	LM18-3008LAT	LM18-3008LAT3	LM22-3010LAT	
		NC	LM12-3004LBT3	LM18-3008LBT	LM18-3008LBT3	LM22-3010LBT	
		SCR	NO	LM12-2004AT3	LM18-2008AT	LM18-2008AT3	LM22-2010AT
	AC 90~250 VAC	Control- lable silicon Relay output	NC	LM12-2004BT3	LM18-2008BT	LM18-2008BT3	LM22-2010BT
			NO+NC				
Out- put current	DC	200mA	200mA	200mA	200mA		
	SCR/Relay	200mA	300mA	300mA	300mA		
Output voltage dropDC/AC		DC < 3V, AC < 10V					
Consumption current		DC < 15mA, AC < 10mA					
Standard detected object		12 × 12 × 1(A3 iron)	18 × 18 × 1(A3 iron)	18 × 18 × 1(A3 iron)	25 × 25 × 1(A3 iron)		
Repeated precision		0.01	0.02	0.02	0.036		
DC/AC Response frequency		400Hz/10Hz	200Hz/10Hz	200Hz/10Hz	200Hz/10Hz		
Working environment temperature		-25°C ~+70°C	-25°C ~+65°C	-25°C ~+65°C	-25°C ~+65°C		
Insulation resistance		50MΩ	50MΩ	50MΩ	50MΩ		
Shell material		Metal	Metal	Metal	Metal		
Protection grade		IP67	IP67	IP67	IP67		
Alternative model at home and abroad		E2E-X5ME1-M1	E2E-X5E1-M1	E2E-X10ME1-M1			

- Structural category: Connector type
- Outward appearance illustration



Outward appearance code		LM22-□T3	LM30-□T	LM30-□T3	LMF16-□T		
Overall dimensions							
Detection distance		7mm	10mm	10mm			
Flush	DC 6~36 VDC	NPN	NO	LM22-3007NAT3	LM30-3010NAT	LM30-3010NAT3	
			NC	LM22-3007NBT3	LM30-3010NBT	LM30-3010NBT3	
			NO+NC	LM22-3007NCT3	LM30-3010NCT	LM30-3010NCT3	
		PNP	NO	LM22-3007PAT3	LM30-3010PAT	LM30-3010PAT3	
			NC	LM22-3007PBT3	LM30-3010PBT	LM30-3010PBT3	
			NO+NC	LM22-3007PCT3	LM30-3010PCT	LM30-3010PCT3	
	two wire system	NO	LM22-3007LAT3	LM30-3010LAT	LM30-3010LAT3		
		NC	LM22-3007LBT3	LM30-3010LBT	LM30-3010LBT3		
		SCR Control-	NO	LM22-2007AT3	LM30-2010AT	LM30-2010AT3	
		lable silicon	NC	LM22-2007BT3	LM30-2010BT	LM30-2010BT3	
AC 90~250 VAC	Relay output						
Non-flush	DC 6~36 VDC	NPN	NO	LM22-3010NAT3	LM30-3015NAT	LM30-3015NAT3	LMF16-3015NAT
			NC	LM22-3010NBT3	LM30-3015NBT	LM30-3015NBT3	LMF16-3015NBT
			NO+NC	LM22-3010NCT3	LM30-3015NCT	LM30-3015NCT3	LMF16-3015NCT
		PNP	NO	LM22-3010PAT3	LM30-3015PAT	LM30-3015PAT3	LMF16-3015PAT
			NC	LM22-3010PBT3	LM30-3015PBT	LM30-3015PBT3	LMF16-3015PBT
			NO+NC	LM22-3010PCT3	LM30-3015PCT	LM30-3015PCT3	LMF16-3015PCT
	two wire system	NO	LM22-3010LAT3	LM30-3015LAT	LM30-3015LAT3	LMF16-3015LAT	
		NC	LM22-3010LBT3	LM30-3015LBT	LM30-3015LBT3	LMF16-3015LBT	
		SCR Control-	NO	LM22-2010AT3	LT30-2015AT	LM30-2015AT3	LMF16-2015AT
		lable silicon	NC	LM22-2010BT3	LT30-2015BT	LM30-2015BT3	LMF16-2015BT
AC 90~250 VAC	Relay output						
Out-put current	DC	200mA	200mA	200mA	200mA		
	SCR/Relay	300mA	300mA	300mA	300mA		
Output voltage dropDC/AC		DC < 3V, AC < 10V					
Consumption current		DC < 15mA, AC < 10mA					
Standard detected object		45 x 45 x 1(A3iron)					
Repeated precision		0.05	0.05	0.05	0.05		
DC/AC Response frequency		200Hz/10Hz	200Hz/10Hz	200Hz/10Hz	200Hz/10Hz		
Working environment temperature		-25°C ~+65°C	-25°C ~+65°C	-25°C ~+65°C	-25°C ~+65°C		
Insulation resistance		50MΩ	50MΩ	50MΩ	10MΩ		
Shell material		Metal	Metal	Metal	ABS Resin		
Protection grade		IP67	IP67	IP67	IP67		
Alternative model at home and abroad			E2E-X18ME1-M1	E2E-X18ME1-M1	LJ2-15/211		

- Structural category
- Outward appearance illustration



外形编号 Outward appearance code	PK01-1-2	PK01-1-3	PK01-2-2	PK01-2-3	PK01-2-2-4	PK01-2-3-4	PK02-1-2
Overall dimensions							
Contact view							
Application	DC AC NO/NC	NPN/PNP NO/NC	DC AC NO/NC	NPN/PNP NO/NC	DC AC NO/NC	NPN/PNP NO/NC	DC AC NO/NC
Connector Coat color Connect the nut material	black						
Contact load Overcurrent value [A] Rated voltage [V]	CuZn,nickel plated						
Wire Length	4.0						
cable serving color	250						
insulator color	2m						
output display [LED]	PVC						
power indicator [LED]	black						
common data	bn,bu,bk 3 x 0.5	bn,bu 2 x 0.5	bn,bu 2 x 0.5	bn,bu,bk,wh 4 x 0.34	1		
insulation resistance	-						
environment temperature scope [° C]	-						
environment temperature scope (DIN 40 050) [° C]	≥ 10°Ω						
environment temperature scope (VDE 0110b)	-25...+80						
protection level (VDE 0110b)	-25...+80						
Capacitance	IP67						
	250VAC/300VDC,Gr.C						

- Structural category
- Outward appearance illustration



Outward appearance code	PK02-1-3	PK02-1-4	PK02-2-2	PK02-2-3-N	PK01-2-3-P	PK02-2-4-N	PK02-2-4-P	PK03-3	PK03-4
Overall dimensions									
Contact view									
Application	NPN/PNP NO/NC	NPN/PNP NO+NC	DC AC NO/NC	NPN NO/NC	PNP NO/NC	NPN NO+NC	PNP NO/NC	NPN/PNP NO+NC	NPN/PNP NO+NC
Connector Coat color Connect the nut material	black CuZn,nickel plated								
Contact load Overcurrent value Rated voltage	[A] [V]								
Wire Length	4.0 250								
cable serving color	2m								
insulator color	PVC								
output display	[LED]								
power indicator	[LED]	[LED]	[LED]	[LED]	[LED]	[LED]	[LED]	[LED]	[LED]
common data	-								
insulation resistance	-								
environment temperature scope	[° C]								
environment temperature scope (DIN 40 050)	[° C]								
protection level (VDE 0110b)	IP67								
Capacitance	250VAC/300VDC,Gr.C								

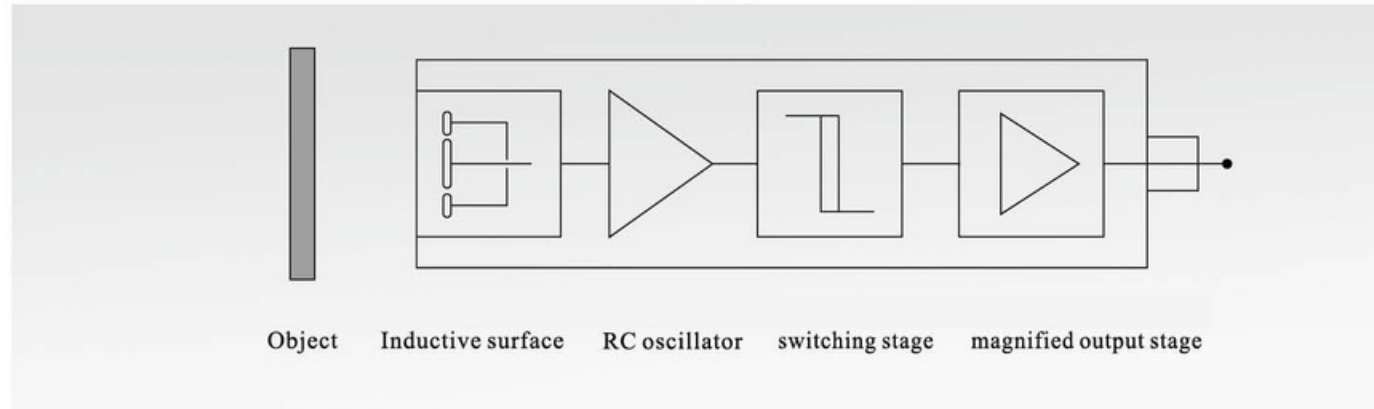
■ Safety explosion-proof proximity switch

NAMUR sensor, also called safety explosion proof proximity switch, is made according to NAMUR and NIN 1923, measured and designed as per chemical industry standard.

Structural category: Namur

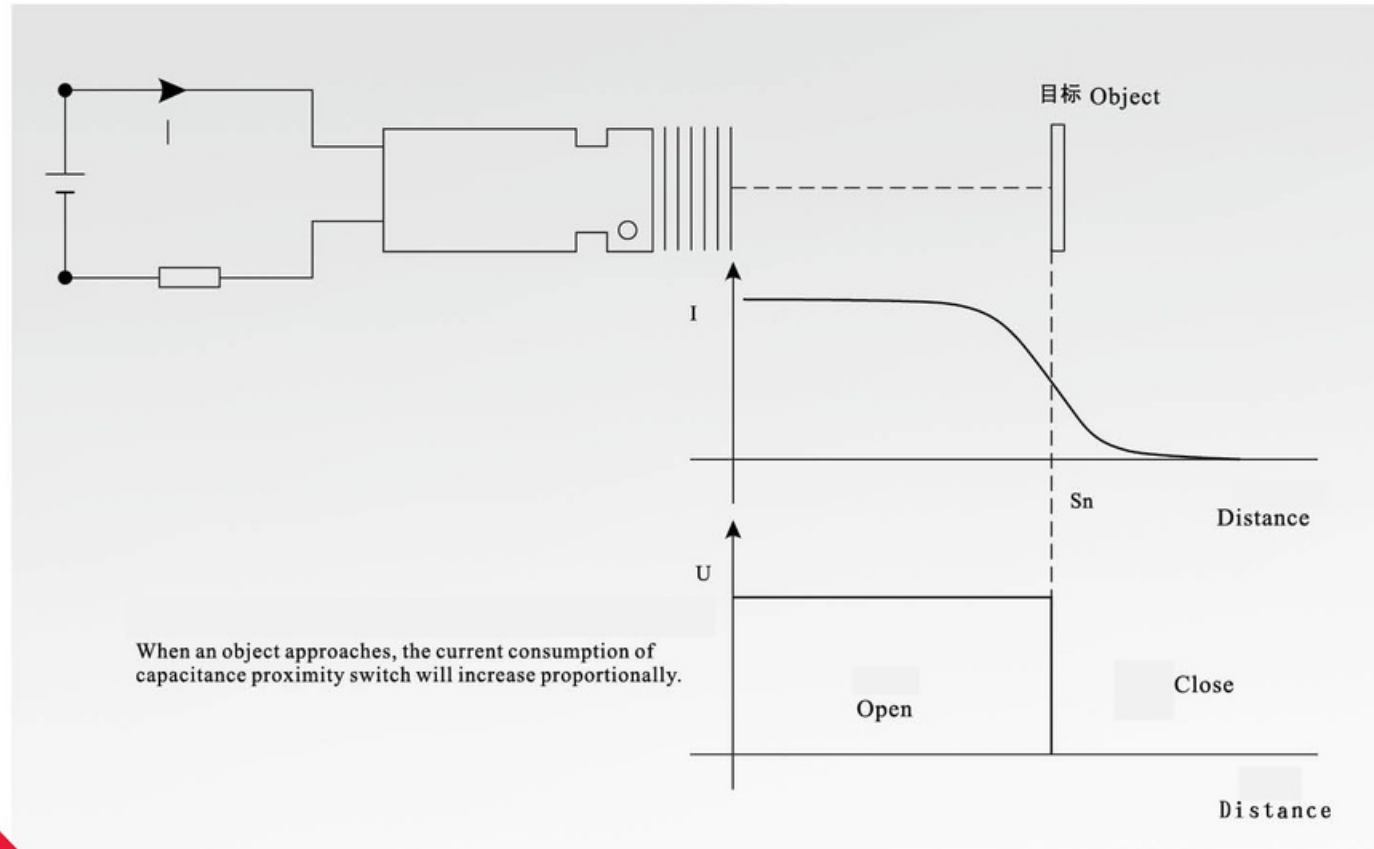
Outward appearance code	AM8-3001LB AM8-3002LB	AM18-3005LB AM18-3008LB	AM12-3002LB AM12-3004LB	AM30-3010LBAM30-3015LB	
outward appearance illustration					
Sn;(mm)					
standard detecting object Q235 steel((mm)	12 x 12 x 1t	12 x 12 x 1t	18 x 18 x 1t	30 x 30 x 1t	
Model	Embedded	AM8-3001LB	AM12-3002LB	AM18-3005LB	AM30-3010LB
	Non-embedded	AM8-3002LB	AM12-3004LB	AM18-3008LB	AM30-3015LB
Technical parameters	rated Voltage	8.2V	8.2V	8.2V	8.2V
	oscillating current/ stop oscillating current	≥ 2.2mA/ ≤ 1mA	≥ 2.2mA/ ≤ 1mA	≥ 2.2mA/ ≤ 1mA	≥ 2.2mA/ ≤ 1mA
	load resistance	1KΩ	1KΩ	1KΩ	1KΩ
	switch frequency, flush/non-flush	1.5KHz/1KHz	1.5KHz/1KHz	1KHz/700KHz	300KHz/200KHz
	shell material	brass	brass	brass	brass
	protection grade	IP67	IP67	IP67	IP67
	working environment temperature	-20°C ~ 70°C	-20°C ~ 70°C	-20°C ~ 70°C	-20°C ~ 70°C
external wiring diagram					

Working principle of capacitance proximity switch



The induction surface of capacitance sensor is composed of two coaxial metal electrodes, which form a capacitor and connected on RC oscillation circuit, just like an open capacitor electrode.

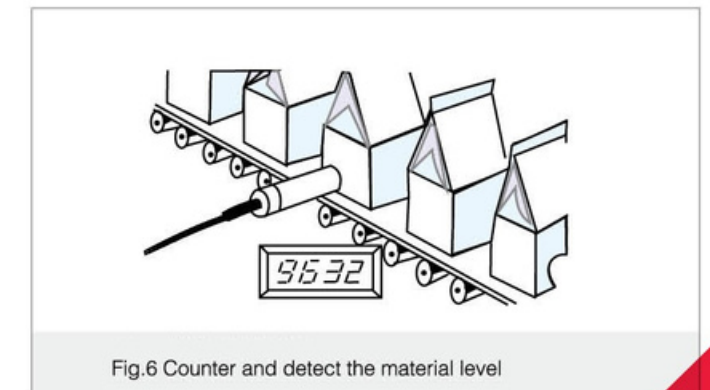
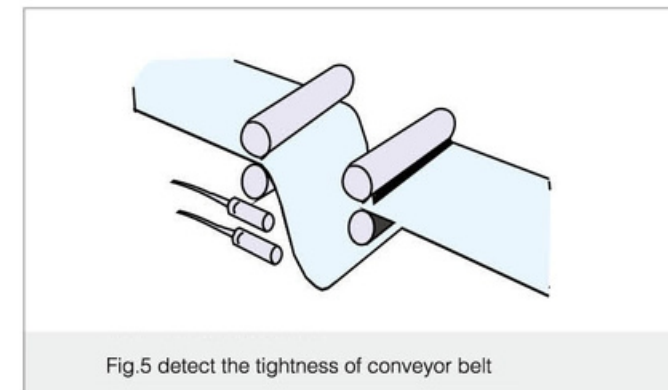
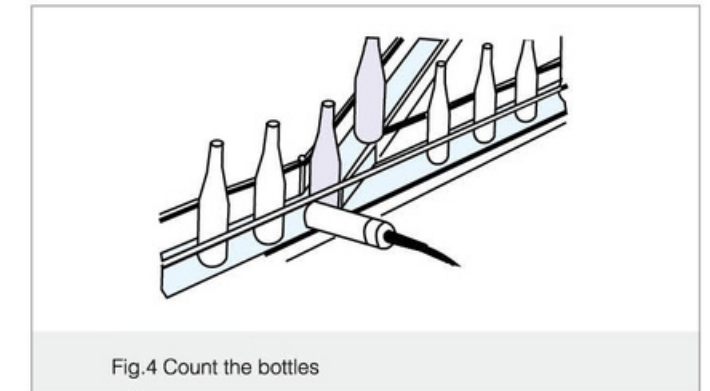
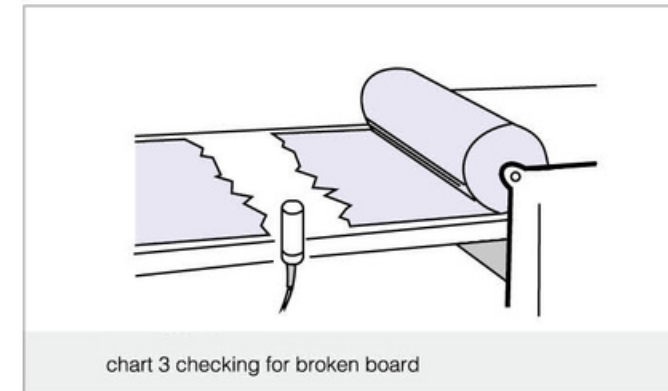
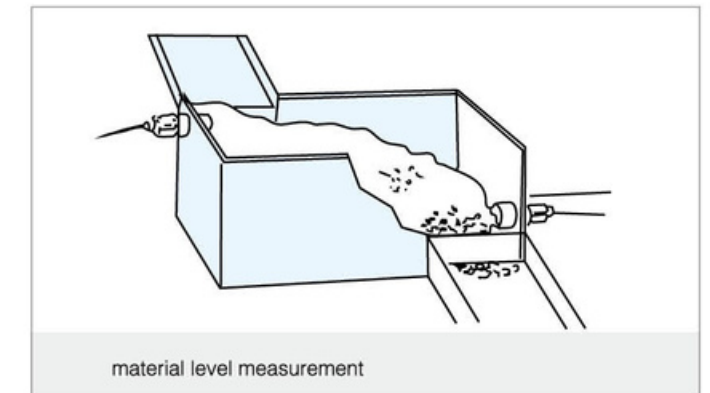
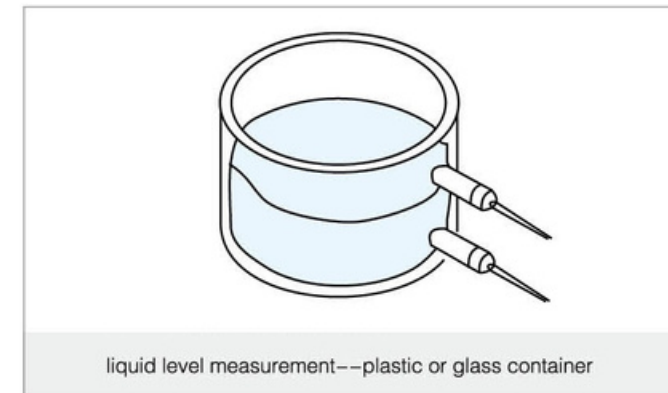
When connecting to power supply, RC oscillator does not work. When an object is close to capacitor electrode, the capacitor capacity will increase, and the oscillator will vibrate. Through the treatment of behind stage circuit, both signals of stop oscillation and oscillation will be converted to switch signs for checking the existence of object. This sensor can detect both metal and non-metal objects. For the metal object, the max. action distance can be obtained, but to nonmetal object, the action distance is determined by material dielectric constant, the more dielectric constant, the more action distance will be obtained.



The dielectric constants for some important materials are as listed as below:

Materials	Dielectric constant	Materials	Dielectric constant	Materials	Dielectric constant	Materials	Dielectric constant
synthetic resin adhesive	3.6	Styrene	3	Alcohol	25.8	Polyvinyl	2.9
Mica	6	Porcelain	4.4	Glass	5	Quartz glass	3.7
Ebonite	4	Earth wax	2.2	Cardboard	4.5	Silicon	2.8
Marble	8	Quartz sand	4.5	Cable rubber compound	2.5	Chamber	2.7
Paper	2.3	Soft rubber	2.5	Gasoline	2.2		
Organic glass	3.2	Water	80				

application illustration



Outward appearance illustration



Outward appearance code			CM12	CM18	CM24	CM30	
Overall dimensions							
Flush	Detection distance			0-5mm	0-8mm	0-10mm	
	DC 10~30 VDC	NPN	NO	CM18-3005NA	CM24-3008NA	CM30-3010NA	
			NC	CM18-3005NB	CM24-3008NB	CM30-3010NB	
			NO+NC	CM18-3005NC	CM24-3008NC	CM30-3010NC	
		PNP	NO	CM18-3005PA	CM24-3008PA	CM30-3010PA	
			NC	CM18-3005PB	CM24-3008PB	CM30-3010PB	
			NO+NC	CM18-3005PC	CM24-3008PC	CM30-3010PC	
	AC 90~250 VAC	SCR Control- lable silicon	NO	CM18-2005A	CM24-2008A	CM30-2010A	
			NC	CM18-2005B	CM24-2008B	CM30-2010B	
	Non-flush	Detection distance		0-4mm	0-8mm	0-12mm	0-15mm
DC 10~30 VDC		NPN	NO	CM12-3004NA	CM18-3008NA	CM24-3012NA	CM30-3015NA
			NC	CM12-3004NB	CM18-3008NB	CM24-3012NB	CM30-3015NB
			NO+NC		CM18-3008NC	CM24-3012NC	CM30-3015NC
		PNP	NO	CM12-3004PA	CM18-3008PA	CM24-3012PA	CM30-3015PA
			NC	CM12-3004PB	CM18-3008PB	CM24-3012PB	CM30-3015PB
			NO+NC		CM18-3008PC	CM24-3012PC	CM30-3015PC
AC 90~250 VAC		SCR Control- lable silicon	NO		CM18-2008A	CM24-2012A	CM30-2015A
			NC		CM18-2008B	CM24-2012B	CM30-2015B
Detectable object			conductor and dielectric body			conductor and dielectric body	
Consumption current			DC < 15mA, AC < 10mA			DC < 15mA, AC < 10mA	
Output current			DC: 200mA, AC: 200mA			DC: 200mA, AC: 200mA	
Output voltage drop DC/AC			DC < 3V, AC < 7V			DC < 3V, AC < 7V	
DC/AC Response frequency			DC 50Hz, AC: 10Hz			NPN-PNP) 50Hz, AC: 10Hz	
Shell material			Metal	ABS / Resin, Metal	Metal	ABS / Resin, Metal	
Working environment temperature			-25°C ~ 70°C			-25°C ~ 70°C	
Insulation resistance			50MΩ			50MΩ	
Protection grade			IEC standard IP54			IEC standard IP54	
Alternative model at home and abroad			LJC18A3- □□	LJC24A3- □□	2K-X15M □	E2K-C25 □□	



CM20	CM34	CM35	CM48	CMF37
Overall dimensions				
Detection distance		0-10mm	0-20mm	0-25mm
DC 10~30 VDC	NPN	NO	CM20-3010NA	CM34-3020NA
DC 10~30 VDC		NC	CM20-3010NB	CM34-3020NB
		NO+NC	CM20-3010NC	CM34-3020NC
		PNP	NO	CM20-3010PA
NC			CM20-3010PB	CM34-3020PB
NO+NC			CM20-3010PC	CM34-3020PC
AC 90~250 VAC	SCR Control- lable silicon	NO	CM20-2010A	CM34-2020A
		NC	CM20-2010B	CM34-2020B
Detection distance		0-25mm	0-20mm	0-25mm
DC 10~30 VDC	NPN	NO	CM35-3025NA	CM48-3020NA
		NC	CM35-3025NB	CM48-3020NB
		NO+NC	CM35-3025NC	CM48-3020NC
	PNP	NO	CM35-3025PA	CM48-3020PA
		NC	CM35-3025PB	CM48-3020PB
		NO+NC	CM35-3025PC	CM48-3020PC
AC 90~250 VAC	SCR Control- lable silicon	NO	CM35-2025A	CM48-2020A
		NC	CM35-2025B	CM48-2020B
Detectable object		conductor and dielectric body		
Consumption current		DC < 15mA, AC < 10mA		
Output current		DC: 200mA, AC: 200mA		
Output voltage drop DC/AC		DC < 3V, AC < 7V		
DC/AC Response frequency		NPN-PNP) 50Hz, AC: 10Hz		
Shell material		ABS Resin	ABS Plastic	
Working environment temperature		-25°C ~ 70°C		
Insulation resistance		50MΩ		
Protection grade		IEC standard IP54		
Alternative model at home and abroad		E2K-C25 □□		

一、Brief Introduction

SM series Hall sensor is a kind of magnet-sensitive sensor consisting of voltage regulator, Hall voltage generator, differential amplifier, Schmidt trigger and the output pole of collector open circuit. Its input is the magnetic flux density. The output is a digital voltage signal.

二、Features

- Wide mains voltage range
- High frequency
- Long service life, compact volume, and convenient installation
- Directly connect to transistor and logic circuit port like, TTL.MOS

三、Model and parameters

Outward appearance illustration

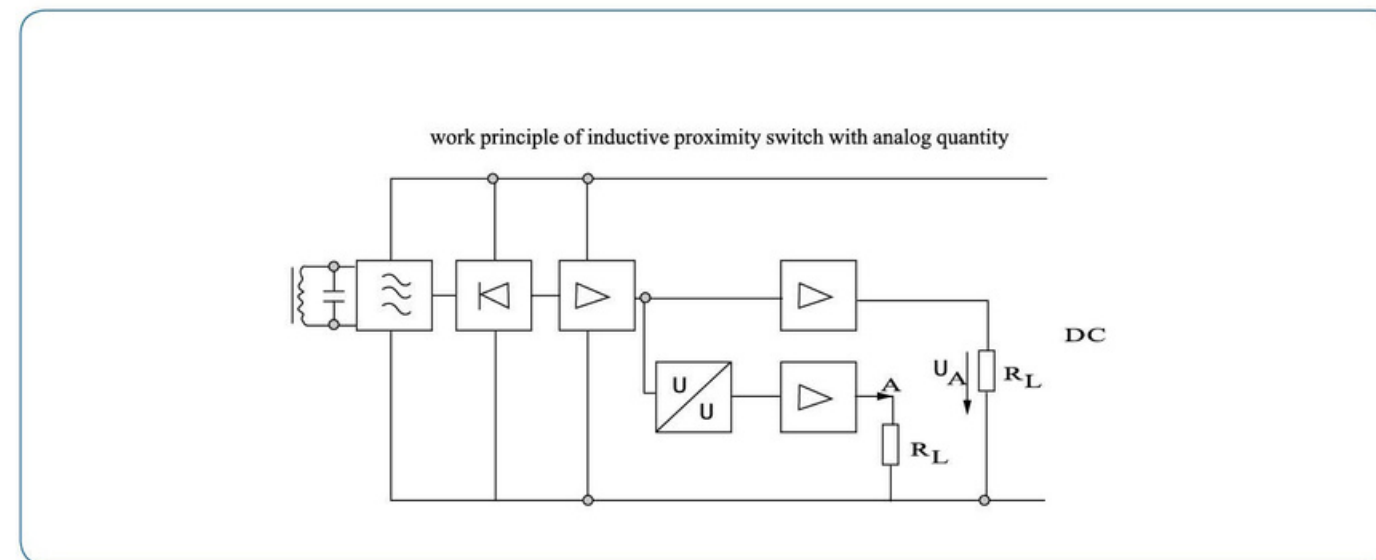


Outward appearance code	SM8	SM12	SM14	SM18	
Overall dimensions					
Detection distance	10mm	10mm	10mm	10mm	
Power voltage	5~24VDC	5~24VDC	5~24VDC	5~24VDC	
Detectable object	Permanent magnet	Permanent magnet	Permanent magnet	Permanent magnet	
Output low level voltage	200mV	200mV	200mV	200mV	
Output high level voltage	0.1uA	0.1uA	0.1uA	0.1uA	
Power current	8mA	8mA	8mA	8mA	
ON-OFF frequency	320KHz				
Working point magnetic density	22mT				
Shell material	Metal				
Ambient temperature	~25°C ~70°C				
Protection grade	IEC standard IP67				
Model available	NPN NO	SM8-31010NA	SM12-31010NA	SM14-31010NA	SM18-31010NA
	PNP NO	SM8-31010PA	SM12-31010PA	SM14-31010PA	SM18-31010PA
	NPN NC		SM12-31010NB	SM14-31010NB	SM18-31010NB
	PNP NC		SM12-31010PB	SM14-31010PB	SM18-31010PB

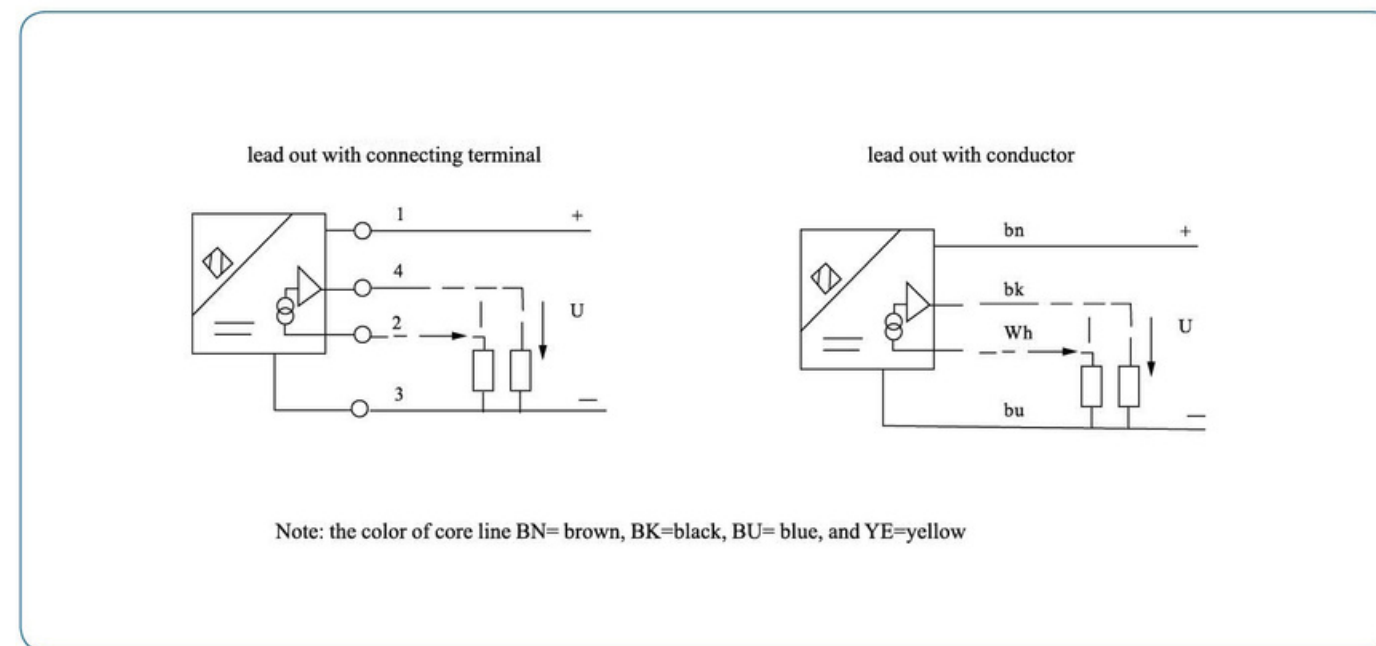
Work principle

Inductive proximity switch with analog quantity output has the similar work principle with general inductive proximity switch. The energy of oscillator system decreases when a metal object approaches the inductive side. The energy decrease degree indicates the distance between the metal object and the sensor.




The energy consumption is transformed into measuring sign in an additional device and magnified through linear treatment. (Fig. 5) Provide a standard analog signal at output terminal (0-5V or 4-20mA)






Installation and connection



Category
induction displacement volume linear sensor

Outward appearance code		XM18		XM24		XM30	
Overall dimensions							
Detectable object		Metal		Metal		Metal	
Detection distance		Flush type: 5mm	Non-flush: 8mm	Flush type: 8mm	Non-flush: 10mm	Flush type: 10mm	Non-flush: 15mm
Model available	Current type	XM18-3005PMI	XM18-3008PMI	XM24-3008PMI	XM24-3010PMI	XM30-3010PMI	XM30-3015PMI
	Voltage type	XM18-3005PMU	XM18-3008PMU	XM24-3008PMU	XM24-3010PMU	XM30-3010PMU	XM30-3015PMU
Voltage range		15~30VDC					
Consumption	at the time of detection	$\leq 200\text{mA} \dots < 4\text{mA}$					
	at the time of non-detection	$\leq 20\text{mA}$					
Loading resistance	Current type	0~300 Ω					
	Voltage type	$\geq 2.2\text{K} \Omega$					
Output	Current type	4~20mA					
	Voltage type	0-5V/0-10V					
Output characteristic diagram		Current type characteristic plot		Current type characteristic plot		Current type characteristic plot	
		Voltage type characteristic graph		Voltage type characteristic graph		Voltage type characteristic graph	
Allowable voltage undulation		$\leq 5\%$					
Output signal		PNP Simulation					
Linear error		$\pm 5\%$					
Ambient temperature		-10°C ~+70°C					
Shell material		Plastic, Metal					
Protection grade		IP54					

Category
induction displacement volume linear sensor

Outward appearance code		XMF10		XMF37		XMF38	
Overall dimensions							
Detectable object		Metal		Metal		Metal	
Detection distance		Flush type: 15mm	Non-flush: 20mm	Flush type: 15mm	Non-flush: 20mm	Flush type: 40mm	Non-flush: 50mm
Model available	Current type	XMF10-3015PMI	XMF10-3020PMI	XMF37-3015PMI	XMF37-3020PMI	XMF38-3040PMI	XMF38-3050PMI
	Voltage type	XMF10-3015PMU	XMF10-3020PMU	XMF37-3015PMU	XMF37-3020PMU	XMF38-3040PMU	XMF38-3050PMU
Voltage range		15~30VDC					
Consumption	at the time of detection	$\leq 200\text{mA} \dots < 4\text{mA}$					
	at the time of non-detection	$\leq 20\text{mA}$					
Loading resistance	Current type	0~300 Ω					
	Voltage type	$\geq 2.2\text{K} \Omega$					
Output	Current type	4~20mA					
	Voltage type	0-5V/0-10V					
Output characteristic diagram		Current type characteristic plot		Current type characteristic plot		Current type characteristic plot	
		Voltage type characteristic graph		Voltage type characteristic graph		Voltage type characteristic graph	
Allowable voltage undulation		$\leq 5\%$					
Output signal		PNP Simulation					
Linear error		$\pm 5\%$					
Ambient temperature		-10°C ~+70°C					
Shell material		Plastic, Metal					
Protection grade		IP54					

reed sensor

Also called magnetic switch, reed sensor is applicable for position determination of pneumatic and/or hydraulic cylinder and piston pump. It also can be used as limit switch. When the magnetic object approaches, the reed closes and sends out switch signal through magnification. Compared with inductive sensor, it has the following strongpoints: can be installed in metal closely and side by side and detect through metal object. Its detection distance subjects to the intensity of magnetic field of detected object. Reed sensor is not applicable in the occasion of severe vibration.



D-SM2C 34 × 9 × 7 × 10



CK3-J, CK-4 23 × 10 × 7 × 5



TAIY0-YR101 27 × 10 × 9



HWK23(GH1) 34 × 16 × 6



D-K59 33 × 15 × 12



D-A80 33 × 12 × 14



HL-30 30 × 12 × 12



TCS1-F 26 × 12 × 10



SR-401 40 × 32 × 20



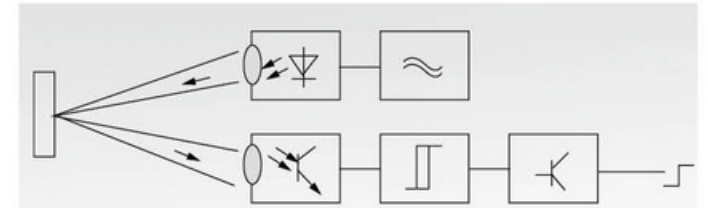
TCS2-E 26 × 12 × 10



SR-402 34 × 35 × 10

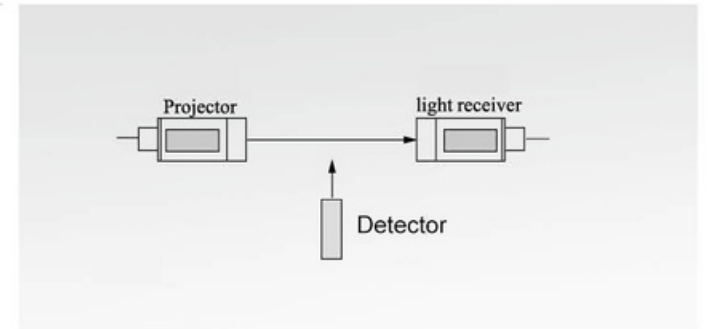
Principle of photoelectric switch

The principle of photoswitch: the projector will judge and react on the basis of light beam from the projector which is interdicted by object or emitted partly.



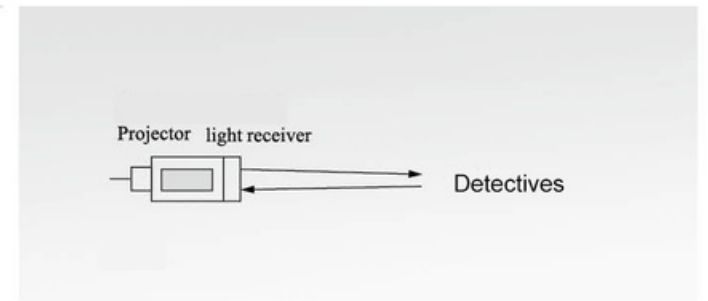
Description

Through-beam type photoelectric switch is designed that via the light beam between opposite-mounted transmitter and receiver, the object passing through these two devices will interrupt the light beam and start the receiver. (Fig. R1)



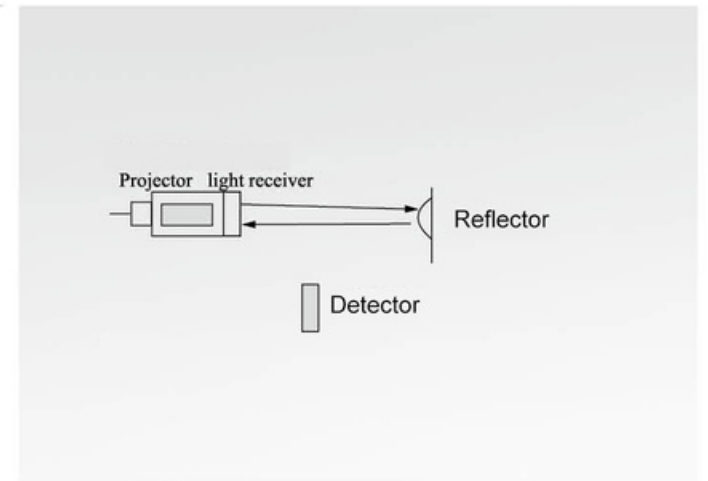
Diffuse type

Diffuse reflection type photoelectric switch integrates the transmitter and the receiver. Light reflected by the photoelectric switch is reflected back to the receiver by the detected object. (Fig. R2)



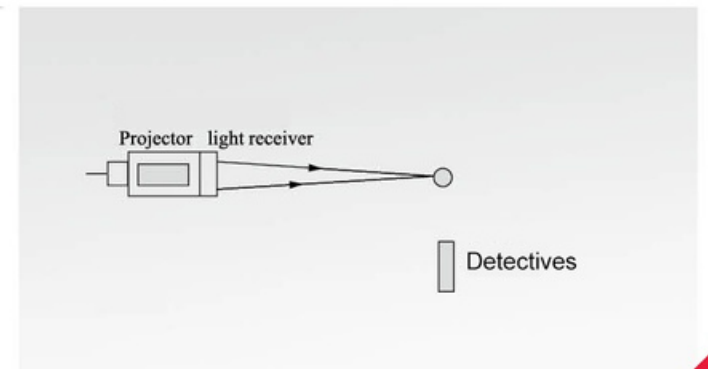
Retroreflective type

Retroreflective type photoelectric switch also integrates the transmitter and the receiver. Its difference from other models is that reflector is used to reflect light to the photoelectric switch. Though the object between the photoelectric switch and reflector can reflect the light, it is much less efficient than the reflector so as to cut down reflected light (Fig. R3)

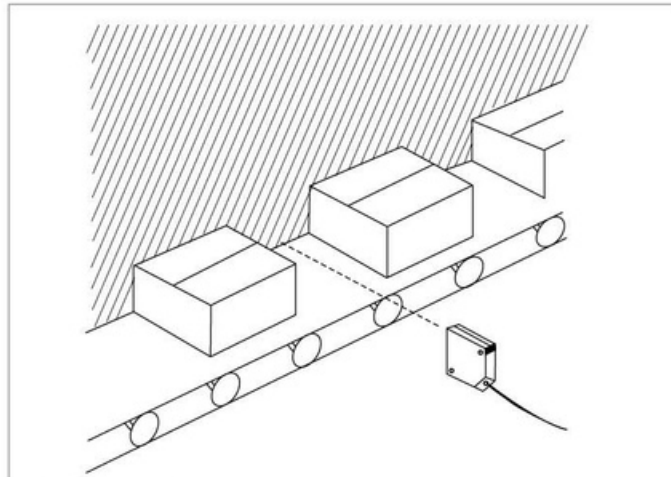


Convergence reflection type (condensation type)

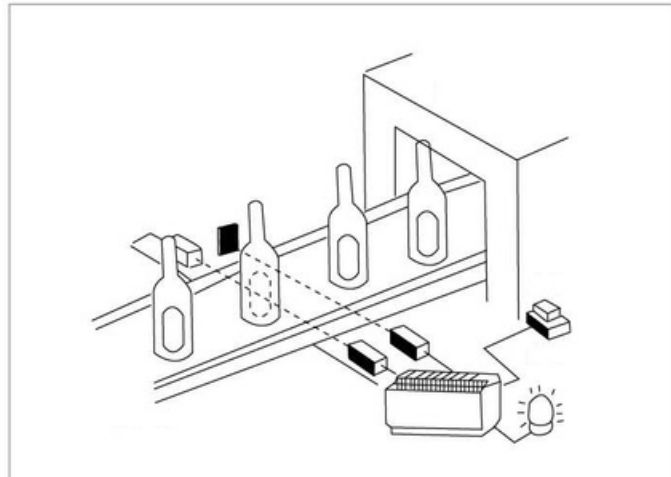
The working principle of convergence reflection type photoswitch is similar to that of direct reflection type one, while its projector and light receiver focus on object distance, only when the object presents to the focus can the photoswitch actuate. (Fig. R4)



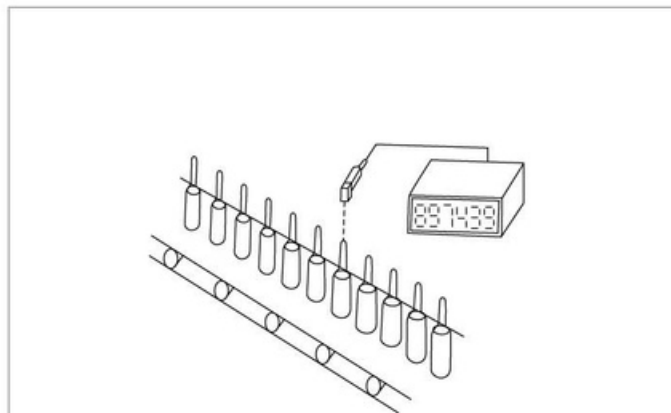
■ Application illustration of photoelectric switch



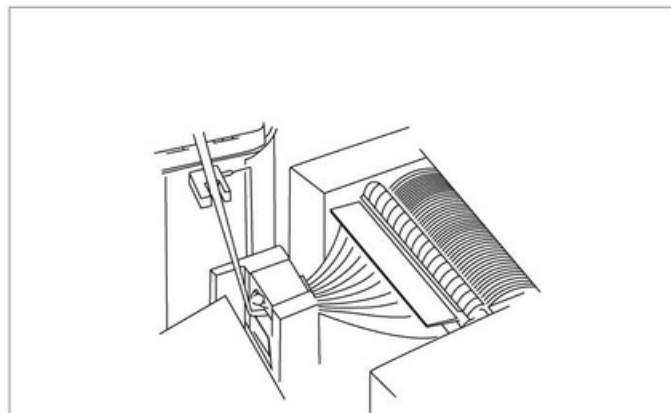
Detection of thick carton



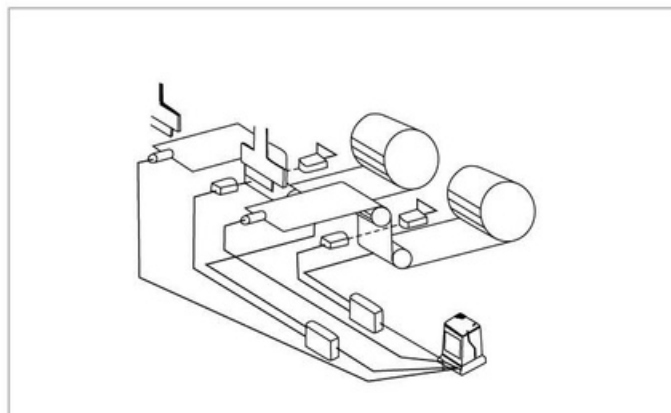
Detecting if bottle is affixed with mark or not



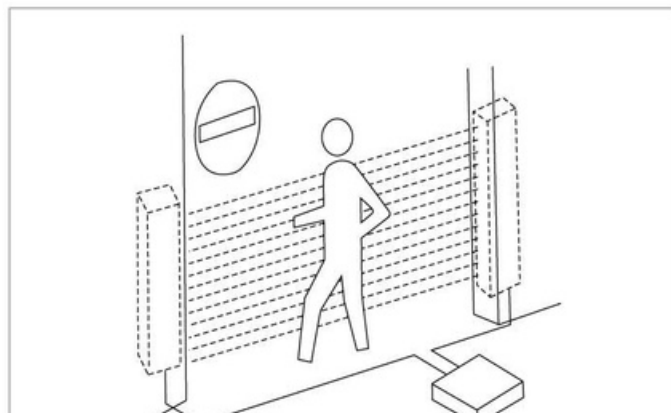
Product accounting



Check out the broken strip from carding machine



Check out the broken or faulted tobacco rolling paper



Guard again restricted zone being invaded

■ Model composition and definition of infrared ray photoelectric switch.

G 18 - 3 A 10 N A □
1 2 - 3 4 5 6 7 8

N.o	Composition	Code and definition
1	Basic form	G: infrared ray photoelectric switch
2	Outward appearance code	18, 50, 76.....
3	Working voltage	2.90-250VAC 3:10-30VDC 4:12-240VDC/24-240VAC 5: Special voltage
4	Detection way	A:diffused reflection type(scattered reflection type) B:feedback reflection type mirror(mirror reflection type) C:penetration type(correlation type) D:marking detection type G:optical fiber type
5	Detection distance	05:5cm 10:10cm 30:30cm 101:10m
6	Output form	N: NPN transistor output P: PNP transistor output J: Relay contact output L: AC two-wire output S: with two outputs: NPN and PNP
7	Output state	A: Normally open(light entering NO) B: Normally close(light sheltering NC) C: normally open+normally close
8	Subsidiary	T1: front delay T2: rear delay T: with aviation connector I: special requirement

■ For example: G18-3A 10NA

That indicates the infrared ray photoelectric switch of M18 cylinder, DC 10-30V working voltage,diffused reflection type,detection distance 10 cm, and NPN normally open type.

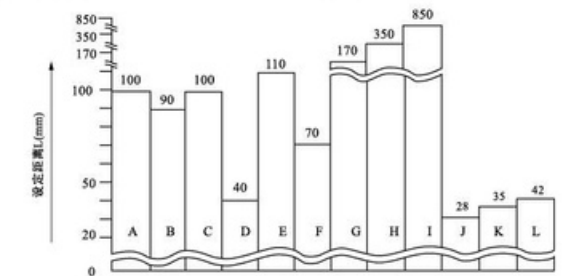
Explanation of technical terms of photoelectric switch

Technical Terms	Explanation	Technical Terms	Explanation
Optic axis of radance		Standard detected object	That indicates the standard detected object, which is to determine the basic specifications in the reflection type sensor. Generally, it is white and lusterless. Use relevant detected object (for example, the slice) to the sensor for special purpose.
Detection axis		Min detected object	That indicates the smallest object, which can be detected by sensor under a certain condition. To correlation type and mirror reflection type, that indicates opaque body (wholly light sheltering). To reflection type, that indicates the corresponding value of iron wire or copper wire.
Detection distance	<p>Correlation type Stably set distance between light projector and photoreceptor</p>	Repeated precision	<p>That indicates the error of response position when repeating action under a certain condition.</p>
	<p>Feedback reflection type Standard setting distance between sensor and reflection mirror (omit "0" on the occasion with "0")</p>		
	<p>Diffused reflection type The max stable detectable distance of detectable object, generally white matt paper (omit "0" on the occasion with "0")</p>		
		Response time	<p>That indicates the delayed time of outputting ON or OFF signal after the detected state changes.</p> <p>Detects the delay between a state change and an output ON or OFF signal</p>
		Intensity of illumination of operating environment (resistance to mixed astigmatism)	<p>That indicates max, intensity of illumination, which doesn't result in error action, expressed by intensity of illumination of photoreceptor photic surface.</p>

Cautions

Technical Terms	Explanation
	<p>To correlation type and feedback reflection type The set distance should be less than the detection distance stipulated in the operation instruction. Because of keeping a room, although it can work when the set distance is bigger than the stipulated detection distance, the performance cannot be guaranteed. In addition, please make sure to keep certain room in the bad environment with rubbish and dust when setting a distance.</p>
Angle characteristic	<p>To diffused reflection type The detection distance shown in the specification manual is in accordance with standard detected object. Actual detection distance will change in pace with the change of the size, color, surface evenness of detected object. Please ensure the stipulated room when set distance.</p> <p>According to the change of detected object size and variation regulation of detection distance, bigger detected object, bigger reflection volume, longer detection distance. But when the size of optic receiving surface is bigger than the size of the detected object, the detection distance won't increase even if the object size increases again.</p>
The characteristic of detected object size and detection distance	<p>To reflection type, because the size of detected object affects detection distance, this diagram is useful to determine the stable detection distance according to the size of detected object. The sensor with sensitivity button is to turn the sensitivity to the relevant position of max. Detection distance where exactly detecting the standard detected object.</p>

The difference between different detection distances of the detected object (Apply to scattered reflection type)

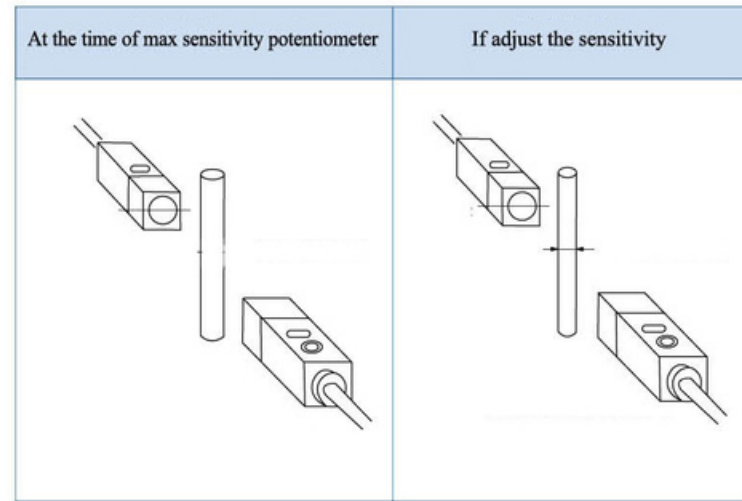


- A. White matt paper (reference)
- B. Natural color carton
- C. Veneer
- D. Black matt paper (Grade 3 glossiness)
- E. Glossy veneer (Natural cream-colored board, brown propylene board, red ethylene synthetic board)
- F. Grey ethylene synthetic board
- G. Green glossy rubber board
- H. Alboard
- I. Reflector or reflecting board
- J. Rusty iron bar 10
- K. Black cloth
- L. Dark blue cloth

Method of anti mutual-interference and cautions

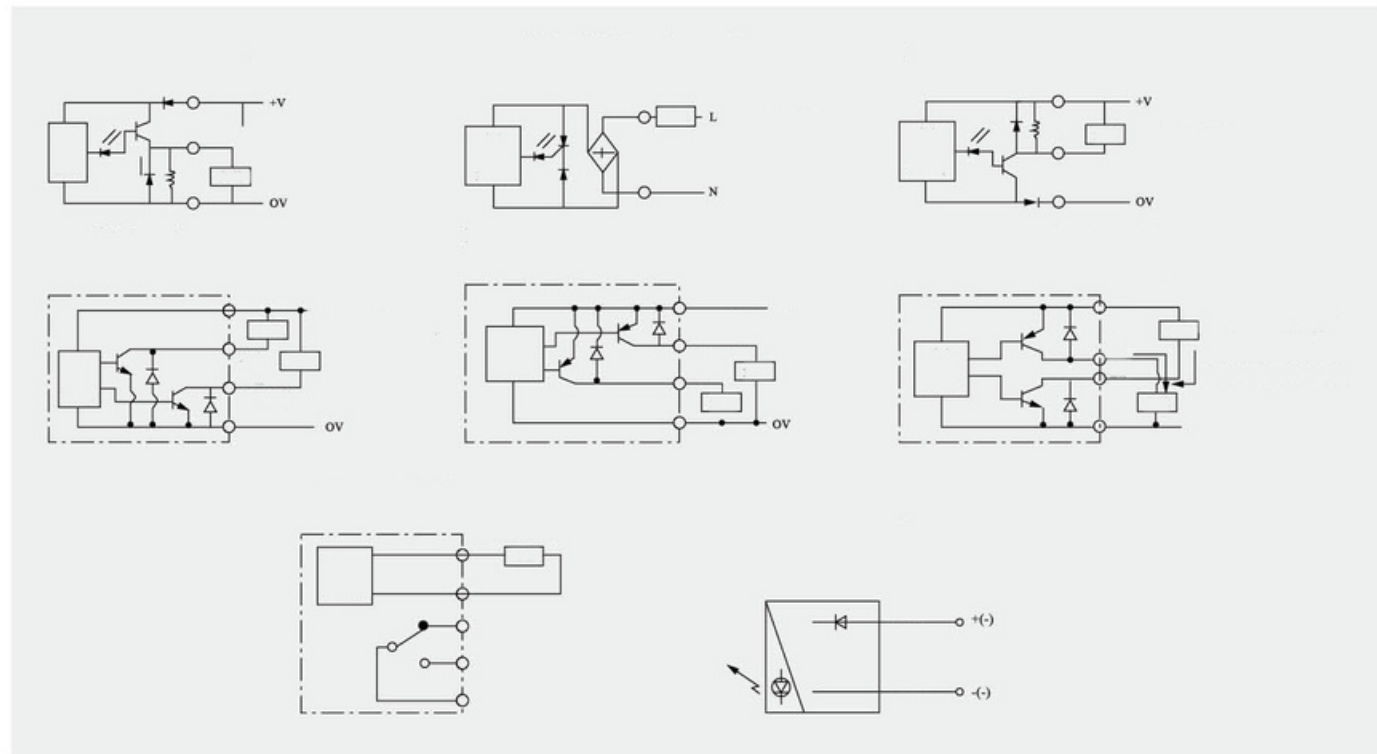
The unstable action resulted from the entrance light from another sensor while the photoelectric sensor is approaching the equipment is called mutual interference.

- Mutual cross installation of optic projector and photoreceptor
- When using reflection type in parallel, the mutual spacing should be kept at over 1.4 times detection distance.
- When using correlation type in parallel, the mutual spacing should be kept at over 0.4 times detection distance.



- The mains voltage should be within the range of operating mains voltage.
- The following installation occasions will result in error action, take note of.
 - ① Dusty occasion
 - ② The occasion with corrosive gas
 - ③ The occasion directly spattered with water, oil and agent, etc
 - ④ Outdoor or the occasion directly shine by hard light like, sunlight

Output return diagram of photoelectric switch



Outward appearance illustration



Outward appearance code		G12	G13	G14	G15		
Overall dimensions							
Diffuse type	Detection distance		7cm	10cm	10cm	10cm	
	DC 10~30 VDC	NPN	NO	G12-3A07NA	G13-3A10NA	G14-3A10NA	G15-3A10NA
			NC	G12-3A07NB	G13-3A10NB	G14-3A10NB	G15-3A10NB
			NO+NC				
		PNP	NO	G12-3A07PA	G13-3A10PA	G14-3A10PA	G15-3A10PA
			NC	G12-3A07PB	G13-3A10PB	G14-3A10PB	G15-3A10PB
			NO+NC				
	AC 90~250 VAC	SCR Control- lable silicon	NO				
			NC				
	Relay output						
Retroreflective	Detection distance		1m	1m	1m	1m	
	DC 10~30 VDC	NPN	NO	G12-3B1NA	G13-3B1NA	G14-3B1NA	G15-3B1NA
			NC	G12-3B1NB	G13-3B1NB	G14-3B1NB	G15-3B1NB
			NO+NC				
		PNP	NO	G12-3B1PA	G13-3B1PA	G14-3B1PA	G15-3B1PA
			NC	G12-3B1PB	G13-3B1PB	G14-3B1PB	G15-3B1PB
			NO+NC				
	AC 90~250 VAC	SCR Control- lable silicon	NO				
			NC				
	Relay output						
Trough beam	Detection distance		3m	3m	3m	3m	
	DC 10~30 VDC	NPN	NO	G12-3C3NA	G13-3C3NA	G14-3C3NA	G15-3C3NA
			NC	G12-3C3NB	G13-3C3NB	G14-3C3NB	G15-3C3NB
			NO+NC				
		PNP	NO	G12-3C3PA	G13-3C3PA	G14-3C3PA	G15-3C3PA
			NC	G12-3C3PB	G13-3C3PB	G14-3C3PB	G15-3C3PB
			NO+NC				
	AC 90~250 VAC	SCR Control- lable silicon	NO				
			NC				
	Relay output						
DC/SCR/ Control output		DC: 200mA					
DC/AC Consumption current		DC<15mA					
DC/AC Response time		DC<2ms					
Directional angle		3° -10°					
Detected object		transparent or opaque body					
Working environment temperature		-25°C ~+55°C					
Intensity of illumination of working environment		Sunlight under 10000LX		incandescent lamp under 3000LX			
Shell material		Metal	Metal	Plastic	Plastic, Metal		
Protection grade		IP54	IP54	IP54	IP54		

Outward appearance illustration



Outward appearance code			G16	G17	G18	G23	
Overall dimensions							
Diffuse type	Detection distance		10cm	30cm	10cm-30cm	10cm-50cm	
	DC 10~30 VDC	NPN	NO	G16-3A10NA	G17-3A30NA	G18-3A10NA	G23-3A10NA
			NC	G16-3A10NB	G17-3A30NB	G18-3A10NB	G23-3A10NB
			NO+NC			G18-3A10NC	
		PNP	NO	G16-3A10PA	G17-3A30PA	G18-3A10PA	G23-3A10PA
			NC	G16-3A10PB	G17-3A30PB	G18-3A10PB	G23-3A10PB
			NO+NC			G18-3A10PC	
	AC 90~250 VAC	SCR Control- lable silicon	NO			G18-2A10LA	
			NC			G18-2A10LB	
	Relay output						
Retroreflective	Detection distance		1m	2m	2m	2m	
	DC 10~30 VDC	NPN	NO	G16-3B1NA	G17-3B2NA	G18-3B2NA	G23-3B2NA
			NC	G16-3B1NB	G17-3B2NB	G18-3B2NB	G23-3B2NB
			NO+NC			G18-3B2NC	
		PNP	NO	G16-3B1PA	G17-3B2PA	G18-3B2PA	G23-3B2PA
			NC	G16-3B1PB	G17-3B2PB	G18-3B2PB	G23-3B2PB
			NO+NC			G18-3B2PC	
	AC 90~250 VAC	SCR Control- lable silicon	NO			G18-2B2LA	
			NC			G18-2B2LB	
	Relay output						
Trough beam	Detection distance			3m	5m	5m	
	DC 10~30 VDC	NPN	NO		G17-3C3NA	G18-3C5NA	G23-3C5NA
			NC		G17-3C3NB	G18-3C5NB	G23-3C5NB
			NO+NC			G18-3C5NC	
		PNP	NO		G17-3C3PA	G18-3C5PA	G23-3C5PA
			NC		G17-3C3PB	G18-3C5PB	G23-3C5PB
			NO+NC			G18-3C5PC	
	AC 90~250 VAC	SCR Control- lable silicon	NO		G18-2C5LA		
			NC		G18-2C5LB		
	Relay output						
DC/SCR/ Control output			DC: 200mA, AC: 300mA				
DC/AC Consumption current			DC: < 15mA, AC: < 10mA				
DC/AC Response time			DC < 2mS, AC < 20mS				
Directional angle			3° - 10°				
Detected object			transparent or opaque body				
Working environment temperature			-25°C ~ +55°C				
Intensity of illumination of working environment			Sunlight under 10000LX		incandescent lamp under 3000LX		
Shell material			Plastic	Plastic	Plastic	Metal	
Protection grade			IP54	IP54	IP66	IP54	



G24	G30	G33	G35	G36
Overall dimensions				
50cm	20~100cm	10cm	50cm	20cm
G24-3A50NA	G30-3A70NA	G33-3A10NA	G35-3A50NA	G36-3A20NA
G24-3A50NB	G30-3A70NB	G33-3A10NB	G35-3A50NB	G36-3A20NB
G24-3A50PA	G30-3A70NC	G33-3A10NC	G35-3A50NC	G36-3A20NC
G24-3A50PB	G30-3A70PA	G33-3A10PA	G35-3A50PA	G36-3A20PA
	G30-3A70PB	G33-3A10PB	G35-3A50PB	G36-3A20PB
	G30-3A70PC	G33-3A10PC	G35-3A50PC	G36-3A20PC
	G30-2A70LA		G35-2A50LA	
	G30-2A70LB		G35-2A50LB	
	G30-2A70JC		G35-2A50JC	
4m	m	1m	3m	2m
G24-3B4NA	G30-3B3NA	G33-3B1NA	G35-3B3NA	G36-3B2NA
G24-3B4NB	G30-3B3NB	G33-3B1NB	G35-3B3NB	G36-3B2NB
G24-3B4PA	G30-3B3NC	G33-3B1NC	G35-3B3NC	G36-3B2NC
G24-3B4PB	G30-3B3PA	G33-3B1PA	G35-3B3PA	G36-3B2PA
	G30-3B3PB	G33-3B1PC	G35-3B3PB	G36-3B2PB
	G30-3B3PC		G35-3B3PC	G36-3B2PC
	G30-2B3LA		G35-2B3LA	
	G30-2B3LB		G35-2B3LB	
	G30-2B3JC		G35-2B3JC	
5m	0m	3m	5m	m
G24-3C5NA	G30-3C101NA	G33-3C3NA	G35-3C5NA	G36-3C5NA
G24-3C5NB	G30-3C101NB	G33-3C3NB	G35-3C5NB	G36-3C5NB
G24-3C5PA	G30-3C101NC	G33-3C3NC	G35-3C5NC	G36-3C5NC
G24-3C5PB	G30-3C101PA	G33-3C3PA	G35-3C5PA	G36-3C5PA
	G30-3C101PB	G33-3C3PB	G35-3C5PB	G36-3C5PB
	G30-3C101PC	G33-3C3PC	G35-3C5PC	G36-3C5PC
	G30-2C101LA		G35-2C5LA	
	G30-2C101LB		G35-2C5LB	
	G30-2C101JC		G35-2C5JC	
DC/SCR/ Control output			DC: 200mA, AC: 300mA	
DC/AC Consumption current			DC: < 15mA, AC: < 10mA	
DC/AC Response time			DC < 2mS, AC < 20mS	
Directional angle			3° - 10°	
Detected object			transparent or opaque body	
Working environment temperature			-25°C ~ +55°C	
Intensity of illumination of working environment			Sunlight under 10000LX	
Shell material			Plastic	Plastic
Protection grade			IP54	IP54

Outward appearance illustration



Outward appearance code			G40	G44	G50	G54	
Overall dimensions							
Diffuse type	Detection distance		10cm	30cm	50cm	20cm	
	DC 10~30 VDC	NPN	NO	G40-3A10NA	G44-3A30NA	G50-3A50NA	G54-3A20NA
			NC	G40-3A10NB	G44-3A30NB	G50-3A50NB	G54-3A20NB
			NO+NC			G50-3A50NC	G54-3A20NC
	AC 90~250 VAC	PNP	NO	G40-3A10PA	G44-3A30PA	G50-3A50PA	G54-3A20PA
			NC	G40-3A10PB	G44-3A30PB	G50-3A50PB	G54-3A20PB
			NO+NC			G50-3A50PC	G54-3A20PC
	Relay output				G50-2A50JC		
	Retroreflective	Detection distance			3m	5m	2m
		DC 10~30 VDC	NPN	NO		G44-3B3NA	G50-3B5NA
NC					G44-3B3NB	G50-3B5NB	G54-3B2NB
NO+NC						G50-3B5NC	G54-3B2NC
AC 90~250 VAC		PNP	NO		G44-3B3PA	G50-3B5PA	G54-3B2PA
			NC		G44-3B3PB	G50-3B5PB	G54-3B2PB
			NO+NC			G50-3B5PC	G54-3B2PC
Relay output				G50-2B5JC			
Trough beam		Detection distance			5m	10m	5m
		DC 10~30 VDC	NPN	NO		G44-3C5NA	G50-3C10NA
	NC				G44-3C5NB	G50-3C10NB	G54-3C5NB
	NO+NC					G50-3C10NC	G54-3C5NC
	AC 90~250 VAC	PNP	NO		G44-3C5PA	G50-3C10PA	G54-3C5PA
			NC		G44-3C5PB	G50-3C10PB	G54-3C5PB
			NO+NC			G50-3C10PC	G54-3C5PC
	Relay output				G50-2C10JC		
	DC/SCR/ Control output		DC: 200mA, AC: 300mA, relay: 2A				
	DC/AC Consumption current		DC: < 15mA, AC: < 10mA				
DC/AC Response time		DC < 2mS, AC < 20mS					
Directional angle		3° -10°					
Detected object		透明或不透明体 transparent or opaque body					
Working environment temperature		-25°C ~+55°C					
Intensity of illumination of working environment		太阳光 10000LX 以下 Sunlight under 10000LX 白炽灯 3000LX 以下 incandescent lamp under 3000LXs					
Shell material		金属 Metal	塑料 Plastic	塑料 Plastic	塑料 Plastic		
Protection grade		IP50	IP54	IP54	IP54		



G55	G64	G68	G70	G71			
Overall dimensions							
Detection distance		20cm	10cm	20~100cm	50cm		
DC 10~30 VDC	NPN	NO	G55-3A20NA	G64-3A10NA	G70-3A20NA	G71-3A50NA	
		NC	G55-3A20NB	G64-3A10NB	G70-3A20NB	G71-3A50NB	
		NO+NC			G70-3A20NC	G71-3A50NC	
AC 90~250 VAC	PNP	NO	G55-3A20PA	G64-3A10PA	G70-3A20PA	G71-3A50PA	
		NC	G55-3A20PB	G64-3A10PB	G70-3A20PB	G71-3A50PB	
		NO+NC			G70-3A20PC	G71-3A50PC	
Relay output							
Detection distance		2m	1.5m	2m	2m		
DC 10~30 VDC	NPN	NO	G55-3B2NA	G64-3B2NA	G70-3B2NA	G71-3B2NA	
		NC	G55-3B2NB	G64-3B2NB	G70-3B2NB	G71-3B2NB	
		NO+NC			G70-3B2NC	G71-3B2NC	
AC 90~250 VAC	PNP	NO	G55-3B2PA	G64-3B2PA	G70-3B2PA	G71-3B2PA	
		NC	G55-3B2PB	G64-3B2PB	G70-3B2PB	G71-3B2PB	
		NO+NC			G70-3B2PC	G71-3B2PC	
Relay output							
Detection distance		4m	3m	5m	5m		
DC 10~30 VDC	NPN	NO	G55-3C4NA	G64-3C3NA	G68-3C5NA	G70-3C5NA	G71-3C5NA
		NC	G55-3C4NB	G64-3C3NB	G68-3C5NB	G70-3C5NB	G71-3C5NB
		NO+NC			G68-3C5NC	G70-3C5NC	G71-3C5NC
AC 90~250 VAC	PNP	NO	G55-3C4PA	G64-3C3PA	G68-3C5PA	G70-3C5PA	G71-3C5PA
		NC	G55-3C4PB	G64-3C3PB	G68-3C5PB	G70-3C5PB	G71-3C5PB
		NO+NC			G68-3C5PC	G70-3C5PC	G71-3C5PC
Relay output							
DC/SCR/ Control output		DC: 200mA, AC: 300mA					
DC/AC Consumption current		DC: < 15mA, AC: < 10mA					
DC/AC Response time		DC < 2mS, AC < 20mS					
Directional angle		3° -10°					
Detected object		transparent or opaque body					
Working environment temperature		-25°C ~+55°C					
Intensity of illumination of working environment		Sunlight under 10000LX incandescent lamp under 3000LX					
Shell material		Metal	Plastic	Plastic	Plastic	Plastic	
Protection grade		IP54	IP54	IP54	IP54	IP54	

Outward appearance illustration



Outward appearance code			G72	G180	G75	G76	
Overall dimensions							
Diffuse type	Detection distance		40cm	10cm	80cm		
	DC 10~30 VDC	NPN	NO	G72-3A40NA	G180-3A10NA	G75-3A80NA	
			NC	G72-3A40NB	G180-3A10NB	G75-3A80NB	
			NO+NC	G72-3A40NC	G180-3A10NC	G75-3A80NC	
		PNP	NO	G72-3A40PA	G180-3A10PA	G75-3A80PA	
			NC	G72-3A40PB	G180-3A10PB	G75-3A80PB	
			NO+NC	G72-3A40PC	G180-3A10PC	G75-3A80PC	
	AC 90~250 VAC	SCR Control-lable silicon	NO	G180-2A10LA	G75-2A80LA		
		NC	G180-2A10LB	G75-2A80LB			
	Relay output				G75-2A80JC		
Retroreflective	Detection distance		3m	2m	m		
	DC 10~30 VDC	NPN	NO	G72-3B3NA	G180-3B2NA	G75-3B3NA	
			NC	G72-3B3NB	G180-3B2NB	G75-3B3NB	
			NO+NC	G72-3B3NC	G180-3B2NC	G75-3B3NC	
		PNP	NO	G72-3B3PA	G180-3B2PA	G75-3B3PA	
			NC	G72-3B3PB	G180-3B2PB	G75-3B3PB	
			NO+NC	G72-3B3PC	G180-3B2PC	G75-3B3PC	
	AC 90~250 VAC	SCR Control-lable silicon	NO	G180-2B2LA	G75-2B3LA		
		NC	G180-2B2LB	G75-2B3LB			
	Relay output				G75-2B3JC		
Trough beam	Detection distance		5m	5m	8m	10m - 50m	
	DC 10~30 VDC	NPN	NO	G72-3C5NA	G180-3C5NA	G75-3C8NA	G76-3C101NA
			NC	G72-3C5NB	G180-3C5NB	G75-3C8NB	G76-3C101NB
			NO+NC	G72-3C5NC	G180-3C5NC	G75-3C8NC	G76-3C101NC
		PNP	NO	G72-3C5PA	G180-3C5PA	G75-3C8PA	G76-3C101PA
			NC	G72-3C5PB	G180-3C5PB	G75-3C8PB	G76-3C101PB
			NO+NC	G72-3C5PC	G180-3C5PC	G75-3C8PC	G76-3C101PC
	AC 90~250 VAC	SCR Control-lable silicon	NO	G180-2C5LA	G75-2C8LA	G76-2C101LA	
		NC	G180-2C5LB	G75-2C8LB	G76-2C101LB		
	Relay output				G75-2C8JC	G76-2C101JC	
DC/SCR/ Control output			DC: 200mA, AC: 300mA, relay: 2A				
DC/AC Consumption current			DC: < 15mA, AC: < 10mA				
DC/AC Response time			DC < 2mS, AC < 20mS				
Directional angle			3° - 10°				
Detected object			transparent or opaque body				
Working environment temperature			-25°C ~ +55°C				
Intensity of illumination of working environment			Sunlight under 10000LX		incandescent lamp under 3000LX		
Shell material			Metal	Plastic	Metal	Plastic	
Protection grade			IP50	IP66	IP54	IP54	

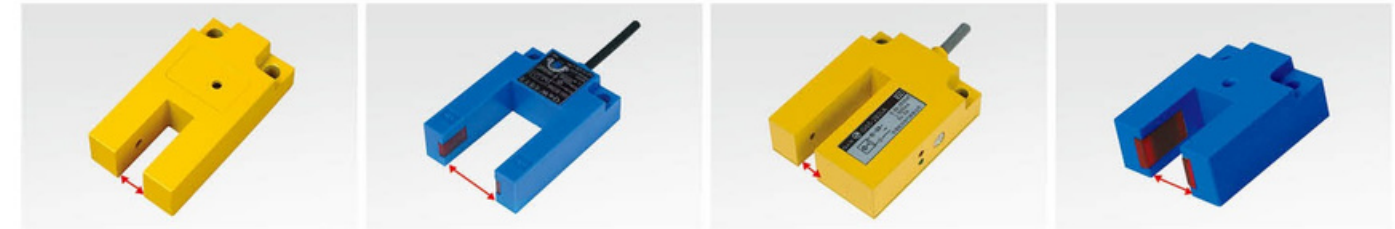


G77	G78	G80	G85	G86
30cm	40cm	80cm	1m	70cm
G77-3A30NA	G78-3A40NA	G80-3A80NA	G85-3A1NA	G86-3A70NA
G77-3A30NB	G78-3A40NB	G80-3A80NB	G85-3A1NB	G86-3A70NB
G77-3A30NC	G78-3A40NC	G80-3A80NC	G85-3A1NC	G86-3A70NC
G77-3A30PA	G78-3A40PA	G80-3A80PA	G85-3A1PA	G86-3A70PA
G77-3A30PB	G78-3A40PB	G80-3A80PB	G85-3A1PB	G86-3A70PB
G77-3A30PC	G78-3A40PC	G80-3A80PC	G85-3A1PC	G86-3A70PC
G77-2A30LA	G78-2A40LA	G80-2A80LA	G85-2A1LA	G86-2A70LA
		G80-2A80JC	G85-2A1JC	G86-2A70JC
3m	2m	m	5m	4m
G77-3B3NA	G78-3B2NA	G80-3B3NA	G85-3B5NA	G86-3B4NA
G77-3B3NB	G78-3B2NB	G80-3B3NB	G85-3B5NB	G86-3B4NB
G77-3B3NC	G78-3B2NC	G80-3B3NC	G85-3B5NC	G86-3B4NC
G77-3B3PA	G78-3B2PA	G80-3B3PA	G85-3B5PA	G86-3B4PA
G77-3B3PB	G78-3B2PB	G80-3B3PB	G85-3B5PB	G86-3B4PB
G77-3B3PC	G78-3B2PC	G80-3B3PC	G85-3B5PC	G86-3B4PC
G77-2B3LA	G78-2B2LA	G80-2B3LA	G85-2B5LA	G86-2B4LA
		G80-2B3JC	G85-2B5JC	G86-2B4JC
5m	5m	5m	10m	10m
G77-3C5NA	G78-3C5NA	85-3B5NA	G85-3C101NA	G86-3C101NA
G77-3C5NB	G78-3C5NB	85-3B5NB	G85-3C101NB	G86-3C101NB
G77-3C5NC	G78-3C5NC	85-3B5NC	G85-3C101NC	G86-3C101NC
G77-3C5PA	G78-3C5PA	85-3B5PA	G85-3C101PA	G86-3C101PA
G77-3C5PB	G78-3C5PB	85-3B5PB	G85-3C101PB	G86-3C101PB
G77-3C5PC	G78-3C5PC	85-3B5PC	G85-3C101PC	G86-3C101PC
G77-2C5LA	G78-2C5LA	85-2B5LA	G85-2C101LA	G86-2C101LA
		G80-2C5JC	G85-2C101JC	G86-2C101JC
DC/SCR/ Control output			DC: 200mA, AC: 300mA	
DC/AC Consumption current			DC: < 15mA, AC: < 10mA	
DC/AC Response time			DC < 2mS, AC < 20mS	
Directional angle			3° - 10°	
Detected object			transparent or opaque body	
Working environment temperature			-25°C ~ +55°C	
Intensity of illumination of working environment			Sunlight under 10000LX incandescent lamp under 3000LX	
Plastic	Plastic	Plastic	Metal	Metal
IP54	IP54	IP54	IP54	IP54

Outward appearance illustration



Outward appearance code			G74	G100	G139	G56	
Overall dimensions							
Detection distance			70cm	1m	1m		
Diffuse type	DC 10~30 VDC	NPN	NO	G74-3A70NA	G100-3A1NA	G139-3A1NA	
			NC	G74-3A70NB	G100-3A1NB	G139-3A1NB	
			NO+NC	G74-3A70NC	G100-3A1NC	G139-3A1NC	
		PNP	NO	G74-3A70PA	G100-3A1PA	G139-3A1PA	
			NC	G74-3A70PB	G100-3A1PB	G139-3A1PB	
			NO+NC	G74-3A70PC	G100-3A1PC	G139-3A1PC	
	AC 90~250 VAC	SCR Control-lable silicon	NO		G100-2A1LA	G139-2A1LA	
	Relay output		G74-2A70JC	G100-2A1JC	G139-2A1JC		
Detection distance			5m	5m	5m		
Retroreflective	DC 10~30 VDC	NPN	NO	G74-3B5NA	G100-3B5NA	G139-3B5NA	
			NC	G74-3B5NB	G100-3B5NB	G139-3B5NB	
			NO+NC	G74-3B5NC	G100-3B5NC	G139-3B5NC	
		PNP	NO	G74-3B5PA	G100-3B5PA	G139-3B5PA	
			NC	G74-3B5PB	G100-3B5PB	G139-3B5PB	
			NO+NC	G74-3B5PC	G100-3B5PC	G139-3B5PC	
	AC 90~250 VAC	SCR Control-lable silicon	NO		G100-2B5LA	G139-2B5LA	
	Relay output		G74-2B5JC	G100-2B5JC	G139-2B5JC		
Detection distance			15m	10m	10m	1cm	
Through beam	DC 10~30 VDC	NPN	NO	G74-3C15NA	G100-3C101NA	G139-3C101NA	G56-3E01NA
			NC	G74-3C15NB	G100-3C101NB	G139-3C101NB	G56-3E01NB
			NO+NC	G74-3C15NC	G100-3C101NC	G139-3C101NC	G56-3E01NC
		PNP	NO	G74-3C15PA	G100-3C101PA	G139-3C101PA	G56-3E01PA
			NC	G74-3C15PB	G100-3C101PB	G139-3C101PB	G56-3E01PB
			NO+NC	G74-3C15PC	G100-3C101PC	G139-3C101PC	G56-3E01PC
	AC 90~250 VAC	SCR Control-lable silicon	NO		G100-2C101LA	G139-2C101LA	
	Relay output		G74-2C15JC	G100-2C101JC	G139-2C101JC		
DC/SCR/ Control output			DC: 200mA, AC: 300mA, relay: 2A				
DC/AC Consumption current			DC: < 15mA, AC: < 10mA				
DC/AC Response time			DC < 2mS, AC < 20mS				
Directional angle			3° -10°				
Detected object			transparent or opaque body				
Working environment temperature			-25°C ~+55°C				
Intensity of illumination of working environment			Sunlight under 1000LX		incandescent lamp under 300LX		
Shell material			Plastic	Metal	Plastic	Plastic	
Protection grade			IP54	IP54	IP54	IP54	



Outward appearance code			G60	G63	G65	G57	
Overall dimensions							
Detection distance			1cm	3cm	1cm	2cm	
Diffuse type	DC 10~30 VDC	NPN	NO	G60-3E01NA	G63-3E03NA	G65-3E01NA	G57-3E02 NA
			NC	G60-3E01NB	G63-3E03NB	G65-3E01NB	G57-3E02 NB
			NO+NC	G60-3E01NC	G63-3E03NC	G65-3E01NC	
		PNP	NO	G60-3E01PA	G63-3E03PA	G65-3E01PA	G57-3E02 PA
			NC	G60-3E01PB	G63-3E03PB	G65-3E01PB	G57-3E02 PB
			NO+NC	G60-3E01PC	G63-3E03PC	G65-3E01PC	
	AC 90~250 VAC	SCR Control-lable silicon	NO				
	Relay output						
DC/SCR/ Control output			DC: 200mA, AC: 300mA				
DC/AC Consumption current			DC: < 15mA, AC: < 10mA				
DC/AC Response time			DC < 2mS, AC < 20mS				
Directional angle			3° -10°				
Detected object			transparent or opaque body				
Working environment temperature			-25°C ~+55°C				
Intensity of illumination of working environment			Sunlight under 1000LX		incandescent lamp under 300LX		
Shell material			Metal	Metal, plastic	Plastic	Plastic	
Protection grade			IP54				

■ Photo Sensor(G50 Series)

Model	G50-4C10JC	G50-4B5JC	G50-4A50JC
Type: Free voltage,Relay contact output	Through beam	Retroreflective(*1)	Diffuse type
Appearances & dimensions	 [W18xH50xL50mm] NEW	 NEW	 NEW
Detecting distance	10m	0.1-5m	500mm(100x100mmNon glossy white paper)
Detecting target	paque materials of Min.ø16mm	paque materials of Min.ø60mm	Transpquent,Translucent,Opaque materials
Hysterisis	Max.20% at detecting distance		
Response time	Max.20mS		
Power voltage	24to240VAC ± 10%/50/60Hz,24to240VDC ± 10%(Ripple P-P:Max10%)		
Sensitivity	Adjustable by VR		
Operating mode	Selectable Light ON/D or Dark ON by slide switch		
Control output	● Relay contact output	Capacity: 30VDC 3A Resistive load,250VAC 3A Resistive load Contact orde: 1C	
Protection	IP54(IEC Standard)		

(*1) Detecting cistance and detecting target of retroreflective type is the value for MS-2 and detecting distance shows available setting range of MS-2,It is able to detect the target at under 0.1m.

Model	G50-3C10JC	G50-3B5JC	G50-3A50JC
Type: Free voltage,Relay contact output	Through beam	Retroreflective(*1)	Diffuse type
Appearances & dimensions	 [W18xH50xL50mm] NEW	 NEW	 NEW
Detecting distance	10m	0.1-5m	500mm(100x100mmNon glossy white paper)
Detecting target	paque materials of Min.ø16mm	paque materials of Min.ø60mm	Transpquent,Translucent,Opaque materials
Hysterisis	Max.20% at detecting distance		
Response time	Max.20mS		
Power voltage	DC10-30V		
Sensitivity	Adjustable by VR		
Operating mode	Selectable Light ON/D or Dark ON by slide switch		
Control output	● Relay contact output	Capacity: 30VDC 3A Resistive load,250VAC 3A Resistive load Contact orde: 1C	
Protection	IP54(IEC Standard)		

(*1) Detecting cistance and detecting target of retroreflective type is the value for MS-2 and detecting distance shows available setting range of MS-2,It is able to detect the target at under 0.1m.

■ Photo Sensor(G50 Series)

Model	G50-2C10JC	G50-2B5JC	G50-2A50JC
Type: Free voltage,Relay contact output	Through beam	Retroreflective(*1)	Diffuse type
Appearances & dimensions	 [W18xH50xL50mm] NEW	 NEW	 NEW
Detecting distance	10m	0.1-5m	500mm(100x100mmNon glossy white paper)
Detecting target	paque materials of Min.ø16mm	paque materials of Min.ø60mm	Transpquent,Translucent,Opaque materials
Hysterisis	Max.20% at detecting distance		
Response time	Max.20mS		
Power voltage	AC90-250V		
Sensitivity	Adjustable by VR		
Operating mode	Selectable Light ON/D or Dark ON by slide switch		
Control output	● Relay contact output	Capacity: 30VDC 3A Resistive load,250VAC 3A Resistive load Contact orde: 1C	
Protection	IP54(IEC Standard)		

(*1) Detecting cistance and detecting target of retroreflective type is the value for MS-2 and detecting distance shows available setting range of MS-2,It is able to detect the target at under 0.1m.

■ Photo Sensor(G74 Series)




Model	G74-4C15JC	G74-4B5JC	G74-4A70JC
Type: Free voltage,Relay contact output	Through beam	Retroreflective(*1)	Diffuse type
Appearances & dimensions	 [W25xH67xL81mm] NEW	 NEW	 NEW
Detecting distance	15m	0.1-5m	700mm(100x100mmNon glossy white paper)
Detecting target	paque materials of Min.ø16mm	paque materials of Min.ø60mm	Transpquent,Translucent,Opaque materials
Hysterisis	Max.20% at detecting distance		
Response time	Max.20mS		
Power voltage	24to240VAC ± 10%/50/60Hz,24to240VDC ± 10%(Ripple P-P: Max10%)		
Sensitivity	Adjustable by VR		
Operating mode	Selectable Light ON/D or Dark ON by slide switch		
Control output	● Relay contact output	Capacity: 30VDC 3A Resistive load,250VAC 3A Resistive load Contact orde: 1C	
Protection	IP54(IEC Standard)		

(*1) Detecting cistance and detecting target of retroreflective type is the value for MS-2 and detecting distance shows available setting range of MS-2,It is able to detect the target at under 0.1m.

Photo Sensor(G74 Series)

Model	G74-3C15JC	G74-3B5JC	G74-3A70JC
Type: Free voltage,Relay contact output	Through beam	Retroreflective(*1)	Diffuse type
Appearances & dimensions	 [W25xH67xL81mm] NEW	 NEW	 NEW
Detecting distance	15m	0.1-5m	700mm(100x100mmNon glossy white paper)
Detecting target	paque materials of Min.ø16mm	paque materials of Min.ø60mm	Transparent,Translucent,Opaque materials
Hysterisis			Max.20% at detecting distance
Response time	Max.20mS		
Power voltage	DC10-30V		
Sensitivity			Adjustable by VR
Operating mode	Selectable Light ON/D or Dark ON by slide switch		
Control output	●Relay contact output	Capacity: 30VDC 3A Resistive load,250VAC 3A Resistive load Contact orde: 1C	
Protection	IP54(IEC Standard)		

(*1) Detecting cistance and detecting target of retroreflective type is the value for MS-2 and detecting distance shows available setting range of MS-2,It is able to detect the target at under 0.1m.

Model	G74-2C15JC	G74-2B5JC	G74-2A70JC
Type: Free voltage,Relay contact output	Through beam	Retroreflective(*1)	Diffuse type
Appearances & dimensions	 [W25xH67xL81mm] NEW	 NEW	 NEW
Detecting distance	15m	0.1-5m	700mm(100x100mmNon glossy white paper)
Detecting target	paque materials of Min.ø16mm	paque materials of Min.ø60mm	Transparent,Translucent,Opaque materials
Hysterisis			Max.20% at detecting distance
Response time	Max.20mS		
Power voltage	AC90-250V		
Sensitivity			Adjustable by VR
Operating mode	Selectable Light ON/D or Dark ON by slide switch		
Control output	●Relay contact output	Capacity: 30VDC 3A Resistive load,250VAC 3A Resistive load Contact orde: 1C	
Protection	IP54(IEC Standard)		

(*1) Detecting cistance and detecting target of retroreflective type is the value for MS-2 and detecting distance shows available setting range of MS-2,It is able to detect the target at under 0.1m.

GR Series General Amplifier Built-in Photoelectric Switch

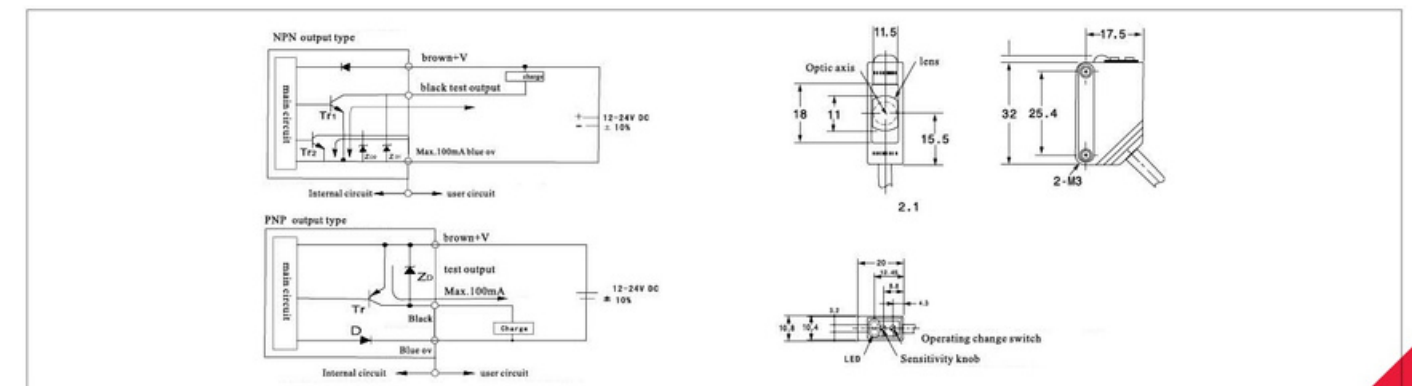
- Most suitable for general photoelectric switch
- Standard Polarized lenses reflective type
- Long-distance scanning contrast type:10m
Diffused reflection:0.8m polarized lenses reflective type:2m
- Suitable for EN product(with PNP and NPN)in the world
- CRA30 domestic manufacturing,and more price advantage



Technical parameters

	Long-distance contrast type	Contrast type	Short-distance contrast type	Diffused reflection	wide beam diffused reflection:type	Long-distance reflectve type
Model	GR-1000/GR-1000P	GR-500/GR-500P	GR-200/GR-200P	GR-10/GR-10P	GR-40/GR-40P	GR-80/GR-80P
Power supply	12-24 V ± 10 % 的波动		12-24V ± 10% Fluctuation			
Gonsumption current	Below55mA light receiver 30mA, receiver.25mA		< 30mA Less than 30mA	< 30mA Less than 30mA	< 30mA Less than 30mA	< 30mA Less than 30mA
Scanning distance	10m	5m	2m (reflective type)	1-100mm	400mm	800mm
Standard sensing object	ø9mm		ø60mm(reflective type)			
Angle of direction	—		10 × 10cm (white paper)		20 × 20cm (white paper)	20 × 20cm (white paper)
Response Output	Movement and reposition less than 1ms					
Smooth the illumination	Incandescent lamp:less than 5,000 Lux;sunlight:less than 20,000 Lux					
use of humidity range	-20~+70°C no frosting and condensation					
use of humidity range	35-85%RH					
Insulated resistance	>20MΩ					
voltage resistance	AC1000V 50/60Hz					
vibration resistance	10-55Hz peak 1.5mm towards X, Y and Z respectively for 2 hours					
concussion resistance	500m/s ² towards X,Y and Z respectively.					
protection level	IP66 (IEC specification)					
circuit protection	revent error output when power supply is reserve connecting protection ,through/cutoff(approximately 100ms)					

Explanation of the product



■ Connection diagram

DC type	Brown, ①	DC 10~30V	● Standard type	
	Blue, ③	OV		
	Black, ④	100mA Output 100mA max. TEST INPUT for emitted		
	White, ②	Connected to (Brown, ①) - LIGHT ON Connected to (Blue, ③) - DARK ON		
AC type	Brown, ①	AC 22~240V	● Connector type	
	Blue, ②			
	Black, ③			



■ Specifications

Item	Type	DC type				DC type					
		Through beam type	Retro-reflection type	With polarizing filter	Diffused reflection type	Through beam type	Retro-reflection type	With polarizing filter	Diffused reflection type	Diffused reflection type	
		GTD-1500(C) (N,P)	GTD-300(C) (N,P)	GRDF-100(C) (N,P)	GDD-11(C) (N,P)	GDD-40(C) (N,P)	GTA-1500(C) (L,D)	GTD-300(C) (L,D)	GRAF-100(C) (L,D)	GDA-11(C) (L,D)	GDA-40(C) (L,D)
Detecting distance		15m	0.05~3m	0.05~1m	※11cm	※40cm	15m	0.05~3m	0.05~1m	※11cm	※40cm
Supply voltage		DC 10~30V				AC 22~240V ± 10% 50/60Hz					
Current consumption		40mA max.	30mA max.			10mA max.	5mA max.				
Detecting object		Opaque object □ 15mm min.	Opaque object □ 45mm min.	Transparent and opaque object □ 15mm min.	Transparent and opaque object □ 15mm min.	Opaque object □ 15mm min.	Opaque object □ 45mm min.	Transparent and opaque object □ 15mm min.	Transparent and opaque object □ 15mm min.	Transparent and opaque object □ 15mm min.	Transparent and opaque object □ 15mm min.
Response time		1.5ms max.				15ms max.					
Hysteresis		15%max.(at11cm) 20%max.(at40cm)				15%max.(at11cm) 20%max.(at40cm)					
Light source		IRLED	Red LED	IR LED	IR LED	Red LED	IR LED	Red LED	IR LED	IR LED	IR LED
Sensitivity adjustment		I rotation volume		I rotation volume		I rotation volume		I rotation volume		I rotation volume	I rotation volume
Indicator		Incident Indicator(Red)				Power indicator for emitter					
Control output		NPN or PNP open collector 100mA max. DC30V				FET output 250mA max.AC 240V					
Operation mode		LIGHT ON, DARK ON selectable by control cable				LIGHT ON, type or DARK ON type					
Connection		Cable:PVCø5x2m,4x0.3mm ² Connector:M12x4 Pins				Cable: PVC ø5x2m,3x0.3mm ² Connector: M12x4 pins					
Noise resistance		100 Vp, pulse width 1µs(Noise simulator)									
Insulation resistor		20MΩ min.(at DC500V)									
Ambient temperature humidity		-25~55°C (There should be no freezing)/35~85%RH									
Environmental illuminance		Sunlight:10000/x max. Incandescent lamp:3000lx max.									
Vibration Shock resistance		Vibration:10~55Hz Amplitude 1.5mm X.Y.Z,each 2 hrs. Shock:500m/x ² (50G) X.Y.Z,each 3 times									
Protection category material		IP66(IEC 144) Case:BSBM Lens:PC(PMMA for polarizing filter type)									

■ Dimensions(mm)

