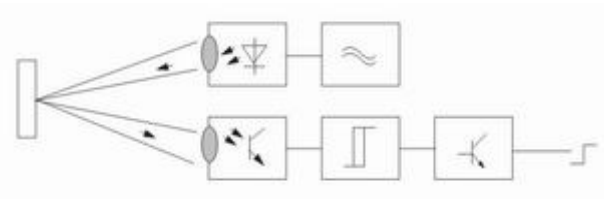
Photoelectric Sensor

■Principle of photoelectric sensor

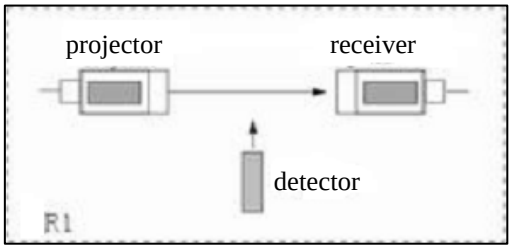
The principle of photoelectric sensor: the projector will judge and react on the basis of light beam from the projector which is interdicted by object or emitted partly.



■Type description

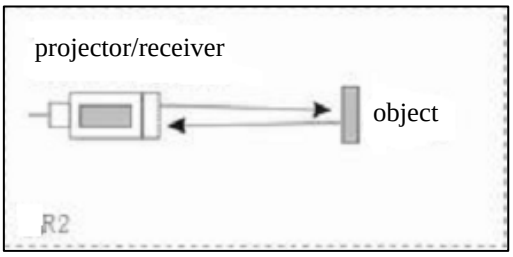
●Through-beam type

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



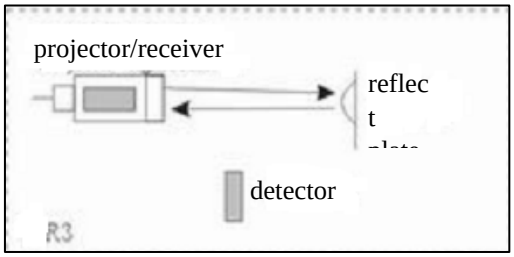
●Diffuse type

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



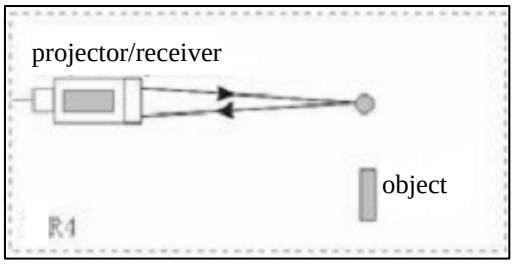
●Retroreflective type

Retroreflective type photoelectric sensor integrates the transmitter and the receiver. Its differernce from other models is that reflector is used to reflect light to the photoelectric sensor. Though the object between the photoelectric sensor 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

The working principle of convergence reflection type photosensor 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 photosensor actuate.(Fig.R4)



■Application

- ◆ Detection of thick carton
- ◆ Detecting if beer bottle is affixed with mark or not
- ◆ Product accounting
- ◆ Check out the borken strip from carding machine
- ◆ Check out the broken or faulted tobacco rolling paper
- ◆ Guard again restricted zone being invaded

Photoelectric Sensor

■Model composition and definition of infrared photoelectric sensor

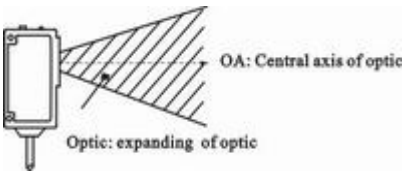
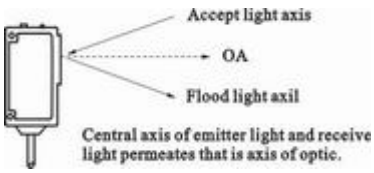
G 18 - 3 A 10 N A □
1 2 3 4 5 6 7 8

No.	Composition	Code and Definition
1	Dasic form	G：infrared ray photoelectric 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：feedbace reflection type(mirror reflection type) C：penetration type(correlation type) D：marking detection type G：optical fiber type E：groose type
5	Detection distance	05：5cm； 10：10cm； 30：30cm； 101：10m
6	Output form	N：DC NPN transistor output P：DC PNP transistor output L：AC two-wire output J：relay contact output S：with two outputs:NPN and PNP
7	Output state	A：NO（light entering ON） B：NC（light sheltering ON） C：normally open+normally close
8	Subsidiary	T1：front delay； T2：rear delay； Y：oil proof； T：with aviation connector； I：special requirement

●For example：G18-3A10NA

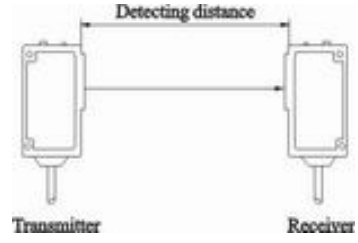
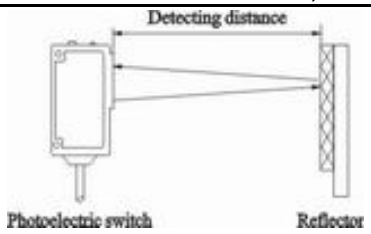
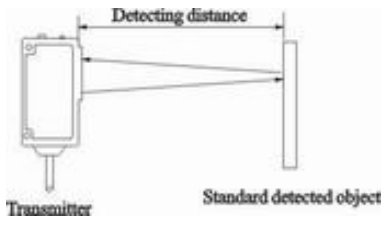
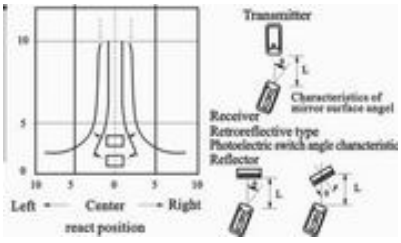
That indicates the infrared ray photoelectric sensor of M18 cylinder, DC 10~30V working voltage, diffused reflection type, detection distance is 10 cm, and NPN normally open type.

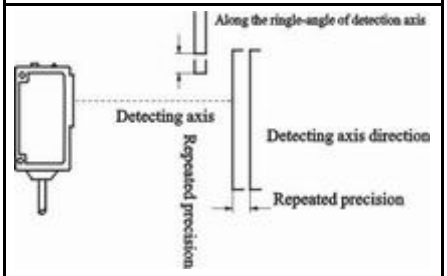
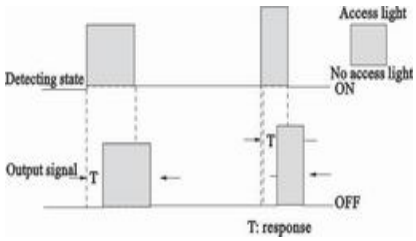
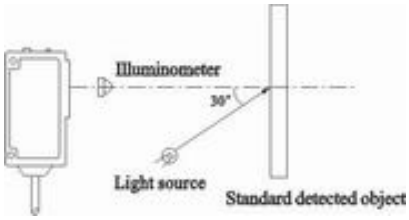
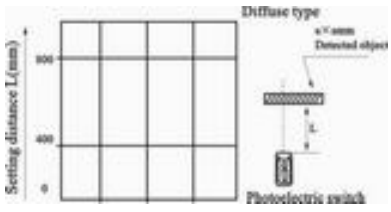
■Explanation of technical terms of photoelectric sensor

Technical terms	Explanation
Optic axis of radiance	
Detection axis	

Technical terms	Explanation
Standard detected object	That showes the standard detected object, which is to determine the basis specifications in the reflection type sensor.It's white and lusterless. Use the relevant detected object(for example:the slice) to the sensor for special purpose.
Min. detected object	That showes the smallest object which can be detected by sensor under a certain condition. To correlation type and mirror reflection type, that indicates opaque body. To reflection type,that indicates the corresponding value of iron wire or copper wire.

Photoelectric Sensor

Technical terms	Explanation
Detection distance	Correlation type： Stably set distance between light projector and photoreceptor.
	
	Feedback reflection type： Standard setting distance between sensor and reflection mirror. (omit "0" on the occasion with "0")
	
	Diffused reflection type： The max stable detectable distance of detectable object, generaly white matt paper. (omit "0" on the occasion with "0")
	
Angle characteristic	To correlation type and feedback reflection type, move from right to the centerling of left direction within each setting distance to gradually reduce the angle. That is shown by locus diagram of sensor action response angle.(max sensitivity)
	

Technical terms	Explanation
Repeated precision	That indicates the erroe of response position when repeating action under certain condition.
	
Response time	That indicates the delayed time of outputting ON or OFF signal after the detected state changes.
	
Intensity of illumination of operating environment(resistance to mixed astigmatism)	That indicates max, intensity of illumination, which doesn't result in error action, expressed by intensity of illumination of photorecetor photic surface.
	
the characteristic of detected object size and detection distance	To reflection type,because the detection object's size affects detection distance, this diagram is useful to determine the stable detection distance according to the size of detected object. Turn the sensitivity button to the relevant position of max detection distance where exactly detecting the object.
	

Photoelectric Sensor

■Cautions

●To correlation type and feedback reflection type

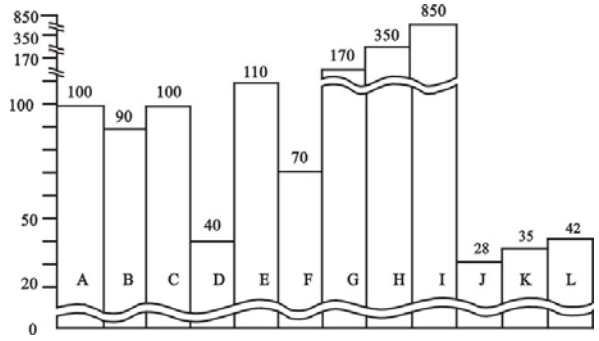
The set distance should be less than the detection distance stipulated in the operation instruction. Because of keeping a room,although it can work when the set distance is bigger than the stipulated detection distance, the performance cannot be guaranteed. In addition, please make sure to keep certain room in the bad environment with rubbish and dust when setting a distance.

●To diffuse 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.

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 sizeof the detected object, the detection distance won't increase even if the object size increases again.

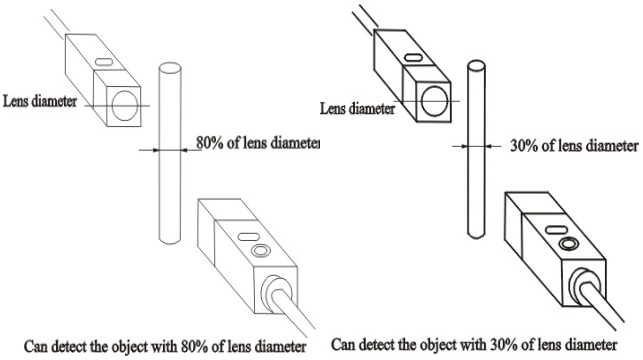
●The difference between different detection distances of the detected object(Apply to diffuse type).



A. white matt paper(reference)
B. natural color carton
C. veneer
D. black matt paper(Grade 3 glossiness)
E. glossy vener (Natural cream-colored board, brown propylene board, red ethylene synthetic board)
F. gray ethylene synthetic board
G. green glossy rubber board
H. alboard
I. reflector or reflecting board
J. rusty iron barφ10
K. black cloth
L. dark blue cloth

■Method of anti mutual-interference and cautions

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



●Mutual cross mounting of transmitter and receiver

●When using diffuse type in parallel, the mutual spacing should be kept at over 1.4 times detection distance.

●When using through-bam type in parallel, the mutual spacing should be kept at over 0.4 times detection distance.

●The power voltage should be within the range of operating power voltage.

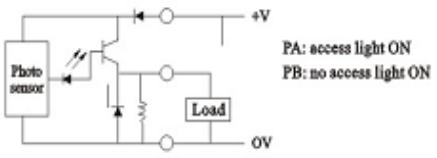
●The following mounting occasions will result in error action, take note of.

① Dusty occasion
② The occasion with corrosive gas
③ The occasion directly spattered with water, oil and agent, etc
④ Outdoor or the occasi on directly shone by hard light like sunlight.

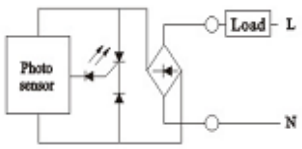
Photoelectric Sensor

■Output return diagram of photoelectric sensor

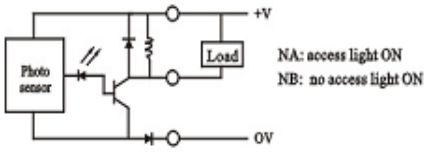
PA、PB type diagram



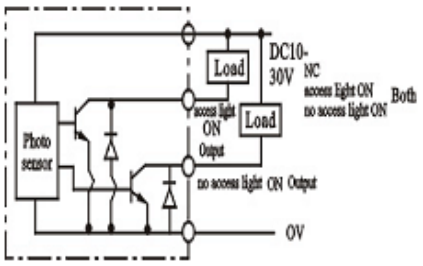
SCR type diagram (2 wire)



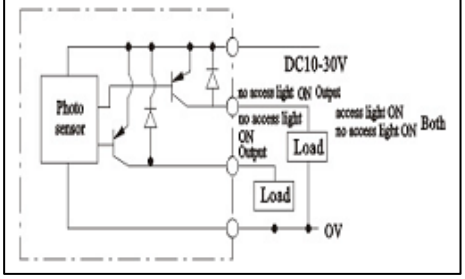
NA、NB type diagram



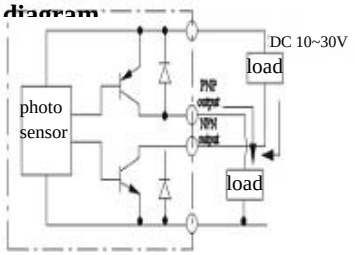
NC type diagram



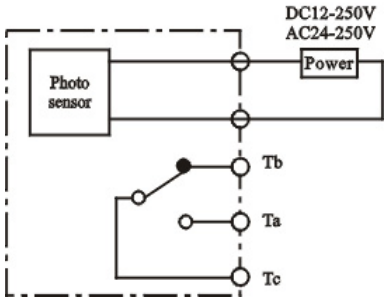
PC type diagram



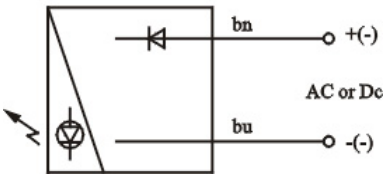
NPN、PNP both available type diagram



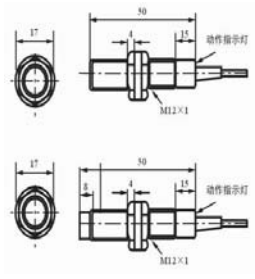
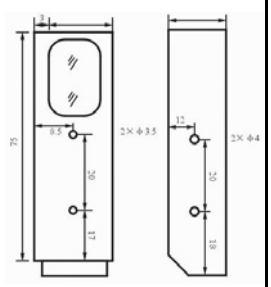
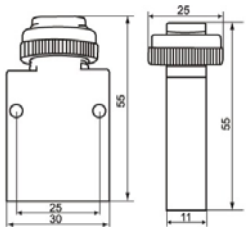
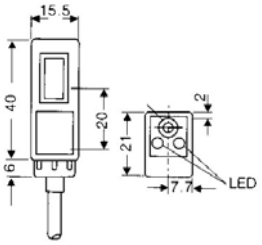
JC type diagram



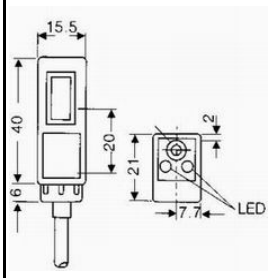
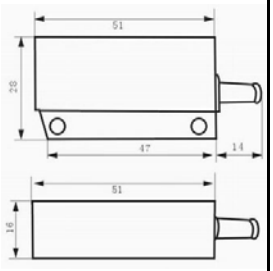
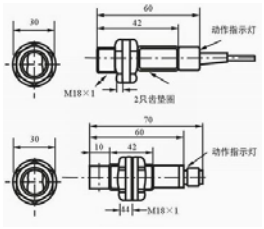
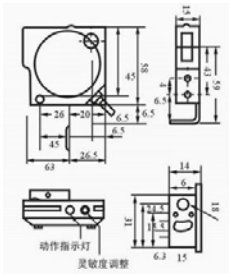
Infrared ray transmitter 2 wire



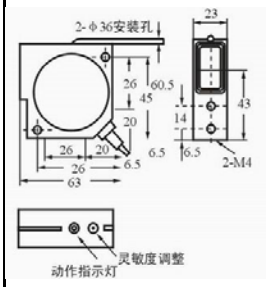
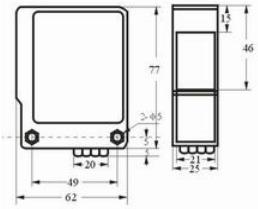
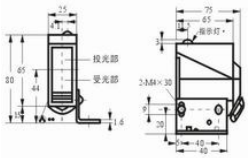
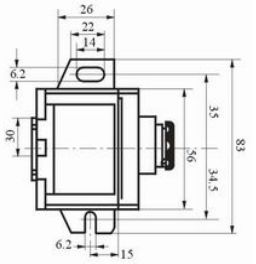
Photoelectric Sensor

Category				Photoelectric Sensor			
Code				G12	G13	G14	G15
Picture							
Overall Dimensions							
Diffuse type	Detection Distance			7cm	10cm	10cm	10cm
	DC: 6~36 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				
	90~250 VAC	SCR	NO				
			NC				
		Relay Output					
Retroreflictive	Detection Distance			1m	1m	1m	1m
	DC: 6~36 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				
	90~250 VAC	SCR	NO				
			NC				
		Relay Output					
Through beam	Detection Distance			3m	3m	3m	3m
	DC: 6~36 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				
	90~250 VAC	SCR	NO				
			NC				
		Relay Output					
Control Output				200mA			
Consumption Current				DC<15mA			
Response Time				DC<2ms			
Directional Angle				3°~10°			
Detected Object				transparent or opaque body			
Environment temperature				-25℃~+55℃			
Intensity of Illumination				sunlight：<10000LX； incandescent lamp：<3000LX			
Shell Material				Metal	Metal	Metal	Plastic、Metal
Protection Grade				IP54	IP54	IP54	IP54

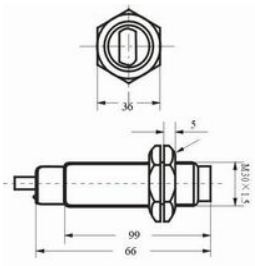
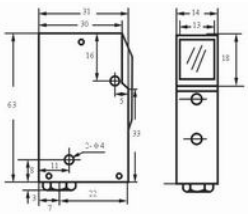
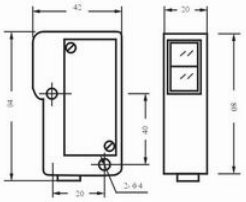
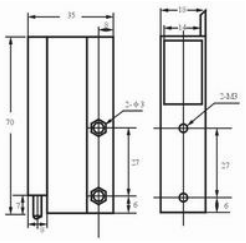
Photoelectric Sensor

Category				Photoelectric Sensor			
Code				G16	G17	G18	G23
Picture							
Overall Dimensions							
Diffuse type	Detection Distance			10cm	10cm	10cm	10cm~50cm
	DC: 6~36 VDC	NPN	NO	G16-3A10NA	G17-3A30NA	G18-3A10NA	G23-3A10NA
			NC	G16-3A10NB	G17-3A30NB	G18-3A10NB	G23-3A10NB
			NO+NC		G17-3A30NC	G18-3A10NC	G23-3A10NC
		PNP	NO	G16-3A10PA	G17-3A30PA	G18-3A10PA	G23-3A10PA
			NC	G16-3A10PB	G17-3A30PB	G18-3A10PB	G23-3A10PB
			NO+NC		G17-3A30PC	G18-3A10PC	G23-3A10PC
	90~250 VAC	SCR	NO			G18-2A10LA	
			NC			G18-2A10LB	
		Relay Output					
Retroreflictive	Detection Distance			1m	2mm	2m	2m
	DC: 6~36 VDC	NPN	NO	G16-3B1NA	G17-3B2NA	G18-3B2NA	G23-3B2NA
			NC	G16-3B1NB	G17-3B2NB	G18-3B2NB	G23-3B2NB
			NO+NC		G17-3B2NC	G18-3B2NC	G23-3B2NC
		PNP	NO	G16-3B1PA	G17-3B2PA	G18-3B2PA	G23-3B2PA
			NC	G16-3B1PB	G17-3B2PB	G18-3B2PB	G23-3B2PB
			NO+NC		G17-3B2PC	G18-3B2PC	G23-3B2PC
	90~250 VAC	SCR	NO			G18-2B2LA	
			NC			G18-2B2LB	
		Relay Output					
Through beam	Detection Distance				3m	5m	5m
	DC: 6~36 VDC	NPN	NO		G17-3C3NA	G18-3C5NA	G23-3C5NA
			NC		G17-3C3NB	G18-3C5NB	G23-3C5NB
			NO+NC		G17-3C3NC	G18-3C5NC	G23-3C5NC
		PNP	NO		G17-3C3PA	G18-3C5PA	G23-3C5PA
			NC		G17-3C3PB	G18-3C5PB	G23-3C5PB
			NO+NC		G17-3C3PC	G18-3C5PC	G23-3C5PC
	90~250 VAC	SCR	NO			G18-2C5LA	
			NC			G18-2C5LB	
		Relay Output					
Control Output				DC：200mA、AC：300mA			
Consumption Current				DC：＜15mA、 AC：＜10mA			
Response Time				DC＜2ms			
Directional Angle				3°~10°			
Detected Object				transparent or opaque body			
Environment temperature				-25℃~+55℃			
Intensity of Illumination				sunlight：<10000LX； incandescent lamp：<3000LX			
Shell Material				Plastic	Plastic	Plastic	Metal
Protection Grade				IP54	IP54	IP66	IP54

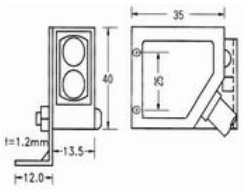
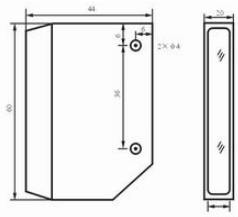
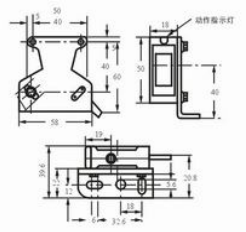
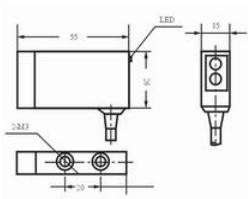
Photoelectric Sensor

Category				Photoelectric Sensor			
Code				G24	G25	G26	G28
Picture							
Overall Dimensions							
Diffuse type	Detection Distance			50cm	70cm	70cm	50cm
	DC: 6~36 VDC	NPN	NO	G24-3A50NA	G25-3A70NA	G26-3A70NA	G28-3A50NA
			NC	G24-3A50NB	G25-3A70NB	G26-3A70NB	G28-3A50NB
			NO+NC	G24-3A50NC	G25-3A70NC	G26-3A70NC	G28-3A50NC
		PNP	NO	G24-3A50PA	G25-3A70PA	G26-3A70PA	G28-3A50PA
			NC	G24-3A50PB	G25-3A70PB	G26-3A70PB	G28-3A50PB
			NO+NC	G24-3A50PC	G25-3A70PC	G26-3A70PC	G28-3A50PC
	90~250 VAC	SCR	NO	G24-2A50LA	G25-2A70LA	G26-2A70LA	G28-2A50LA
			NC	G24-2A50LB	G25-2A70LB	G26-2A70LB	G28-2A50LB
		Relay Output		G24-2A50JC	G25-2A70JC	G26-2A70JC	G28-2A50JC
Retroreflictive	Detection Distance			4m	4m	4m	3m
	DC: 6~36 VDC	NPN	NO	G24-3B4NA	G25-3B4NA	G26-3B4NA	G28-3B3NA
			NC	G24-3B4NB	G25-3B4NB	G26-3B4NB	G28-3B3NB
			NO+NC	G24-3B4NC	G25-3B4NC	G26-3B4NC	G28-3B3NC
		PNP	NO	G24-3B4PA	G25-3B4PA	G26-3B4PA	G28-3B3PA
			NC	G24-3B4PB	G25-3B4PB	G26-3B4PB	G28-3B3PB
			NO+NC	G24-3B4PC	G25-3B4PC	G26-3B4PC	G28-3B3PC
	90~250 VAC	SCR	NO	G24-2B4LA	G25-2B4LA	G26-2B4LA	G28-2B3LA
			NC	G24-2B4LB	G25-2B4LB	G26-2B4LB	G28-2B3LB
		Relay Output		G24-2B4JC	G25-2B4JC	G26-2B4JC	G28-2B3JC
Through beam	Detection Distance			5m	7m	10m	10m
	DC: 6~36 VDC	NPN	NO	G24-3C5NA	G25-3C7NA	G26-3C101NA	G28-3C101NA
			NC	G24-3C5NB	G25-3C7NB	G26-3C101NB	G28-3C101NB
			NO+NC	G24-3C5NC	G25-3C7NC	G26-3C101NC	G28-3C101NC
		PNP	NO	G24-3C5PA	G25-3C7PA	G26-3C101PA	G28-3C101PA
			NC	G24-3C5PB	G25-3C7PB	G26-3C101PB	G28-3C101PB
			NO+NC	G24-3C5PC	G25-3C7PC	G26-3C101PC	G28-3C101PC
	90~250 VAC	SCR	NO	G24-2C5LA	G25-2C7LA	G26-2C101LA	G28-2C101LA
			NC	G24-2C5LB	G25-2C7LB	G26-2C101LB	G28-2C101LB
		Relay Output		G24-2C5JC	G25-2C7JC	G26-2C101LC	G28-2C101LC
Control Output				DC：200mA、AC：300mA、relay：2A			
Consumption Current				DC：＜15mA、 AC：＜10mA			
Response Time				DC＜2ms; AC＜20ms			
Directional Angle				3°~10°			
Detected Object				transparent or opaque body			
Environment temperature				-25℃~+55℃			
Intensity of Illumination				sunlight：<10000LX； incandescent lamp：<3000LX			
Shell Material				Metal	Plastic	Metal	Metal
Protection Grade				IP54	IP54	IP50	IP54

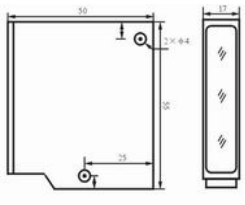
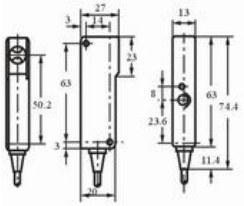
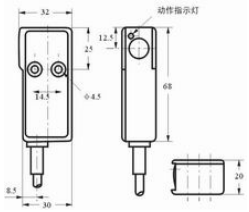
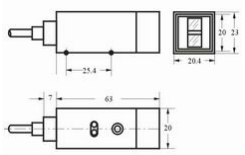
Photoelectric Sensor

Category				Photoelectric Sensor			
Code				G30	G33	G35	G36
Picture							
Overall Dimensions							
Diffuse type	Detection Distance			20~100cm	10cm	50cm	20cm
	DC: 6~36 VDC	NPN	NO	G30-3A70NA	G33-3A10NA	G35-3A50NA	G36-3A20NA
			NC	G30-3A70NB	G33-3A10NB	G35-3A50NB	G36-3A20NB
			NO+NC	G30-3A70NC	G33-3A10NC	G35-3A50NC	G36-3A20NC
		PNP	NO	G30-3A70PA	G33-3A10PA	G35-3A50PA	G36-3A20PA
			NC	G30-3A70PB	G33-3A10PB	G35-3A50PB	G36-3A20PB
			NO+NC	G30-3A70PC	G33-3A10PC	G35-3A50PC	G36-3A20PC
	90~250 VAC	SCR	NO	G30-2A70LA		G35-2A50LA	
			NC	G30-2A70LB		G35-2A50LB	
		Relay Output		G30-2A70JC		G35-2A50JC	
Retroreflictive	Detection Distance			3~5cm	1m	3m	2m
	DC: 6~36 VDC	NPN	NO	G30-3B3NA	G33-3B1NA	G35-3B3NA	G36-3B2NA
			NC	G30-3B3NB	G33-3B1NB	G35-3B3NB	G36-3B2NB
			NO+NC	G30-3B3NC	G33-3B1NC	G35-3B3NC	G36-3B2NC
		PNP	NO	G30-3B3PA	G33-3B1PA	G35-3B3PA	G36-3B2PA
			NC	G30-3B3PB	G33-3B1PC	G35-3B3PB	G36-3B2PB
			NO+NC	G30-3B3PC		G35-3B3PC	G36-3B2PC
	90~250 VAC	SCR	NO	G30-2B3LA		G35-2B3LA	
			NC	G30-2B3LB		G35-2B3LB	
		Relay Output		G30-2B3JC		G35-2B3JC	
Through beam	Detection Distance			10m	3m	5m	5m
	DC: 6~36 VDC	NPN	NO	G30-3C101NA	G33-3C3NA	G35-3C5NA	G36-3C5NA
			NC	G30-3C101NB	G33-3C3NB	G35-3C5NB	G36-3C5NB
			NO+NC	G30-3C101NC	G33-3C3NC	G35-3C5NC	G36-3C5NC
		PNP	NO	G30-3C101PA	G33-3C3PA	G35-3C5PA	G36-3C5PA
			NC	G30-3C101PB	G33-3C3PB	G35-3C5PB	G36-3C5PB
			NO+NC	G30-3C101PC	G33-3C3PC	G35-3C5PC	G36-3C5PC
	90~250 VAC	SCR	NO	G30-2C101LA		G35-2C5LA	
			NC	G30-2C101LB		G35-2C5LB	
		Relay Output		G30-2C101JC		G35-2C5JC	
Control Output				DC：200mA、AC：300mA、relay：2A			
Consumption Current				DC：＜15mA、 AC：＜10mA			
Response Time				DC＜2ms； AC＜20ms			
Directional Angle				3°~10°			
Detected Object				transparent or opaque body			
Environment temperature				-25℃~+55℃			
Intensity of Illumination				sunlight：<10000LX； incandescent lamp：<3000LX			
Shell Material				Plastic	Plastic	Metal	Metal
Protection Grade				IP66	IP54	IP54	IP54

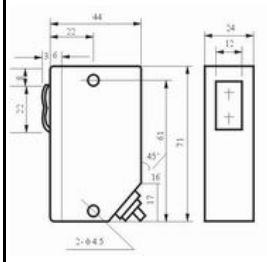
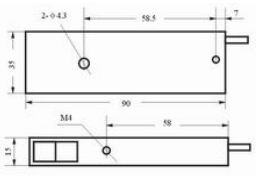
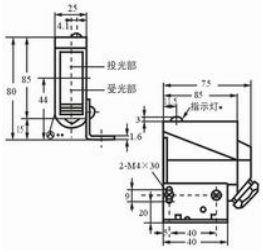
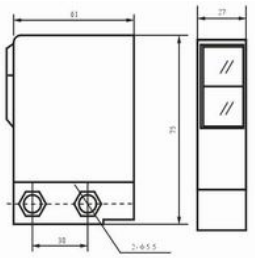
Photoelectric Sensor

Category				Photoelectric Sensor			
Code				G40	G44	G50	G54
Picture							
Overall Dimensions							
Diffuse type	Detection Distance			10cm	30cm	30cm~50cm	20cm
	DC: 6~36 VDC	NPN	NO	G40-3A10NA	G44-3A30NA	G50-3A30NA	G54-3A20NA
			NC	G40-3A10NB	G44-3A30NB	G50-3A30NB	G54-3A20NB
			NO+NC			G50-3A30NC	G54-3A20NC
		PNP	NO	G40-3A10PA	G44-3A30PA	G50-3A30PA	G54-3A20PA
			NC	G40-3A10PB	G44-3A30PB	G50-3A30PB	G54-3A20PB
			NO+NC			G50-3A30PC	G54-3A20PC
	90~250 VAC	SCR	NO			G50-2A30LA	
			NC				
		Relay Output				G50-2A30JC	
Retroreflictive	Detection Distance			1m	3cm	4m	2m
	DC: 6~36 VDC	NPN	NO	G40-3B1NA	G44-3B3NA	G50-3B4NA	G54-3B2NA
			NC	G40-3B1NB	G44-3B3NB	G50-3B4NB	G54-3B2NB
			NO+NC			G50-3B4NC	G54-3B2NC
		PNP	NO	G40-3B1PA	G44-3B3PA	G50-3B4PA	G54-3B2PA
			NC	G40-3B1PB	G44-3B3PB	G50-3B4PB	G54-3B2PB
			NO+NC			G50-3B4PC	G54-3B2PC
	90~250 VAC	SCR	NO			G50-2B4LA	
			NC				
		Relay Output				G50-2B4JC	
Through beam	Detection Distance			3m	5m	5m	5m
	DC: 6~36 VDC	NPN	NO	G40-3C3NA	G44-3C5NA	G50-3C5NA	G54-3C5NA
			NC	G40-3C3NB	G44-3C5NB	G50-3C5NB	G54-3C5NB
			NO+NC			G50-3C5NC	G54-3C5NC
		PNP	NO	G40-3C3PA	G44-3C5PA	G50-3C5PA	G54-3C5PA
			NC	G40-3C3PB	G44-3C5PB	G50-3C5PB	G54-3C5PB
			NO+NC			G50-3C5PC	G54-3C5PC
	90~250 VAC	SCR	NO			G50-2C5LA	
			NC				
		Relay Output				G50-2C5JC	
Control Output				DC：200mA、AC：300mA、relay：2A			
Consumption Current				DC：＜15mA、 AC：＜10mA			
Response Time				DC＜2ms； AC＜20ms			
Directional Angle				3°~10°			
Detected Object				transparent or opaque body			
Environment temperature				-25℃~+55℃			
Intensity of Illumination				sunlight：<10000LX； incandescent lamp：<3000LX			
Shell Material				Plastic	Metal	Plastic	Plastic
Protection Grade				IP54	IP54	IP54	IP54

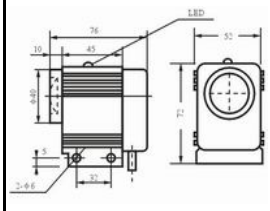
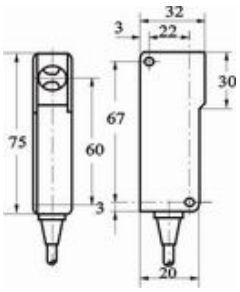
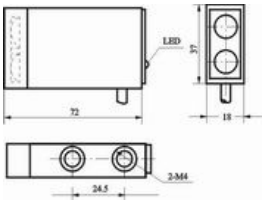
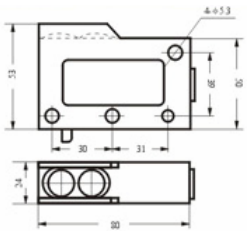
Photoelectric Sensor

Category				Photoelectric Sensor			
Code				G55	G64	G68	G70
Picture							
Overall Dimensions							
Diffuse type	Detection Distance			20cm	10cm		20~100cm
	DC: 6~36 VDC	NPN	NO	G55-3A20NA	G64-3A10NA		G70-3A20NA
			NC	G55-3A20NB	G64-3A10NB		G70-3A20NB
			NO+NC		G64-3A10NC		G70-3A20NC
		PNP	NO	G55-3A20PA	G64-3A10PA		G70-3A20PA
			NC	G55-3A20PB	G64-3A10PB		G70-3A20PB
			NO+NC		G64-3A10PC		G70-3A20PC
	90~250 VAC	SCR	NO				G70-2A20LA
			NC				G70-2A20LB
		Relay Output					
Retroreflictive	Detection Distance			2m	1.5m		2m
	DC: 6~36 VDC	NPN	NO	G55-3B2NA	G64-3B2NA		G70-3B2NA
			NC	G55-3B2NB	G64-3B2NB		G70-3B2NB
			NO+NC		G64-3B2NC		G70-3B2NC
		PNP	NO	G55-3B2PA	G64-3B2PA		G70-3B2PA
			NC	G55-3B2PB	G64-3B2PB		G70-3B2PB
			NO+NC		G64-3B2PC		G70-3B2PC
	90~250 VAC	SCR	NO				G70-2B2LA
			NC				G70-2B2LB
		Relay Output					
Through beam	Detection Distance			4m	3m	5m	5m
	DC: 6~36 VDC	NPN	NO	G55-3C4NA	G64-3C3NA	G68-3C5NA	G70-3C5NA
			NC	G55-3C4NB	G64-3C3NB	G68-3C5NB	G70-3C5NB
			NO+NC		G64-3C3NC	G68-3C5NC	G70-3C5NC
		PNP	NO	G55-3C4PA	G64-3C3PA	G68-3C5PA	G70-3C5PA
			NC	G55-3C4PB	G64-3C3PB	G68-3C5PB	G70-3C5PB
			NO+NC		G64-3C3PC	G68-3C5PC	G70-3C5PC
	90~250 VAC	SCR	NO				G70-2C5LA
			NC				G70-2C5LB
		Relay Output					
Control Output				DC：200mA、AC：300mA、relay：2A			
Consumption Current				DC：＜15mA、 AC：＜10mA			
Response Time				DC＜2mS AC＜20mS			
Directional Angle				3°~10°			
Detected Object				transparent or opaque body			
Environment temperature				-25℃~+55℃			
Intensity of Illumination				sunlight：<10000LX； incandescent lamp：<3000LX			
Shell Material				Metal	Plastic	Plastic	Plastic
Protection Grade				IP54	IP54	IP54	IP66

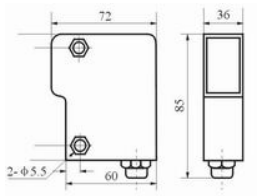
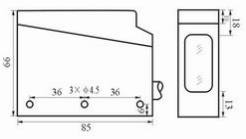
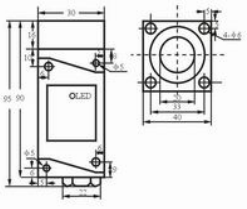
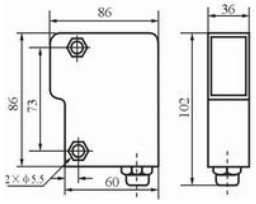
Photoelectric Sensor

Category				Photoelectric Sensor			
Code				G71	G72	G74	G75
Picture							
Overall Dimensions							
Diffuse type	Detection Distance			50cm	40cm	70cm	80cm
	DC: 6~36 VDC	NPN	NO	G71-3A50NA	G72-3A40NA	G74-3A70NA	E75-3A80NA
			NC	G71-3A50NB	G72-3A40NB	G74-3A70NB	E75-3A80NB
			NO+NC	G71-3A50NC	G72-3A40NC	G74-3A70NC	E75-3A80NC
		PNP	NO	G71-3A50PA	G72-3A40PA	G74-3A70PA	E75-3A80PA
			NC	G71-3A50PB	G72-3A40PB	G74-3A70PB	E75-3A80PB
			NO+NC	G71-3A50PC	G72-3A40PC	G74-3A70PC	E75-3A80PC
	90~250 VAC	SCR	NO	G71-2A50LA	G72-2A40LA	G74-2A70LA	E75-2A80LA
			NC	G71-2A50LB	G72-2A40LB		
		Relay Output				G74-2A70JC	E75-2A80JC
Retroreflictive	Detection Distance			2m	3m	4m	3m
	DC: 6~36 VDC	NPN	NO	G71-3B2NA	G72-3B3NA	G74-3B4NA	E75-3B3NA
			NC	G71-3B2NB	G72-3B3NB	G74-3B4NB	E75-3B3NB
			NO+NC	G71-3B2NC	G72-3B3NC	G74-3B4NC	E75-3B3NC
		PNP	NO	G71-3B2PA	G72-3B3PA	G74-3B4PA	E75-3B3PA
			NC	G71-3B2PB	G72-3B3PB	G74-3B4PB	E75-3B3PB
			NO+NC	G71-3B2PC	G72-3B3PC	G74-3B4PC	E75-3B3PC
	90~250 VAC	SCR	NO	G71-2B2LA	G72-2B3LA	G74-2B4LA	E75-2B3LA
			NC	G71-2B2LB	G72-2B3LB		
		Relay Output				G74-2B4JC	E75-2B3JC
Through beam	Detection Distance			5m	5m	8m	8m
	DC: 6~36 VDC	NPN	NO	G71-3C5NA	G72-3C5NA	G74-3C8NA	G75-3C8NA
			NC	G71-3C5NB	G72-3C5NB	G74-3C8NB	G75-3C8NB
			NO+NC	G71-3C5NC	G72-3C5NC	G74-3C8NC	G75-3C8NC
		PNP	NO	G71-3C5PA	G72-3C5PA	G74-3C8PA	G75-3C8PA
			NC	G71-3C5PB	G72-3C5PB	G74-3C8PB	G75-3C8PB
			NO+NC	G71-3C5PC	G72-3C5PC	G74-3C8PC	G75-3C8PC
	90~250 VAC	SCR	NO	G71-2C5LA	G72-2C5LA	G74-2C8LA	G75-2C8LA
			NC	G71-2C5LB	G72-2C5LB		
		Relay Output				G74-2C8JC	G75-2C8JC
Control Output				DC：200mA、AC：300mA、relay：2A			
Consumption Current				DC：＜15mA、 AC：＜10mA			
Response Time				DC＜2ms; AC＜20ms			
Directional Angle				3°~10°			
Detected Object				transparent or opaque body			
Environment temperature				-25℃~+55℃			
Intensity of Illumination				sunlight：<10000LX； incandescent lamp：<3000LX			
Shell Material				Plastic	Metal	Plastic	Metal
Protection Grade				IP54	IP54	IP54	IP54

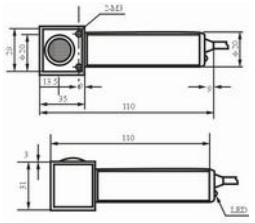
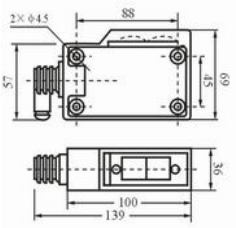
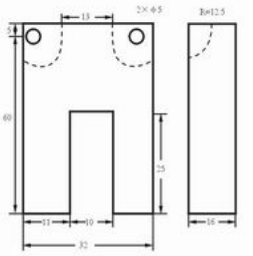
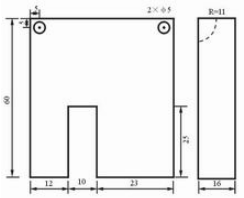
Photoelectric Sensor

Category				Photoelectric Sensor			
Code				G76	G77	G78	G80
Picture							
Overall Dimensions							
Diffuse type	Detection Distance				30cm	40cm	80cm
	DC: 6~36 VDC	NPN	NO		G77-3A30NA	G78-3A40NA	G80-3A80NA
			NC		G77-3A30NB	G78-3A40NB	G80-3A80NB
			NO+NC		G77-3A30NC	G78-3A40NC	G80-3A80NC
		PNP	NO		G77-3A30PA	G78-3A40PA	G80-3A80PA
			NC		G77-3A30PB	G78-3A40PB	G80-3A80PB
			NO+NC		G77-3A30PC	G78-3A40PC	G80-3A80PC
	90~250 VAC	SCR	NO		G77-2A30LA	G78-2A40LA	G80-2A80LA
			NC				
		Relay Output				G78-2A40JC	G80-2A80JC
Retroreflictive	Detection Distance				3m	2m	3m
	DC: 6~36 VDC	NPN	NO		G77-3B3NA	G78-3B2NA	G80-3B3NA
			NC		G77-3B3NB	G78-3B2NB	G80-3B3NB
			NO+NC		G77-3B3NC	G78-3B2NC	G80-3B3NC
		PNP	NO		G77-3B3PA	G78-3B2PA	G80-3B3PA
			NC		G77-3B3PB	G78-3B2PB	G80-3B3PB
			NO+NC		G77-3B3PC	G78-3B2PC	G80-3B3PC
	90~250 VAC	SCR	NO		G77-2B3LA	G78-2B2LA	G80-2B3LA
			NC				
		Relay Output				G78-2B2JC	G80-2B3JC
Through beam	Detection Distance			10m~50m	5m	5m	5m
	DC: 6~36 VDC	NPN	NO	G76-3C101NA	G77-3C5NA	G78-3C5NA	G80-3C5NA
			NC	G76-3C101NB	G77-3C5NB	G78-3C5NB	G80-3C5NB
			NO+NC	G76-3C101NC	G77-3C5NC	G78-3C5NC	G80-3C5NC
		PNP	NO	G76-3C101PA	G77-3C5PA	G78-3C5PA	G80-3C5PA
			NC	G76-3C101PB	G77-3C5PB	G78-3C5PB	G80-3C5PB
			NO+NC	G76-3C101PC	G77-3C5PC	G78-3C5PC	G80-3C5PC
	90~250 VAC	SCR	NO	G76-2C101LA	G77-2C5LA	G78-2C5LA	G80-2C5LA
			NC				
		Relay Output		G76-2C101JC			G80-2C5JC
Control Output				DC：200mA、AC：300mA、relay：2A			
Consumption Current				DC：＜15mA、 AC：＜10mA			
Response Time				DC＜2ms； AC＜20ms			
Directional Angle				3°~10°			
Detected Object				transparent or opaque body			
Environment temperature				-25℃~+55℃			
Intensity of Illumination				sunlight：<10000LX； incandescent lamp：<3000LX			
Shell Material				Plastic	Plastic	Plastic	Plastic
Protection Grade				IP54	IP54	IP54	IP54

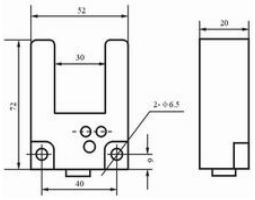
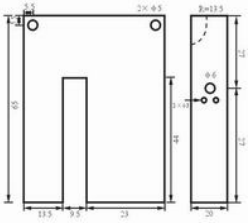
Photoelectric Sensor

Category				Photoelectric Sensor			
Code				G85	G86	G90	G100
Picture							
Overall Dimensions							
Diffuse type	Detection Distance			1m	70cm	70cm	1m
	DC: 6~36 VDC	NPN	NO	G85-3A1NA	G86-3A70NA	G90-3A70NA	G100-3A1NA
			NC	G85-3A1NB	G86-3A70NB	G90-3A70NB	G100-3A1NB
			NO+NC	G85-3A1NC	G86-3A70NC	G90-3A70NC	G100-3A1NC
		PNP	NO	G85-3A1PA	G86-3A70PA	G90-3A70PA	G100-3A1PA
			NC	G85-3A1PB	G86-3A70PB	G90-3A70PB	G100-3A1PB
			NO+NC	G85-3A1PC	G86-3A70PC	G90-3A70PC	G100-3A1PC
	90~250 VAC	SCR	NO	G85-2A1LA	G86-2A70LA	G90-2A70LA	G100-3A1LA
			NC				
		Relay Output		G85-2A1JC	G86-2A70JC	G90-2A70JC	G100-3A1JC
Retroreflictive	Detection Distance			5m	4m	5m	5m
	DC: 6~36 VDC	NPN	NO	G85-3B5NA	G86-3B4NA	G90-3B5NA	G100-3B5NA
			NC	G85-3B5NB	G86-3B4NB	G90-3B5NB	G100-3B5NB
			NO+NC	G85-3B5NC	G86-3B4NC	G90-3B5NC	G100-3B5NC
		PNP	NO	G85-3B5PA	G86-3B4PA	G90-3B5PA	G100-3B5PA
			NC	G85-3B5PB	G86-3B4PB	G90-3B5PB	G100-3B5PB
			NO+NC	G85-3B5PC	G86-3B4PC	G90-3B5PC	G100-3B5PC
	90~250 VAC	SCR	NO	G85-2B5LA	G86-2B4LA	G90-2B5LA	G100-2B5LA
			NC				
		Relay Output		G85-2B5JC	G86-2B4JC	G90-2B5JC	G100-2B5JC
Through beam	Detection Distance			10m	10m	10m	10m
	DC: 6~36 VDC	NPN	NO	G85-3C101NA	G86-3C101NA	G90-3C101NA	G100-3C101NA
			NC	G85-3C101NB	G86-3C101NB	G90-3C101NB	G100-3C101NB
			NO+NC	G85-3C101NC	G86-3C101NC	G90-3C101NC	G100-3C101NC
		PNP	NO	G85-3C101PA	G86-3C101PA	G90-3C101PA	G100-3C101PA
			NC	G85-3C101PB	G86-3C101PB	G90-3C101PB	G100-3C101PB
			NO+NC	G85-3C101PC	G86-3C101PC	G90-3C101PC	G100-3C101PC
	90~250 VAC	SCR	NO	G85-2C101LA	G86-2C101LA	G90-2C101LA	G100-2C101LA
			NC				
		Relay Output		G85-2C101JC	G86-2C101JC	G90-2C101LC	G100-2C101JC
Control Output				DC：200mA、AC：300mA、relay：2A			
Consumption Current				DC：＜15mA、 AC：＜10mA			
Response Time				DC＜2ms； AC＜20ms			
Directional Angle				3°~10°			
Detected Object				transparent or opaque body			
Environment temperature				-25℃~+55℃			
Intensity of Illumination				sunlight：<10000LX； incandescent lamp：<3000LX			
Shell Material				Metal	Metal	Metal	Metal
Protection Grade				IP54	IP54	IP54	IP54

Photoelectric Sensor

Category				Photoelectric Sensor			
Code				G110	G139	G56	G60
Picture							
Overall Dimensions							
Diffuse type	Detection Distance				1m		
	DC: 6~36 VDC	NPN	NO		G139-3A1NA		
			NC		G139-3A1NB		
			NO+NC		G139-3A1NC		
		PNP	NO		G139-3A1PA		
			NC		G139-3A1PB		
			NO+NC		G139-3A1PC		
	90~250 VAC	SCR	NO		G139-2A1LA		
			NC				
		Relay Output			G139-2A1JC		
Retroreflictive	Detection Distance				5m		
	DC: 6~36 VDC	NPN	NO		G139-3B5NA		
			NC		G139-3B5NB		
			NO+NC		G139-3B5NC		
		PNP	NO		G139-3B5PA		
			NC		G139-3B5PB		
			NO+NC		G139-3B5PC		
	90~250 VAC	SCR	NO		G139-2B5LA		
			NC				
		Relay Output			G139-2B5JC		
Through beam	Detection Distance			5m	10m	17mm	1cm
	DC: 6~36 VDC	NPN	NO	G110-3C5NA	G139-3C101NA	G56-3E01NA	G60-3E01NA
			NC	G110-3C5NB	G139-3C101NB	G56-3E01NB	G60-3E01NB
			NO+NC	G110-3C5NC	G139-3C101NC	G56-3E01NC	G60-3E01NC
		PNP	NO	G110-3C5PA	G139-3C101PA	G56-3E01PA	G60-3E01PA
			NC	G110-3C5PB	G139-3C101PB	G56-3E01PB	G60-3E01PB
			NO+NC	G110-3C5PC	G139-3C101PC	G56-3E01PC	G60-3E01PC
	90~250 VAC	SCR	NO	G110-2C5LA	G139-2C101LA		
			NC				
		Relay Output			G139-2C101JC		
Control Output				DC：200mA、AC：300mA、relay：2A			
Consumption Current				DC：＜15mA、 AC：＜10mA			
Response Time				DC＜2ms； AC＜20ms			
Directional Angle				3°~10°			
Detected Object				transparent or opaque body			
Environment temperature				-25℃~+55℃			
Intensity of Illumination				sunlight：<10000LX； incandescent lamp：<3000LX			
Shell Material				Metal	Metal	Plastic	Metal
Protection Grade				IP66	IP54	IP54	IP54

Photoelectric Sensor

Category				Photoelectric Sensor			
Code				G63	G65		
Picture							
Overall Dimensions							
Diffuse type	Detection Distance						
	DC: 6~36 VDC	NPN	NO				
			NC				
			NO+NC				
		PNP	NO				
			NC				
			NO+NC				
	90~250 VAC	SCR	NO				
			NC				
		Relay Output					
Retroreflictive	Detection Distance						
	DC: 6~36 VDC	NPN	NO				
			NC				
			NO+NC				
		PNP	NO				
			NC				
			NO+NC				
	90~250 VAC	SCR	NO				
			NC				
		Relay Output					
Through beam	Detection Distance			3cm	1cm		
	DC: 6~36 VDC	NPN	NO	G63-3E03NA	G65-3E01NA		
			NC	G63-3E03NB	G65-3E01NB		
			NO+NC	G63-3E03NC	G65-3E01NC		
		PNP	NO	G63-3E03PA	G65-3E01PA		
			NC	G63-3E03PB	G65-3E01PB		
			NO+NC	G63-3E03PC	G65-3E01PC		
	90~250 VAC	SCR	NO				
			NC				
		Relay Output					
Control Output				DC：200mA、AC：300mA、relay：2A			
Consumption Current				DC：＜15mA、 AC：＜10mA			
Response Time				DC＜2ms； AC＜20ms			
Directional Angle				3°~10°			
Detected Object				transparent or opaque body			
Environment temperature				-25℃~+55℃			
Intensity of Illumination				sunlight：<10000LX； incandescent lamp：<3000LX			
Shell Material				Metal, Plastic	metal		
Protection Grade				IP54	IP54		