

性能参数 Characteristic parameter

- 滞后距离: 检测距离的10%以下
 - 检测物体: 磁性金属(非磁性金属时检测距离减小)
 - 电源电压: 直流型:DC12-24V(6-36V)脉动(P-P)10%以下, 交流型:AC110-220V(36-250V)50/60Hz
 - 消耗电流: N.P型:13mA以下,D型:0.8mA以下,A型:1.7mA以下
 - 控制输出: N.P型:300mA以下, D型:200mA以下, A型:400mA以下
 - 回路保护: N.P.D型:逆连接保护、浪涌吸收、负载短路保护, A型:浪涌吸收
 - 环境温度: 动作时、保存时:各-30~+65°C(不结冰、不结露)
 - 环境湿度: 动作时、保存时:各35~95% RH
 - 绝缘阻抗: 50MΩ以上(DC500兆欧表)充电部分与外壳间
 - 耐电压: AC1000V 50/160Hz 1min充电部分与外壳间
 - 温度的影响: 温度范围-30~+65°C, +23°C时, ±15%检测距离以内
温度范围-25~+60°C, +23°C时, ±10%检测距离以内
 - 电压的影响: 额定电源电压范围±15%以内、额定电源电压值时±10%检测距离以内
 - 保护构造: IP67(IEC规格)
 - 材质: (外壳:ABS) (检测面:ABS)
- Delay distance: 10% below of the detection distance
 - Detection object: Magnetic metal (the detection distance decreases when it is non-magnetic metal)
 - Supply voltage: DC type: DC12-24V(6-36V) impulse (p-p) 10% below, AC type:AC110-220V (36-250V) 50/60Hz
 - Consumption current: N.P type: 13mA below, D type: 0.8mA below, A type: 1.7mA below
 - Control output: N.P type: 300mA below, D type: 200mA below, A type: 400mA below
 - Loop protection: N.P.D type: reversal connection protection, surge absorption, load short-circuit protection, A type: surge absorption
 - Ambient temperature & humidity: During operation, storage: individually -30~+65°C (no freeze, no dew), During operation, storage: individually 35-95%RH
 - Insulation impedance: 50MΩ about (DC500 megameter) between charging part and housing
 - Withstand voltage: AC1000V 50/160Hz 1min between charging part and housing
 - Temperature influence: Temperature range -30~+65°C, at +23°C, ±15% detection distance; temperature range -25~+60°C, at +23°C, ±10% detection distance
 - Voltage influence: Inside ±15% rated supply voltage range, at rated supply voltage value, inside ±10% detection distance
 - Protection structure: IP67 (IEC specification)
 - Material: (Housing: ABS), (Detection surface: ABS).

外形尺寸(mm) External dimension

<p>Chart 82 图82 HY-□10□</p>	<p>Chart 83 图83 HY-□15(20)-□</p>
<p>Chart 84 图84 HY-□30-□</p>	<p>Chart 85 图85 HD-□20□</p>
<p>Chart 86 图86 HE-□25□</p>	<p>Chart 87 图87 HM-□40□</p>
<p>Chart 88 图88 LJ2-15□</p> <p>LJ2-15/21插管式 LJ2-15/22螺柱式</p>	<p>Chart 89 图89 LJ2-20□</p>
<p>Chart 90 图90 LJ1A-□</p>	<p>Chart 91 图91 WJK-II</p>
<p>Chart 92 图92 WLJ-II</p>	<p>Chart 93 图93 JWK-D(A)5□</p>
<p>Chart 94 图94 JWK-D(A)10□</p>	<p>Chart 95 图95 JWK-220-D(A)10□</p>

方型、槽型能与国内外各相同品种直接替换 Square and groove type, can be the direct substitution of the same type both at home and abroad

- 电源反接保护、短路保护，可直接与PLC相联接
- 经济并且简单的操作
- 长寿命和高可靠性，耐环境性强
- 红色LED显示可以检测传感器工作状态
- IP67防护结构(IEC规格)
- 使用前请先阅读产品说明书的“注意事项”
- Power supply reversal connection protection; short-circuit protection, can directly connect with PLC
- Economic and simple operation
- Long service life, high reliability and strong resistance property to environment
- Red LED indicates that it's available to detect the sensor operating state
- IP67 protection structure (IEC specification)
- Read the "Matters needing attention" of the Product Instruction before use



型号规格 Type and Specification

尺寸 Dimension		28X16X12	32X22X11	10X17X20	16X25X44	16X23X42	15X29X31	86X29X18	87X70X45
安装方式 Mounting way		非屏蔽式 Non-screen shield type	非屏蔽式 Non-screen shield type	槽式 Slot Type	槽式 Slot Type	槽式 Slot Type	槽式 Slot Type	非屏蔽式 Non-screen shield type	槽式 Slot Type
直流型 DC type	NPN	NO	LJG5C-4/Z2CN2	LJG5C-5/22CN2	LU3-10N1	LU4-16N1	LU5-16N1	LU5-15N1	JKD-J-D12
		NC	LJG5C-4/Z2BN2	LJG5C-5/22BN2	LU3-10N2	LU4-16N2	LU5-16N2	LU5-15N2	
		NO+NC							
	PNP	NO	LJG5C-4/Z2CP2	LJG5C-5/22CP2	LU3-10P1	LU4-16P1	LU5-16P1	LU5-15P1	JKS-J-D
		NC	LJG5C-4/Z2BP2	LJG5C-5/22BP2	LU3-10P2	LU4-16P2	LU5-16P2	LU5-15P2	
		NO+NC							
	二线 Two-wire	NO	LJG5C-4/ZOAN2	LJG5C-5/ZOAN2		LU4-16D1	LU5-16D1	LU5-15D1	
		NC	LJG5C-4/ZOBN2	LJG5C-5/ZOBN2		LU4-16D2	LU5-16D2	LU5-15D2	
		NO+NC							
	交流型 AC type	NO							
		NC							
		NO+NC							
检测距 Detection distance		4mm±10%	5mm±10%	3mm±10%	4mm±10%	5mm±10%	5mm±10%	10mm±10%	10mm±10%
设定距离 Set distance		0~3.6mm	0~4mm	3mm	4mm	5mm	5mm	0~8mm	10mm
标准检测物件 Standard detection object		铁18x18x1mm	铁18x18x1mm	铁18x18x1mm	铁25x25x1mm	铁25x25x1mm	铁25x25x1mm	铁25x25x1mm	铁30x30x1mm
响应频率 Response frequency		DC: 0.5KHz AC: 25Hz	DC: 0.5KHz AC: 25Hz	DC: 0.5KHz AC: 25Hz	DC: 0.5KHz AC: 25Hz	DC: 0.5KHz AC: 25Hz	DC: 0.5KHz AC: 25Hz	DC: 0.5KHz AC: 25Hz	DC: 0.5KHz AC: 25Hz
图例 Illustration		图96 Chart 96	图97 Chart 97	图98 Chart 98	图99 Chart 99	图100 Chart100	图101 Chart101	-	-

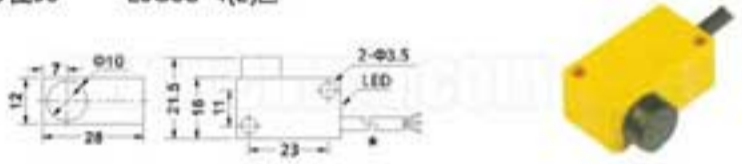
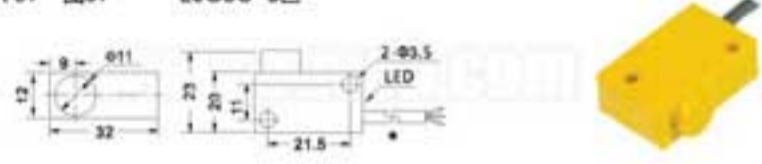


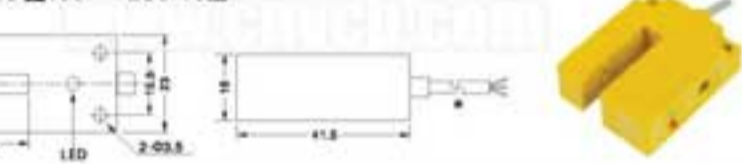
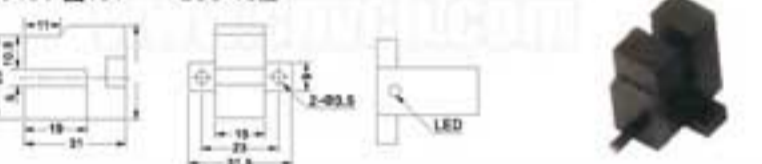
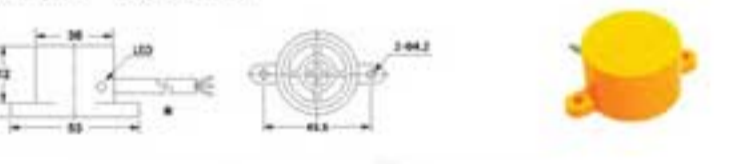

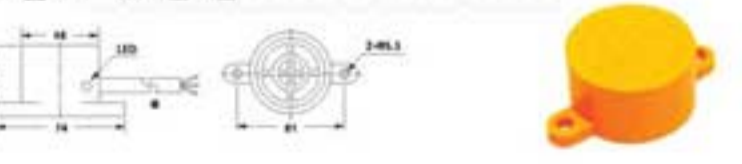





型号规格 Type and Specification

尺寸 Dimension		Φ36X18	Φ48X25	Φ48X32	Φ55X35	Φ80X40	Φ100X50	Φ140X55	Φ210X64	
安装方式 Mounting way		非屏蔽式 Non-screen shield type	非屏蔽式 Non-screen shield type	非屏蔽式 Non-screen shield type	非屏蔽式 Non-screen shield type	非屏蔽式 Non-screen shield type	非屏蔽式 Non-screen shield type	非屏蔽式 Non-screen shield type	非屏蔽式 Non-screen shield type	
直流型 DC type	NPN	NO	SK-3015A	SR-3020A	SD-3020A	SE-3025A	TCO-3040A	TCA-3050A	TCB-3050A	TCC-30120A
		NC	SK-3015B	SR-3020B	SD-3020B	SE-3025B	TCO-3040B	TCA-3050B	TCB-3050B	TCC-30120B
		NO+NC	SK-3015AB	SR-3020AB	SD-3020AB	SE-3025AB	TCO-3040AB	TCA-3050AB	TCB-3050AB	TCC-301200AB
	PNP	NO	SK-3015C	SR-3020C	SD-3020C	SE-3025C	TCO-3040C	TCA-3050C	TCB-3050C	TCC-301200C
		NC	SK-3015D	SR-3020D	SD-3020D	SE-3025D	TCO-3040D	TCA-3050D	TCB-3050D	TCC-30120D
		NO+NC	SK-3015CD	SR-3020CD	SD-3020CD	SE-3025CD	TCO-3040CD	TCA-3050CD	TCB-3050CD	TCC-30120CD
	二线 Two-wire	NO	SK-3015AL	SR-3020AL	SD-3020AL	SE-3025AL	TCO-3040AL	TCA-3050AL	TCB-3050AL	TCCB-30120AL
		NC	SK-3015BL	SR-3020BL	SD-3020BL	SE-3025BL	TCO-3040BL	TCA-3050BL	TCB-3050BL	TCC-30120BL
		NO+NC								
	交流型 AC type	NO	SK-2015A	SR-2020A	SD-2020A	SE-2025A	TCO-2040A	TCA-2050A	TCB-2050A	TCC-20120A
		NC	SK-2015B	SR-2020B	SD-2020B	SE-2025B	TCO-2040B	TCA-2050B	TCB-2050B	TCC-20120B
		NO+NC			SD-2020AB	SE-2025AB	TCO-2040AB	TCA-2050AB	TCB-2050AB	TCC-20120AB
检测距 Detection distance		15mm±10%	20mm±10%	20mm±10%	25mm±10%	40mm±10%	50mm±10%	80mm±10%	120mm±10%	
设定距离 Set distance		0~13mm	0~17mm	0~17mm	0~22mm	0~35mm	0~40mm	0~60mm	0~90mm	
标准检测物件 Standard detection object		铁55x55x1mm	铁60x60x1mm	铁65x65x1mm	铁75x75x1mm	铁80x80x1mm	铁100x100x1mm	铁140x140x2mm	铁210x210x2mm	
响应频率 Response frequency		DC: 0.5KHz AC: 25Hz	DC: 0.5KHz AC: 25Hz	DC: 0.5KHz AC: 25Hz	DC: 0.5KHz AC: 25Hz	DC: 0.5KHz AC: 25Hz	DC: 0.5KHz AC: 25Hz	DC: 0.5KHz AC: 25Hz	DC: 0.5KHz AC: 25Hz	
图例 Illustration		图102 Chart102	图103 Chart103	图104 Chart104	图105 Chart105	图106 Chart106	图107 Chart107	图108 Chart108	图109 Chart109	

性能参数 Characteristic parameter

- 滞后距离：检测距离的10%以下
 - 检测物体：磁性金属(非磁性金属时检测距离减小)
 - 电源电压：直流型:DC12-24V(6-36V)脉动(P-P)10%以下，
交流型:AC110-220V(36-250V)50/60Hz
 - 消耗电流：N,P型:13mA以下,D型:0.8mA以下,A型:1.7mA以下
 - 控制输出：N,P型:300mA以下，D型:200mA以下，A型:400mA以下
 - 回路保护：N,P,D型:逆连接保护、浪涌吸收、负载短路保护，A型:浪涌吸收
 - 环境温度：动作时、保存时:各-30~+65℃(不结冰、不结露)
 - 环境湿度：动作时、保存时:各35~95% RH
 - 绝缘阻抗：50MΩ以上(DC500兆欧表)充电部分与外壳间
 - 耐电压：AC1000V 50/60Hz 1min充电部分与外壳间
 - 温度的影响：温度范围-30~+65℃，+23℃时，±15%检测距离以内
温度范围-25~+60℃，+23℃时，±10%检测距离以内
 - 电压的影响：额定电源电压范围±15%以内、额定电源电压值时±10%
检测距离以内
 - 保护构造：IP67(IEC规格)
 - 材质：(外壳:ABS) (检测面:ABS)
- Delay distance: 10% below of the detection distance
 - Detection object: Magnetic metal (the detection distance decreases when it is non-magnetic metal)
 - Supply voltage: DC type: DC12-24V(6-36V) Impulse (p-p) 10% below, AC type:AC110-220V (36-250V) 50/60Hz
 - Consumption current: N,P type: 13mA below, D type: 0.8mA below, A type: 1.7mA below
 - Control output: N,P type: 300mA below, D type: 200mA below, A type: 400mA below
 - Loop protection: N,P,D type: reversal connection protection, surge absorption, load short-circuit protection, A type: surge absorption
 - Ambient temperature & humidity: During operation, storage: individually -30~+65℃ (no freeze, no dew), During operation, storage: individually 35-95%RH
 - Insulation impedance: 50MΩ about (DC500 megameter) between charging part and housing
 - Withstand voltage: AC1000V 50/60Hz 1min between charging part and housing
 - Temperature influence: Temperature range -30~+65℃, at +23℃, ±15% detection distance; temperature range -25~+60℃, at +23℃, ±10% detection distance
 - Voltage influence: Inside ±15% rated supply voltage range, at rated supply voltage value, inside ±10% detection distance
 - Protection structure: IP67 (IEC specification)
 - Material: (Housing: ABS), (Detection surface: ABS).

外形尺寸(mm) External dimension

Chart 96 图96 LJG5S-4(2)□ 	Chart 97 图97 LJG5C-5□ 
Chart 98 图98 LU3-10□ 	Chart 99 图99 LU4-16□ 
Chart 100 图100 LU5-16□ 	Chart 101 图101 LU5-15□ 
Chart 102 图102 SK-□15-□ 	Chart 103 图103 SR-□20□ 
Chart 104 图104 SD-□20□ 	Chart 105 图105 SE-□25□ 
Chart 106 图106 TCO-□40□ 	Chart 107 图107 TCA-□50□ 
Chart 108 图108 TCB-□80□ 	Chart 109 图109 TCC-□120□ 

电容式能与国内外各相同品种直接替换 Conductive type, can be the direct substitution of the same type both at home and abroad

- 电源反接保护、短路保护，可直接与PLC相联接
- 经济并且简单的操作
- 长寿命和高可靠性，耐环境性强
- 红色LED显示可以检测传感器工作状态
- IP67防护结构(IEC规格)
- 使用前请先阅读产品说明书的“注意事项”
- Power supply reversal connection protection; short-circuit protection, can directly connect with PLC
- Economic and simple operation
- Long service life, high reliability and strong resistance property to environment
- Red LED indicates that it's available to detect the sensor operating state
- IP67 protection structure (IEC specification)
- Read the "Matters needing attention" of the Product Instruction before use



型号规格 Type and Specification

尺寸 Dimension		M12X1		M18X1		M24X1.5		M30X1			
安装方式 Mounting way		屏蔽式 Screen shield type	非屏蔽式 Non-screen shield type	屏蔽式 Screen shield type	非屏蔽式 Non-screen shield type	屏蔽式 Screen shield type	非屏蔽式 Non-screen shield type	屏蔽式 Screen shield type	非屏蔽式 Non-screen shield type		
感应 Type	直流型 DC type	NPN	NO	LJC12A3-2-Z/BX	LJC12A3-A-Z/BX	LJC18A3-5-Z/BX	LJC18A3-B-Z/BX	LJC24A3-8-Z/BX	LJC24A3-T-Z/BX	LJC30A3-10-Z/BX	LJC30A3-H-Z/BX
			NC	LJC12A3-2-Z/AX	LJC12A3-A-Z/AX	LJC18A3-5-Z/AX	LJC18A3-B-Z/AX	LJC24A3-8-Z/AX	LJC24A3-T-Z/AX	LJC30A3-10-Z/AX	LJC30A3-H-Z/AX
			NO+NC								
		PNP	NO	LJC12A3-2-Z/BY	LJC12A3-A-Z/BY	LJC18A3-5-Z/BY	LJC18A3-B-Z/BY	LJC24A3-8-Z/BY	LJC24A3-T-Z/BY	LJC30A3-10-Z/BY	LJC30A3-H-Z/BY
			NC	LJC12A3-2-Z/AY	LJC12A3-A-Z/AY	LJC18A3-5-Z/AY	LJC18A3-B-Z/AY	LJC24A3-8-Z/AY	LJC24A3-T-Z/AY	LJC30A3-10-Z/AY	LJC30A3-H-Z/AY
			NO+NC								
	交流型 AC type	二线 Two-wire	NO			LJC18A3-5-J/EZ	LJC18A3-B-J/EZ	LJC24A3-8-J/EZ	LJC24A3-T-J/EZ	LJC30A3-10-J/EZ	LJC30A3-H-J/EZ
			NC			LJC18A3-5-J/DZ	LJC18A3-B-J/DZ	LJC24A3-8-J/DZ	LJC24A3-T-J/DZ	LJC30A3-10-J/DZ	LJC30A3-H-J/DZ
		二线 Two-wire	NO								
			NC								
		三线 Three-wire	NO+NC								
检测距 Detection distance		2mm±10%	5mm±10%	5mm±10%	10mm±10%	8mm±10%	15mm±10%	10mm±10%	25mm±10%		
设定距离 Set distance		0~1.7mm	0~4mm	0~4mm	0~8mm	0~7mm	0~13mm	0~8mm	0~18mm		
标准检测物件 Standard detection object											
响应频率 Response frequency		DC: 0.5KHz AC: 25Hz	DC: 0.5KHz AC: 25Hz	DC: 0.5KHz AC: 25Hz	DC: 0.5KHz AC: 25Hz	DC: 0.5KHz AC: 25Hz	DC: 0.5KHz AC: 25Hz	DC: 0.5KHz AC: 25Hz	DC: 0.5KHz AC: 25Hz		
图例 illustration		图110 Chart 110	图111 Chart 111	图112 Chart 112	图113 Chart 113	图114 Chart 114	图115 Chart 115	图116 Chart 116	图117 Chart 117		

型号规格 Type and Specification

尺寸 Dimension		Φ20	Φ34	M38X1.5	Φ80X80X40		
安装方式 Mounting way		非屏蔽式 Non-screen shield type	非屏蔽式 Non-screen shield type	非屏蔽式 Non-screen shield type	非屏蔽式 Non-screen shield type		
感应 Type	直流型 DC type	NPN	NO	LJC20A4-10-Z/BX	LJC34A4-K-Z/BX	LJC38A4-20-Z/BX	LJC80A4-40-Z/BX
			NC	LJC20A4-10-Z/AX	LJC34A4-K-Z/AX	LJC38A4-20-Z/AX	LJC80A4-40-Z/AX
			NO+NC				
		PNP	NO	LJC20A4-10-Z/BY	LJC34A4-K-Z/BY	LJC38A4-20-Z/BY	LJC80A4-40-Z/BY
			NC	LJC20A4-10-Z/AY	LJC34A4-K-Z/AY	LJC38A4-20-Z/AY	LJC80A4-40-Z/AY
			NO+NC				
	交流型 AC type	二线 Two-wire	NO				
			NC				
		二线 Two-wire	NO	LJC20A4-10-J/EZ	LJC34A4-K-J/EZ	LJC38A4-20-J/EZ	LJC80A4-40-J/EZ
			NC	LJC20A4-10-J/DZ	LJC34A4-K-J/DZ	LJC38A4-20-J/DZ	LJC80A4-40-J/DZ
		三线 Three-wire	NO+NC				
检测距 Detection distance		10mm±10%	25mm±10%	20mm±10%	40mm±10%		
设定距离 Set distance		0~8mm	0~22mm	0~18mm	0~35mm		
标准检测物件 Standard detection object		铁SPCC 50X50X1mm					
响应频率 Response frequency		DC: 0.5KHz AC: 25Hz	DC: 0.5KHz AC: 25Hz	DC: 0.5KHz AC: 25Hz	DC: 0.5KHz AC: 25Hz		
图例 illustration		图118 Chart 118	图119 Chart 119	图120 Chart 120	图121 Chart 121		

性能参数 Characteristic parameter

- 滞后距离：检测距离的10%以下
 - 检测物体：任何电物质
 - 电源电压：直流型:DC12-24V(6-36V)脉动(P-P)10%以下, 交流型:AC110-220V(36-250V)50/60Hz
 - 消耗电流：N.P型:13mA以下,D型:0.8mA以下,A型:1.7mA以下
 - 控制输出：N.P型:300mA以下,D型:200mA以下,A型:400mA以下
 - 回路保护：N.P.D型:逆连接保护、浪涌吸收、负载短路保护,A型:浪涌吸收
 - 环境温度：动作时、保存时:各-30~+65℃(不结冰、不结露)
 - 环境湿度：动作时、保存时:各35-95% RH
 - 绝缘阻抗：50MΩ以上(DC500兆欧表)充电部分与外壳间
 - 耐电压：AC1000V 50/160Hz 1min充电部分与外壳间
 - 温度的影响：温度范围-30~+65℃, +23℃时, ±15%检测距离以内
温度范围-25~+60℃, +23℃时, ±10%检测距离以内
 - 电压的影响：额定电源电压范围±15%以内、额定电源电压值时±10%检测距离以内
 - 保护构造：IP67(IEC规格)
 - 材质：(外壳:ABS) (检测面:ABS)
- Delay distance: 10% below of the detection distance
 - Detection object: Magnetic metal (the detection distance decreases when it is non-magnetic metal)
 - Supply voltage: DC type: DC12-24V(6-36V) Impulse (p-p) 10% below, AC type: AC110-220V (36-250V) 50/60Hz
 - Consumption current: N.P type: 13mA below, D type: 0.8mA below, A type: 1.7mA below
 - Control output: N.P type: 300mA below, D type: 200mA below, A type: 400mA below
 - Loop protection: N.P.D type: reversal connection protection, surge absorption, load short-circuit protection, A type: surge absorption
 - Ambient temperature & humidity: During operation, storage: individually -30~+65°C (no freeze, no dew), During operation, storage: individually 35-95%RH
 - Insulation impedance: 50MΩ about (DC500 megameter) between charging part and housing
 - Withstand voltage: AC1000V 50/160Hz 1min between charging part and housing
 - Temperature influence: Temperature range -30~+65°C, at +23°C, ±15% detection distance; temperature range -25~+60°C, at +23°C, ±10% detection distance
 - Voltage influence: Inside ±15% rated supply voltage range, at rated supply voltage value, inside ±10% detection distance
 - Protection structure: IP67 (IEC specification)
 - Material: (Housing: nikel plated brass), (Detection surface: ABS).

外形尺寸(mm) External dimension

Chart 110 图110 LJC12A3-2-□

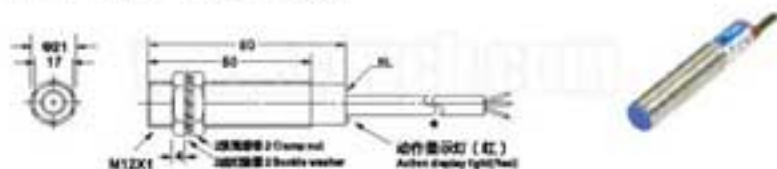


Chart 111 图111 LJC12A3-A-□

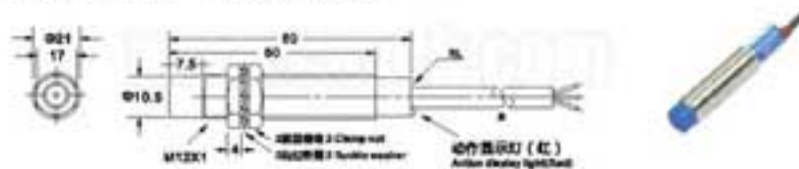


Chart 112 图112 LJC18A3-5-□

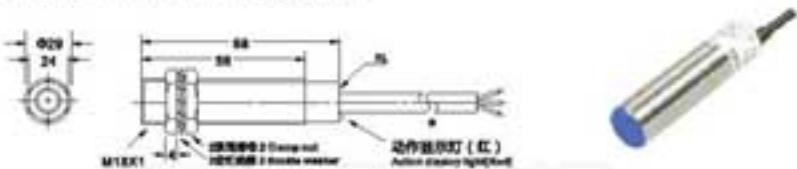


Chart 113 图113 LJC18A3-B-□

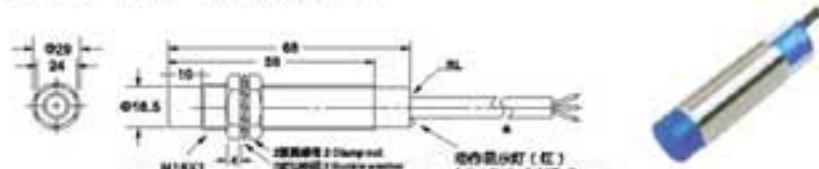


Chart 114 图114 LJC24A3-8-□



Chart 115 图115 LJC24A3-T-□

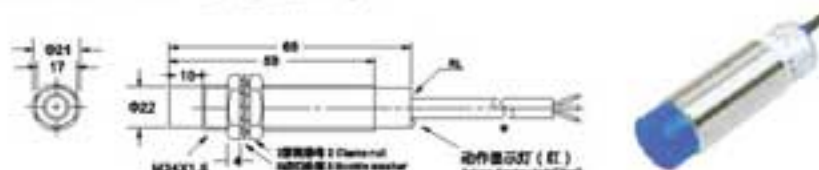


Chart 116 图116 LJC30A3-10-□

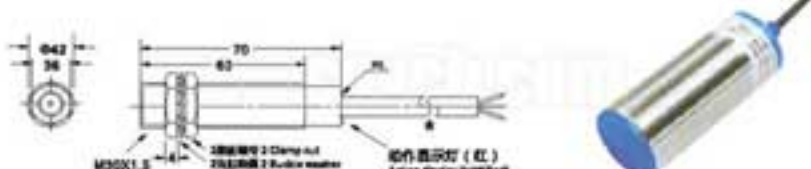


Chart 117 图117 LJC30A3-H-□

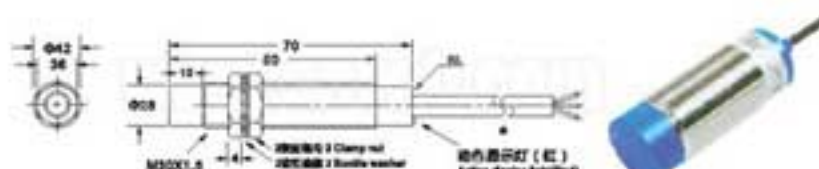


Chart 118 图118 LJC20A4-10-□

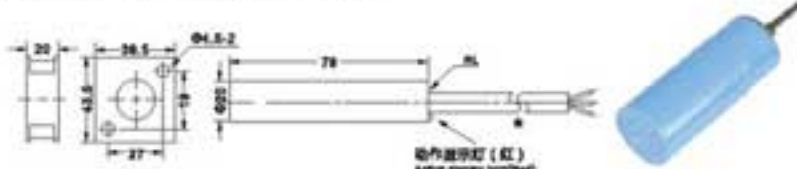


Chart 119 图119 LJC34A4-K-□

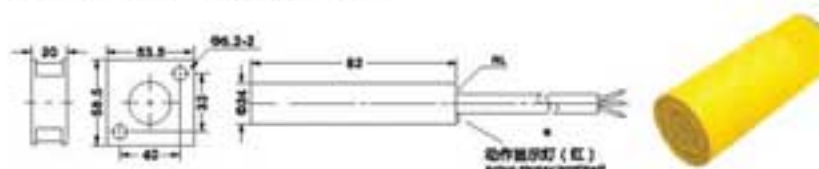


Chart 120 图120 LJC38A4-20-□

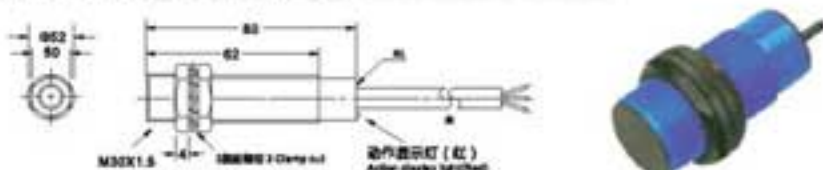


Chart 121 图121 LJC80A4-40-□



模拟式能检测物体位置的移动 霍尔式能检测物体的计数 Analog type, can detect the movement of the object location hall type to detects objects counting

- 电源反接保护、短路保护，可直接与PLC相联接
- 长寿命和高可靠性，耐环境性强
- 红色LED显示可以检测传感器工作状态
- 距离可调节的简单操作
- IP67防护结构(IEC规格)
- 使用前请先阅读产品说明书的“注意事项”
- Power supply reversal connection protection; short-circuit protection, can directly connect with PLC
- Long service life, high reliability and strong resistance property to environment
- Red LED indicates that it's available to detect the sensor operating state
- Simple operation with adjustable distance
- IP67 protection structure (IEC specification)
- Read the "Matters needing attention" of the Product Instruction before use



型号规格 Type and Specification

尺寸 Dimension	M18X1	M30X1.5	40X40X38	Φ40X32mm
安装方式 Mounting way	非屏蔽式 Non-screen shield type	非屏蔽式 Non-screen shield type	非屏蔽式 Non-screen shield type	非屏蔽式 Non-screen shield type
型号 Voltage type	J4-D8V	JCW-30QA	JCW-40QA	JCW-48QA
检测距离 Detection distance	1-8mm	1-13mm	1-18mm	1-18mm
标准检测物体 Standard detection object	铁18X18X1mm	铁30X30X1mm	铁54X54X1mm	铁85X85X1mm
电源电压 Supply Voltage	15-30VDC	15-30VDC	15-30VDC	15-30VDC
电压输出 Voltage Output	0-10VDC	0-10VDC	0-10VDC	0-10VDC
负载电阻 Load Resistance	≥4.7kΩ	≥4.7kΩ	≥4.7kΩ	≥4.7kΩ
电流输出 Current Output	0-20MA	0-20MA	0-20MA	0-20MA
负载电阻 Load Resistance	≤500Ω	≤500Ω	≤500Ω	≤500Ω
响应频率 Response frequency	200HZ	200HZ	200HZ	200HZ
图例 Illustration	图122 chart 122	图123 chart 123	图124 chart 124	图125 chart 125

型号规格 Type and Specification

尺寸 Dimension	M8X1X25	M12X1X25	M12X1X35	M18X1X35		
安装方式 Mounting way	屏蔽式 Screen shield type	非屏蔽式 Non-screen shield type	屏蔽式 Screen shield type	非屏蔽式 Non-screen shield type		
输出 Type	NPN	NO	NJK-5001C	NJK-5002C	NJK-8002C	NJK-5003C
		NC	NJK-5001D	NJK-5002D	NJK-8002D	NJK-5003D
		NO+NC		NJK-5002CD	NJK-8002CD	NJK-5003CD
	PNP	NO	NJK-5001A	NJK-5002A	NJK-8002A	NJK-5003A
		NC	NJK-5001B	NJK-5002B	NJK-8002B	NJK-5003B
		NO+NC		NJK-5002AB	NJK-8002AB	NJK-5003AB
检测距 Detection distance	10mm±10%	10mm±10%	10mm±10%	10mm±10%		
设定距离 Set distance	0-8mm	0-8mm	0-8mm	0-8mm		
标准检测物件 Standard detection object	Φ8x2mm 磁铁	Φ12x2mm 磁铁	Φ12x2mm 磁铁	Φ18x2mm 磁铁		
响应频率 Response frequency	1KHz	1KHz	1KHz	1KHz		
图例 Illustration	图126 Chart 126	图127 Chart 127	图128 Chart 128	图129 Chart 129		

性能参数 Characteristic parameter

- 滞后距离：检测距离的10%以下
 - 检测物体：磁性金属(非磁性金属时检测距离减小)
 - 电源电压：直流型:DC12-24V(6-36V)脉动(P-P)10%以下, 交流型:AC110-220V(36-250V)50/60Hz
 - 消耗电流：N.P型:13mA以下,D型:0.8mA以下,A型:1.7mA以下
 - 控制输出：N.P型:300mA以下,D型:200mA以下,A型:400mA以下
 - 回路保护：N.P.D型:逆连接保护、浪涌吸收、负载短路保护,A型:浪涌吸收
 - 环境温度：动作时、保存时:各-30~+65℃(不结冰、不结露)
 - 环境湿度：动作时、保存时:各35~95% RH
 - 绝缘阻抗：50MΩ以上(DC500兆欧表)充电部分与外壳间
 - 耐电压：AC1000V 50/60Hz 1min充电部分与外壳间
 - 温度的影响：温度范围-30~+65℃, +23℃时, ±15%检测距离以内
温度范围-25~+60℃, +23℃时, ±10%检测距离以内
 - 电压的影响：额定电源电压范围±15%以内、额定电源电压值时±10%检测距离以内
 - 保护构造：IP67(IEC规格)
 - 材质：(外壳:黄铜镀镍)(检测面:ABS)
- Delay distance: 10% below of the detection distance
 - Detection object: Magnetic metal (the detection distance decreases when it is non-magnetic metal)
 - Supply voltage: DC type: DC12-24V(6-36V) Impulse (p-p) 10% below, AC type: AC110-220V (36-250V) 50/60Hz
 - Consumption current: N.P type: 13mA below, D type: 0.8mA below, A type: 1.7mA below
 - Control output: N.P type: 300mA below, D type: 200mA below, A type: 400mA below
 - Loop protection: N.P.D type: reversal connection protection, surge absorption, load short-circuit protection, A type: surge absorption
 - Ambient temperature & humidity: During operation, storage: Individually -30~+65°C (no freeze, no dew), During operation, storage: individually 35-95%RH
 - Insulation impedance: 50MΩ about (DC500 megameter) between charging part and housing
 - Withstand voltage: AC1000V 50/60Hz 1min between charging part and housing
 - Temperature influence: Temperature range -30~+65°C, at +23°C, ±15% detection distance; temperature range -25~+60°C, at +23°C, ±10% detection distance
 - Voltage influence: Inside ±15% rated supply voltage range, at rated supply voltage value, inside ±10% detection distance
 - Protection structure: IP67 (IEC specification)
 - Material: (Housing: nikrl plated brass), (Detection surface: ABS).

外形尺寸(mm) External dimension

Chart 122 图122 J4-D8V

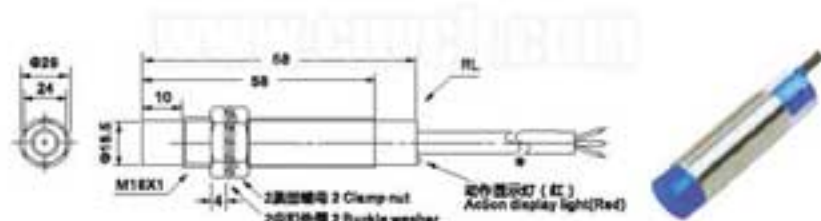


Chart 123 图123 LCW-30QA□

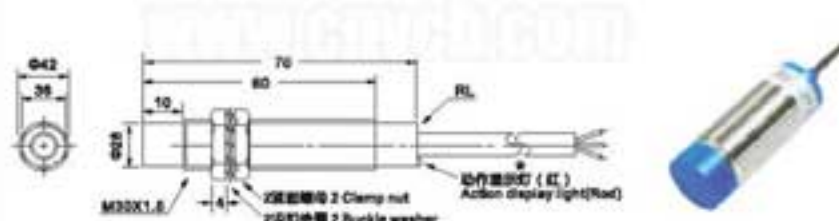


Chart 124 图124 JCW-40QA JCW-40PA

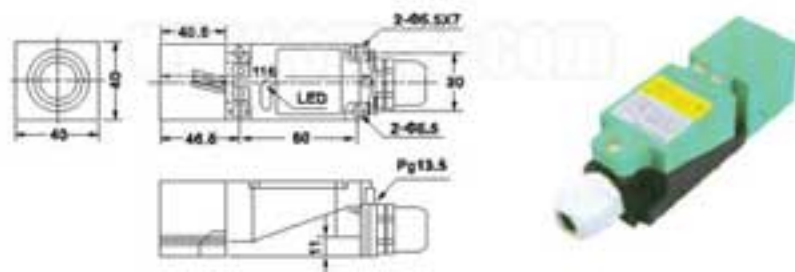


Chart 125 图125 JCW-48QA

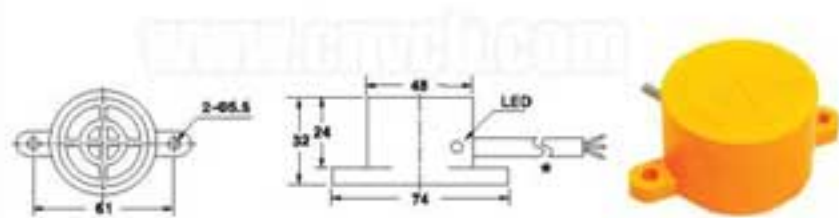


Chart 126 图126 NJK-5001□

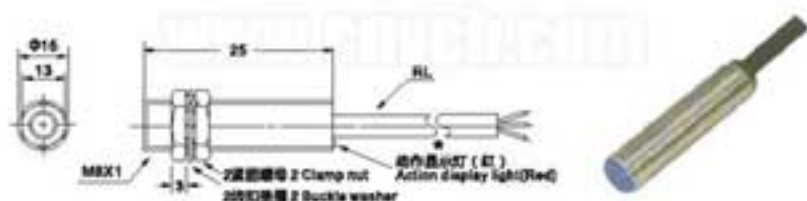


Chart 127 图127 NJK-5002□

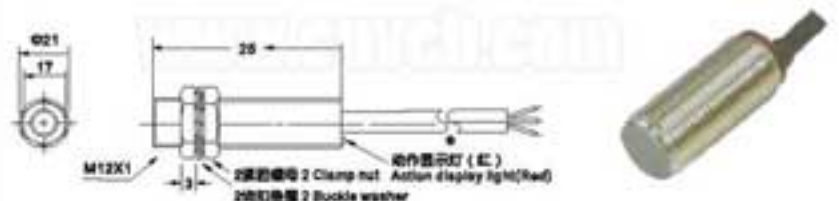


Chart 128 图128 NJK-8002□

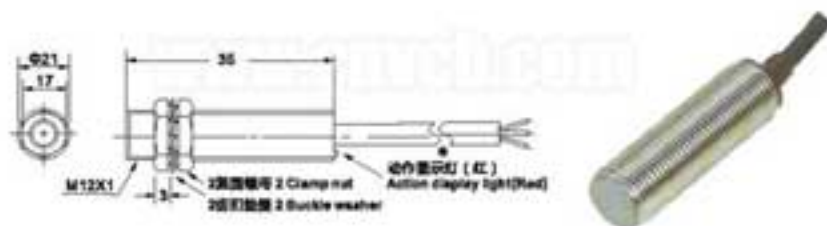
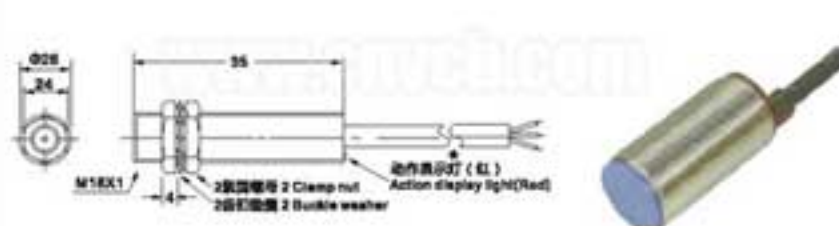


Chart 129 图129 NJK-5003□



模拟式能检测物体位置的移动 霍尔式能检测物体的计数 Analog type, can detect the movement of the object location hall type to detects objects counting

- 电源反接保护、短路保护，可直接与PLC相联接
- 普通场合使用，耐环境性能中等
- 红色LED显示可以检测传感器工作状态
- 经济并且简单的操作
- 应用广泛。可替换小型开关和限位开关
- IP67防护结构(IEC规格)
- 使用前请先阅读产品说明书的“注意事项”
- Power supply reversal connection protection; short-circuit protection, can directly connect with PLC
- Used in common places with medium environment resistance
- Red LED indicates that it's available to detect the sensor operating state
- Economic and simple operation
- Widely used, can be the substitution of min-type switch and limiting switch
- IP67 protection structure (IEC specification)
- Read the "Matters needing attention" of the Product Instruction before use



型号规格 Type and Specification

尺寸 Dimension				M5X1X30	M8X1X30	M12X1X50	4.7X8X18	7.5X8X23	8X11X26	6.5X11X22.5
Type	磁式 Magnetic type	DC/AC二线 two-wire	NO	LG5A3-10-J/EZ	LG8A3-10-J/EZ	LG12A3-10-J/EZ	SD-1	SD-2	D-C73	D-A73
			NC	LG5A3-10-J/DZ	LG8A3-10-J/DZ	LG12A3-10-J/DZ				
电源电压 Supply Voltage				DC/AC:5-220V						
连续负载电流 Continuous load current				50mA	100mA	200mA	50mA	80mA	100mA	100mA
图例 Illustration				图130 chatr 130	图131 chatr 131	图132 chatr 132	图133 chatr 133	图134 chatr 134	图135 chatr 135	图136 chatr 136

型号规格 Type and Specification

尺寸 Dimension				6.5X11X22.5	11X12X28	11X13X28	15X14X33.5	10X20X40	7.5X7X22	6X14X23
Type	磁式 Magnetic type	DC/AC二线 two-wire	NO	CS1-J	CS1-U	CS1-F	CS1-S	D-B54	CS4H	MS-1
			NC							
电源电压 Supply Voltage				DC/AC:5-220V						
连续负载电流 Continuous load current				100mA	100mA	100mA	100mA	100mA	100mA	100mA
图例 Illustration				图137 chatr 137	图138 chatr 138	图139 chatr 139	图140 chatr 140	图141 chatr 141	图142 chatr 142	图143 chatr 143

型号规格 Type and Specification

尺寸 Dimension				8X16.5X24	8X15X25	6.5X19X28.5	7X14.8X33	10X21X56	3X4.5X22.5	5.8X5X24.5	5.8X5X29
Type	磁式 Magnetic type	DC/AC二线 two-wire	NO	MS-2	MS-3	MS-4	MS-5	MS-6	SD-3	SD-4	SD-5
			NC								
电源电压 Supply Voltage				DC/AC:5-220V							
连续负载电流 Continuous load current				100mA	100mA	100mA	100mA	100mA	100mA	100mA	100mA
图例 Illustration				图144 chatr 144	图145 chatr 145	图146 chatr 146	图147 chatr 147	图148 chatr 148	图149 chatr 149	图150 chatr 150	图151 chatr 151

型号规格 Type and Specification

尺寸 Dimension				6X5X29	12X36X36	6.5X19X28.5	7X14.8X33	10X21X56	3X4.5X22.5	5.8X5X24.5	5.8X5X29
Type	磁式 Magnetic type	DC/AC二线 two-wire	NO	D-Z73	D-A93	CS1-G	SG-1	SG-2			LJC1-3/24
			NC						YG-1	MS-01	
电源电压 Supply Voltage				DC/AC:5-220V							
连续负载电流 Continuous load current				100mA	100mA	100mA	100mA	100mA	300mA	300mA	100mA
图例 Illustration				图152 chatr 152	图153 chatr 153	图154 chatr 154	图155 chatr 155	图156 chatr 156	图157 chatr 157	图158 chatr 158	图159 chatr 159

性能参数 Characteristic parameter

Chart 130 图130 LG5A3-10-J/EZ



Chart 131 图131 LG8A3-10-J/EZ

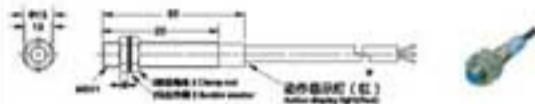


Chart 132 图132 LG12A3-10-J/EZ



Chart 133 图133 SD-1-□



Chart 134 图134 SD-2-□



Chart 135 图135 D-C73



Chart 136 图136 D-A73

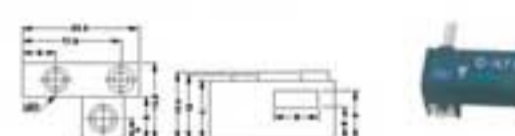


Chart 137 图137 CS1-J



Chart 138 图138 CS1-U

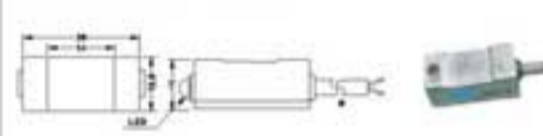


Chart 139 图139 CS1-F

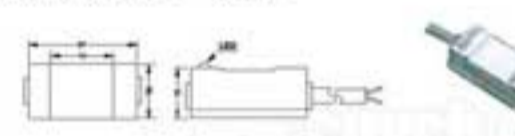


Chart 140 图140 CS1-S

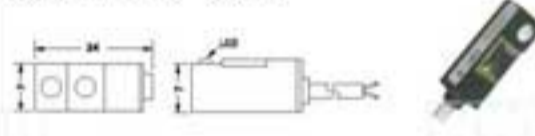


Chart 141 图141 D-B54

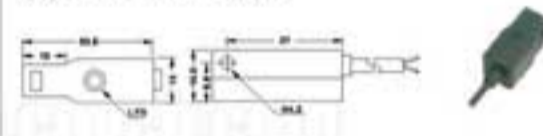


Chart 142 图142 CS4H



Chart 143 图143 MS-1



Chart 144 图144 MS-2



Chart 145 图145 MS-3

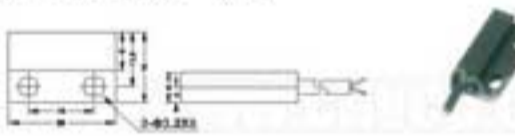


Chart 146 图146 MS-4

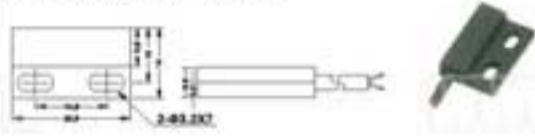


Chart 147 图147 MS-5

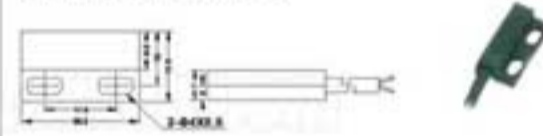


Chart 148 图148 MS-6

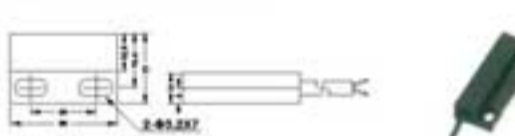


Chart 149 图149 SD-3

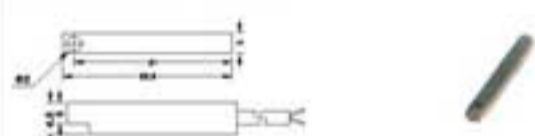


Chart 150 图150 SD-4



Chart 151 图151 SD-5



Chart 152 图152 DZ73

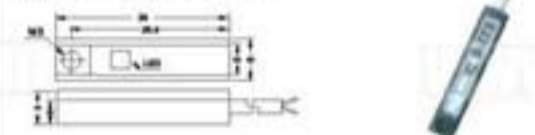


Chart 153 图153 D-A93

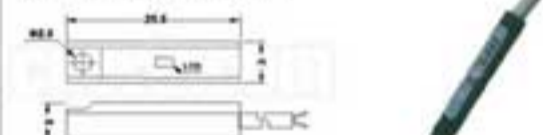


Chart 154 图154 CS1-G

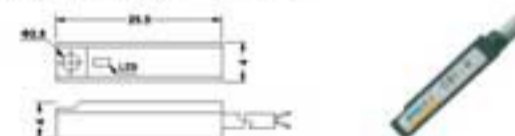


Chart 155 图155 SG-1



Chart 156 图156 SG-2

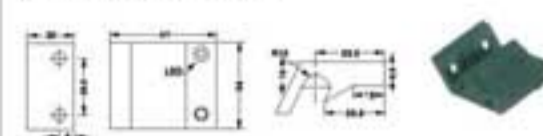


Chart 157 图157 YG-1

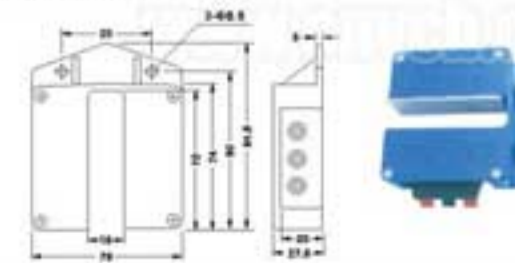
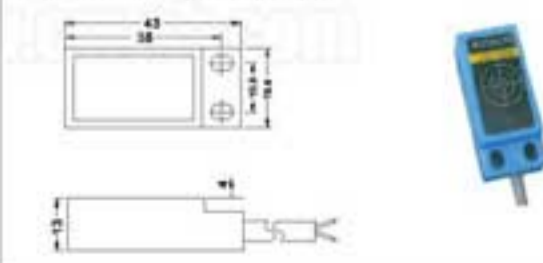


Chart 158 图158 MS-01



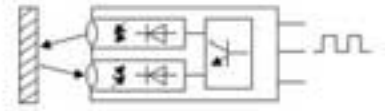
Chart 159 图159 LJC1-3/24



光电开关工作原理 Operation principle photoelectric switch

光电开关又称光电传感器，传感器分漫反射型、反馈反射型、对射型，传感器与PLC可编程控制器、单片机、非门电路、电子计数器、固态继电器、小型继电器等产品配套使用。发射型对准目标不间断发射光束，接收器把接收的光能量转换为电流传输给后面的检测线路，它能滤出有效信号和应用该信号。

photoelectric switch say again photoelectric sensor. sensor points diffuse rdflctive type. feedback,dulshe type, sensor and single-chip microcomputer, sr circuit, electronic counters,solid-state relay. small relays etc products with magnetic use. the transmitter aims at the target and generates light beam, and the receptor turns the light energy receptor turns the light energy received into current and transmits it to the detection circuit backwards. it can filter out an effective signal and use it.



光电开关技术术语 Technical terms of photoelectric switch

● 距离滞后 Distance delay

是指测量板靠近光电开关产生的动作距离和复位距离之差滞后距离用开关的距离的百分比来表示。

It means the distance difference between the action distance and the reset distance produced when the measuring board approaches the photoelectric switch; the delay distance is shown as percent number of switch distance.



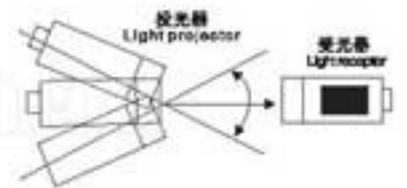
● 亮通/暗通 Light on / Dark on

类型 type	图例 Illustration	暗通 Dark on	亮通 Light on
漫反射型光电开关 Diffuse reflection type photoelectric switch			
反射板型光电开关 Reflecting board type photoelectric switch			
对射型光电开关 Correlation type photoelectric switch			

● 指向角 Angle of spread

对射型、反射型能保证光电开关确定工作的角度范围。

Correlation type and reflection type can ensure the angle range for photoelectric switch to work steadily.

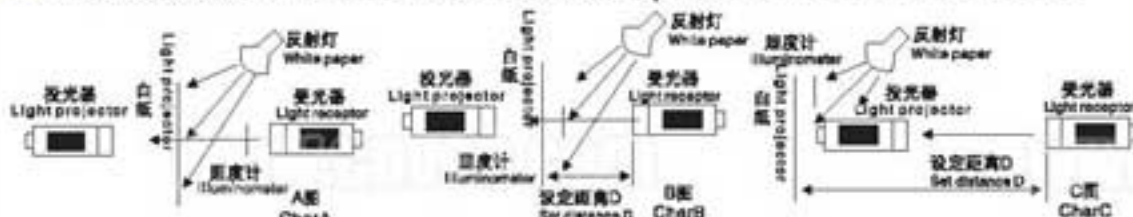


● 响应时间 Response time

指从光输入的上升、下降沿与相应的控制输出上升、下降沿距离间隔为动作或复位的延后时间。(动作时间=复位时间)

It means the delay time when the distance difference is action distance or reset distance between the rise and fall edge of the light input, and the rise and fall edge of the relevant control output. (Action time = reset time).

● 工作环境照度 Illumination level of operational environment



(A图)当外部干扰受光器时给予影响，故将(A图)的测定作为外部干扰光照度的基准；在(B图)和(C图)，根据设定距离D及白板纸反射率等，对受光器的影响程度产生变化，基准变的不明确。

(Chart A) When surrounding environment interferes in the light receptor, it works, therefore, make the determination of Chart A as the criterion of the surrounding environment interference to the illumination level; in Chart B and Chart C, the interference degree of the light receptor changes in terms of the set distance D and white paper reflection ratio, therefore, the criterion becomes uncertain.

● 镜面抑制(MSR)功能 Mirror surface rejection function (MSR)

反馈反射型光电开关利用内装的偏光滤光器和回归反射的特点，只接收来自回归反射板光束的功能。通过投光部偏光滤光器的光束变为横向。

反射到回归反射板三角锥上的光束由横向变为纵向。

其反射光通过受光部的偏光滤光器到达受光元件。

Due to the built-in polarized light filter and the property of retro-reflection, the retro-reflection type photoelectric switch only accepts the light beam from the retto-reflection board. Through the light projection part, the light beam of polarized light filter becomes transverse.

The light beam reflected to the standard pyrometric cone of the retro-reflection board becomes from transverse to longitudinal

The reflected light reaches the light receiving elements through the polarized light filter of the light receiving part.



● 反射板的盲区 Dead zone of reflection board

反射在反射的过程中，有一段区域是反射板不能识别的区域，这段区域就是反射板的盲区。

During the reflection process, there is a part of area that the reflection board can't identify. This part of area is exactly the dead zone of reflection board.

● 恒定光 Constant light

是指辐射功率基本上是固定的光

It means the light whose radiation power is basically constant

● 检测范围 Detection range

是指光电开关与物体之间的最大可用距离.检测范围与发射光的强度、测量区域的环境状况、反射物体的情况有关。

It means the maximum available distance between the photoelectric switch and the object. Detection range is concerned with the reflection light in tensity,the environment state of measuring area and the reflection object condition.

● 红外线(IR或IRED) Infrared ray (1R or IRED)

是指一种辐射波长很长的光($\lambda=780\text{nm}$ 到 1mm)

It's a kind of light whose radiation wavelength is very long. ($\lambda=780\text{nm}$ to 1mm)

● 反射性能 Reflection performance

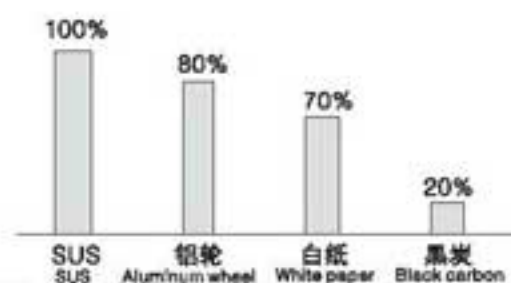
是指目标的特性，它与目标表面构造和颜色、大小有着依赖关系二还与入射光是优或劣，定向的或漫反射的有;无漫反射的部分是全吸收或者透射；反射型光电开关采用通用材料可以得到较好的反射距离。

It's the target's characteristic. It has dependency relationship with the surface structure, color and size of the target. In addition, whether the incident light is good or bad, whether it is directed or diffuse reflected and whether the non-reflection part is totally absorbed or transmitted do matter. the reflection type photoelectric switch that adopts general material can achieve better reflecting distance.

● 调节器 Adjuster

通过内置式电位器，在最小照度的情况下，使接收器能产生开关输出;由此可以在有效作用距离内将开关距离调节到最佳程度。

Through the built-in potential meter and under the circumstance of the minimum illumination level, it makes the receptor produce switch output therefore, the switch distance can be adjusted to the best state inside the range of the effective distance.

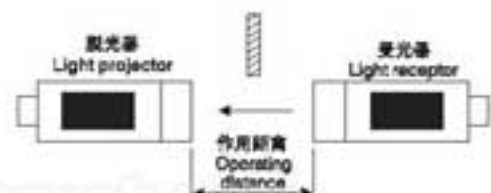


光电开关分类 Photoelectric switch classification

● 对射型光电开关 Correlation type photoelectric switch

对射型光电开关由投光器、受光器组成，结构上两者是相互分离的;辨别不透明的反光物体;有效距离大，因为光束跨越感应距离的时间仅一次;不易受干扰;装置的消费高，两个单元都必须敷设电缆。

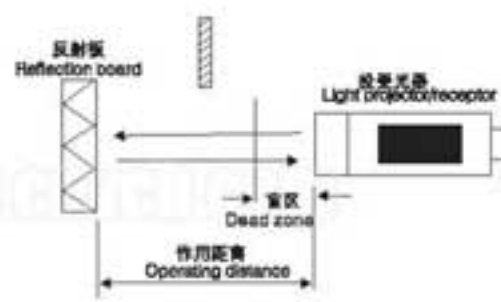
Correlation type photoelectric switch is made up of light projector and light receptor, and the both are respectively separated in structure; Distinguish the opaque reflective object; Large effective distance. for the light beam crosses the sensing distance only ince; Not vulnerable to be interfered; The equipment has high consumption, so cables must be laid out on the two units.



● 反馈反射型光电开关 Feedback reflective photoelectric switch

反馈反射型光电开关由投光器和受光器构成的情况是一种标准配置。从发送器来的光束，在对面的反射镜被反射，既返回受光器。光的通过时间是两倍的信号持续时间；当光束被中断时产生一个开关变化。辨别不透明的反光物体;透明玻璃识别标志可以借助于特殊的传感器；当带有偏振滤光镜的传感器使用时，反射目标成为可靠的识别(可参见MSR功能);借助反射镜部件，形成高的有效距离范围；不易受干扰。

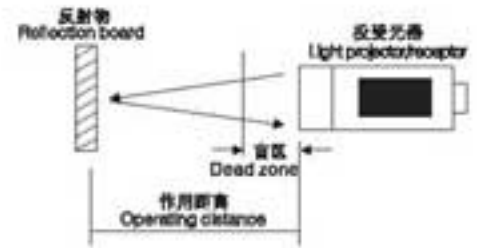
Feedback reflective photoelectric switch is made up of light projector and light receptor, which is one of standard configurations. The light beam from the projector is reflected by the opposite mirror, and then goes back to the light receptor. The transit time is twice the signal's duration time; a switch change comes into being when the light beam breaks. Distinguish the opaque reflective object; Transparent glass identification mark can be made of special sensor; When the sensor with Polaroid filter works, the reflective target becomes a reliable identification(See M S R function): High effective distance range is available with the help of reflective mirror parts; Not vulnerable to be interfered.



● 漫反射型光电开关 Diffuse reflection type photoelectric switch

漫反射型光电开关由投光器和受光器构成的情况是一种标准配置。从发送器来的光线时，目标产品漫反射，当有足够的组合光返回受光器时，开关状态发生变化；有效作用距离是由目标的反射能力决定的，是由表面性质和颜色决定的。带有灵敏度调节器的变化能力可起到补偿作用；较小的装配开支，光传感器由单个元件组成时，通常可以达到粗定位；采用背景抑制功能调节测量距离；对目标上的灰尘敏感和对目标变化了的反射性能敏感。

Diffuse reflection type photoelectric switch is made up of light projector and light receptor, which is one of standard configurations. When the light beam comes from the projector, the target creates diffuse reflection; when there is enough combination light back to the light receptor, the switch state will change; Effective operating distance depends on the reflectibe capacity of the target, as well as the surface property and color. The change capacity with sensitivity adjuster can assume compensation action; The equipment has lower consumption. When the optical sensor is made up of as in element, rough location can usually be achieved. Adopts the function of back ground rejection to regulate the measuring distance; Sensitive to the on the target and sensitive to the changed reflective performance of the target.



● 光纤传感器 Optical fiber sensor

检测微小物体(最小为0.5mm);用高级合金钢作为外包装，可以在高温环境中使用。对有约束的安装状况的适宜的。

Detect micro-objects (Minimum 0.5mm). Use high-class alloy steel as external packing, which can work in the high temperature environment. Suitablato the installation condition which has restriction.

光电开关输出方式和电气特性 Electrical Characteristics & Out Form of Photoelectric Switch

● 直流三线制(N,P型)NO或NC DC three-wire system (N,P type) NO or NC

这些开关的负载和供电电源分开连接有极性，短路和过载保护功能，剩余电流可以忽略。

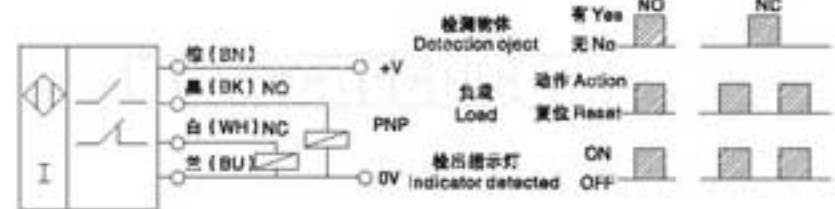
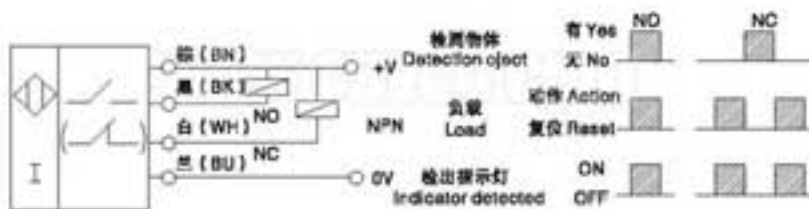
The load of these switches connects separately with the power supply, owning the functions of polarity, short-circuit and over-load protection. the residual current can be neglected.



● 直流四线制(N,P型)NO+NC DC four-wire system (N,P type) NO plus NC

这些开关可提供常开，常闭两组输出。

The switches can provide two groups of output NO and NC



● 直流四线制(X型) DC four-wire system(X type)

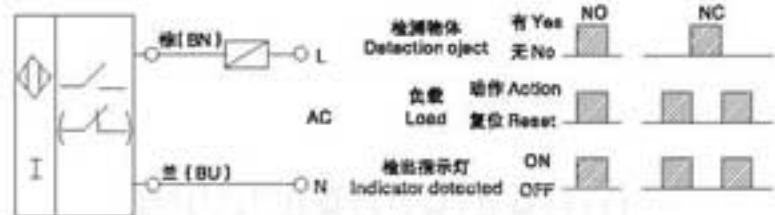
NPN, NP, NO, NC 四种输出方式可转换

The four output modes can be converted among NPN, PNP, NO and NC

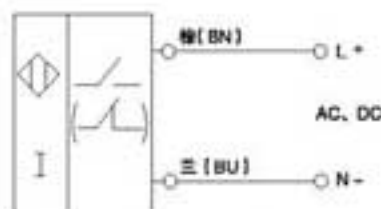


- 交流二线制NO或NC AC two-wire system NO or NC
负载必须串联在传感器内进行工作在开路状态，在闭路状态，开关元件上有一个较小的电压降

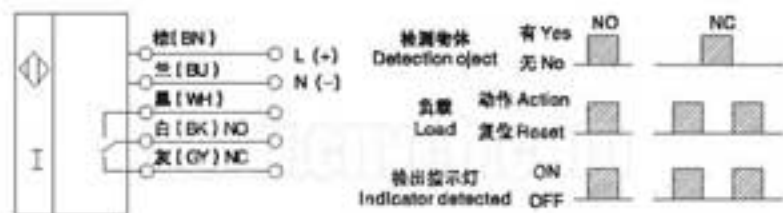
The load must be series connected inside the sensor and closed-circuit state, there is a minor voltage drop on the work, and on switch elements.



- 交流、直流(AC, DC型)二线制发射器
AC, DC(A, D type)Two-wire system reflector



- 交流、直流五线制(AC、DC型)继电器输出
AC、DC Five-wire system(AC、DC type)
relay out put



- 交流、直流五线制(AC加DC型)继电器输出
AC、DC Five-wire system(AC Plus DC type)
relay out put



光电开关的并联、串联（请参照接近开关的参数）Series and parallel connection of photoelectric switch(see the parameters of proximity switch)

光电开关注意事项 Matters Needing Attention when using photoelectric switch

- 防止相互干扰的方法 Ways to avoid mutual interference

光电开关接近设置时，另一个开关的光入射时造成的不稳定性动作，叫做相互干扰。投射器、受光器相互交叉安装反射式并列使用时，相互间隔须维持设定距离在检测距离的1.4倍以上；对射式并列使用时，相互间隔须维持设定距离在检测距离的0.4倍以上。

When the photoelectric switch approaches to the equipment, the light from another switch emits, causing unsteady action, which is called mutual interference; The light projector and the light receptor are cross-installed mutually; When the reflection type is used together, the distance is 1.4 times of detection distance; When the correlation type is used together, the distance between them must be kept, and the set distance is 0.4 times of detection distance.

- 其他注意事项 Other matters needing attention

光电开关的配线应单独配金属软管，请不要与电力线，动作线一起在同一金属软管内；电源电压请在电源电压范围内使用。

The Photoelectric switch must be equipped individually with metal flexible pipe, and don't make it with the electric line and power line in the same metal flexible pipe; The supply voltage must inside the supply voltage range.

- 安装场合的注意事项 Installations of the matters needing attention

灰尘较多的场合、腐蚀性气体较多的场合、水、油、药液直接溅散的场合、太阳光等强光直接照射的场合；使用时的环境温度湿度应在额定范围内。

Where there is more dust; Where there is more corrosive gas; Where water, oil and drugs are sprayed straightly; Where light shines directly; when it's during the use, the ambient temperature and humidity must be inside the rated range.

- 关于维护检修 About maintenance and repair

检测物体及光电开关的安装位置有无偏移，松动配线、连接部位有无松动，接触不良，断线有无附粘灰尘等堆积物；使用温度条件，周围环境条件有无异常；检测距离有无异常。

Check whether there is any movement or looseness about the installation sites of the object and photoelectric switch; Check whether there is any looseness, bad contact or disconnection about the equipped line and connecting parts; Check whether there is any deposit adhered, such as dust; Check whether the operating temperature condition and ambient environment condition are abnormal; Check whether the detection distance is abnormal.

圆柱型与国内外各相同品种直接替换 the columned can with various domestic same species directly replaced

- 电源反接保护、短路保护，可直接与PLC相联接
- 新增电流过载保护
- 长寿命和高可靠性，耐环境性强
- 红色LED显示可以检测传感器工作状态
- 新增金属外壳形，增大了安装强度
- 增加外壳强度和断线的对策
- M8对射已试制推出
- IP67防护结构(IEC规格)
- 使用前请先阅读产品说明书的“注意事项”
- Power supply reversal connection protection; short-circuit protection, can directly connect with PLC
- Newly added current over-load protection
- Long service life, high reliability and strong resistance property to environment
- Red LED indicates that it's available to detect the sensor operating state
- Newly added metal housing to improve the installation intensity
- Countermeasure to improve the housing intensity and to solve disconnection
- M8 correlation has been trial-produced and promoted
- IP67 protection structure (IEC specification)
- Read the "Matters needing attention" of the Product Instruction before use



型号规格 Type and Specification

尺寸 Dimension		M8X1		M12X1		M18X1				
安装方式 Mounting way		漫反射式 Diffuse type	对射式 Dishes type	漫反射式 Diffuse type	对射式 Dishes type	漫反射式 Diffuse type	反馈反射式 Feedback type	对射式 Diffuse type		
直流型 DC type	NPN	NO	E3F2-DS3C4	E3F2-2DN1-2L	E3F1-DS5C4	E3F1-3DN1-3L	E3F-DS10C4	E3F-DS30C4	E3F-R2NK	E3F-5DN1-5L
		NC	E3F2-DS3B2	E3F2-2DN2-2L	E3F1-DS5B2	E3F1-3DN2-3L	E3F-DS10B2	E3F-DS30B2	E3F-R2N2	E3F-5DN2-5L
		NO+NC					E3F-DS10C3	E3F-DS30C3	E3F-R2N3	E3F-5DN3-5L
	PNP	NO	E3F2-DS3P1	E3F2-2DP1-2L	E3F1-DS5P1	E3F1-3DP1-3L	E3F-DS10P1	E3F-DS30P1	E3F-R2PK	E3F-5DP1-5L
		NC	E3F2-DS3P2	E3F2-2DP2-2L	E3F1-DS5P2	E3F1-3DP2-3L	E3F-DS10P2	E3F-DS30P2	E3F-R2P2	E3F-5DP2-5L
		NO+NC					E3F-DS10P3	E3F-DS30P3	E3F-R2P3	E3F-5DP3-5L
	NPN/PNP/NO/NC						E3F-DS10X	E3F-DS30X	E3F-R2X	E3F-5DX-5L
	交流型 AC type	二线 Two-wire	NO				E3F-DS10Y1	E3F-DS30Y1	E3F-R2Y1	E3F-5DY1-5LY
		NC					E3F-DS10Y2	E3F-DS30Y2	E3F-R2Y2	E3F-5DY2-5LY
		三线NO Three-Wire No								
继电器输出 Relay Output										
检测范围 Detection range		3cm±10%	2m±10%	5cm±10%	3m±10%	10cm±10%	10-30cm±10%	2m±10%	5m±10%	
检测目标 Detection target		透明/不透明物体 Transparent/Opaque object	不透明物体 Opaque object	透明/不透明物体 Transparent/Opaque object	不透明物体 Opaque object	透明/不透明物体 Transparent/Opaque object	透明/不透明物体 Transparent/Opaque object	不透明物体 Opaque object	不透明物体 Opaque object	
检测范围调节 Select of range regulate		固定Fixed	固定Fixed	固定Fixed	固定Fixed	固定Fixed	灵敏度调节器 sensitivity adjuster	灵敏度调节器 sensitivity adjuster	固定Fixed	
响应时间 Response Time		1ms	1ms	1ms	1ms	1ms	1ms	1ms	1ms	
图例 illustration		图160 Chart 130		图161 Chart 161		图162 Chart 162				

型号规格 Type and Specification

尺寸 Dimension		M8X1			M30X1.5			M18X1	
安装方式 Mounting way		漫反射式 Diffuse type	反馈反射式 Diffuse type	对射式 Dishes type	漫反射式 Diffuse type	反馈反射式 Feedback type	对射式 Dishes type	漫反射式 Diffuse type	
直流型 DC type	NPN	NO	E3F3-D11	E3F3-D12	E3F3-R11	E3F3-T11	E3F3-DS70N1	E3F3-R4NK	E3F3-10DN1-10L
		NC	E3F3-D61	E3F3-D62	E3F3-R61	E3F3-T61	E3F3-DS70N2	E3F3-R4N2	E3F3-10DN2-10L
		NO+NC					E3F3-DS70N3	E3F3-R4N3	E3F3-10DN3-10L
	PNP	NO	E3F3-D31	E3F3-D32	E3F3-R31	E3F3-T31	E3F3-DS70P1	E3F3-R4PK	E3F3-10DP1-10L
		NC	E3F3-D81	E3F3-D82	E3F3-R81	E3F3-T81	E3F3-DS70P2	E3F3-R4P2	E3F3-10DP2-10L
		NO+NC					E3F3-DS70P3	E3F3-R4P3	E3F3-10DP3-10L
	NPN/PNP/NO/NC								
	交流型 AC type	二线 Two-wire	NO				E3F-DS70Y1	E3F3-R4Y1	E3F3-10DY1-10L
		NC					E3F-DS70Y2	E3F3-R4Y2	E3F3-10DY2-10L
		三线NO Three-Wire No							
继电器输出 Relay Output									
检测范围 Detection range		10cm±10%	10-30cm±10%	3m±10%	5m±10%	70cm±10%	4m±10%	10m±10%	10-30cm±10%
检测目标 Detection target		透明/不透明物体 Transparent/Opaque object	透明/不透明物体 Transparent/Opaque object	不透明物体 Opaque object	不透明物体 Opaque object	透明/不透明物体 Transparent/Opaque object	不透明物体 Opaque object	不透明物体 Opaque object	不透明物体 Opaque object
检测范围调节 Select of range regulate		透明/不透明物体 Transparent/Opaque object	透明/不透明物体 Transparent/Opaque object	透明/不透明物体 Transparent/Opaque object	固定Fixed	透明/不透明物体 Transparent/Opaque object	透明/不透明物体 Transparent/Opaque object	固定Fixed	透明/不透明物体 Transparent/Opaque object
响应时间 Response Time		1ms	1ms	1ms	1ms	1ms	1ms	1ms	1ms
图例 illustration		图163 Chart 163			图164 Chart 164			图165 Chart 165	

性能参数 Characteristic parameter

- 接通延时: 1.5ms
- 光源: 红外光660nm
- 电源电压: 直流型: DC12-24V(6-36V)脉动(p-p)10%以下, 交流型: AC110-220V(90-250V)50/60Hz
- 消耗电流: N.P型: 20mA以下, A型: 1.7mA以下
- 控制输出: N.P型: 300mA以下, A型: 400mA以下, J型: 2A以下 (触点寿命: 10万次)
- 回路保护: N.P.D型: 逆连接保护, 浪涌吸收, 负载短路保护, A型: 浪涌吸收
- 环境温、湿度: 动作时、保存时: 各-30~65°C(不结冰、不结露), 动作时、保存时: 各35~95%RH
- 绝缘阻抗: 50MΩ以上(DC500兆欧表)充电部分与外壳间
- 耐电压: AC1000V 50/60Hz 1min充电部分与外壳间
- 温度的影响: 温度范围-30~+65°C, +23°C时, ±15%检测距离以内, 温度范围-25~+60°C, +23°C时, ±10%检测距离以内
- 电压的影响: 额定电源电压范围±15%以内, 额定电源电压值时, ±10%检测距离以内
- 保护构造: IP67(IEC规格)
- 材质: (外壳: 黄铜镀镍) (检测面(透镜): PMMA)
- Connection delay: 1.5ms
- Light source: Infrared light 660nm
- Supply voltage: DC type: DC12-24V (6-36V) Impulse (p-p) 10% below, AC type: AC110-220V(90-250V) 50/60Hz
- Consumption current: N.P type: 20mA below, A type: 1.7mA below
- Control output: N.P type: 300mA below, A type: 400mA below, J type: 2A below (contact service life: 0.1 million times).
- Loop protection: N.P. D type: reversal connection protection, surge absorption, load short-circuit protection, A type: surge absorption
- Ambient temperature & humidity: During operation, storage: individually -30~+65°C (no freeze, no dew), During operation, storage: individually 35-95% RH.
- Insulation impedance: 50MΩ above (DC500 megameter) between charging part and housing.
- Withstand voltage: AC1000V 50/60Hz 1min between charging part and housing
- Temperature influence: Temperature range -30~+65°C, at+23°C, ±15% detection distance; temperature range -25~+60°C, ±23°C, ±10% detection distance.
- Voltage influence; Inside ±15% rated supply voltage range, at rated supply voltage value, inside ±10% detection distance.
- Protection structure: IP67 (IEC specification).
- Material: Housing: Nickel plated brass (ABS) Detection surface (lens); PMMA.

外形尺寸(mm) External dimension

Chart 160 图160 E3F2-□

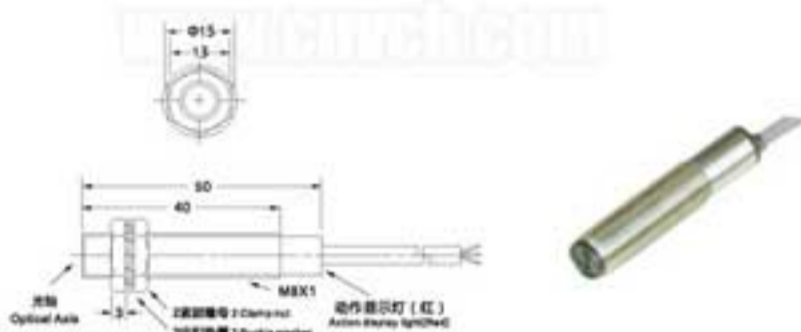


Chart 161 图161 E3F1-□

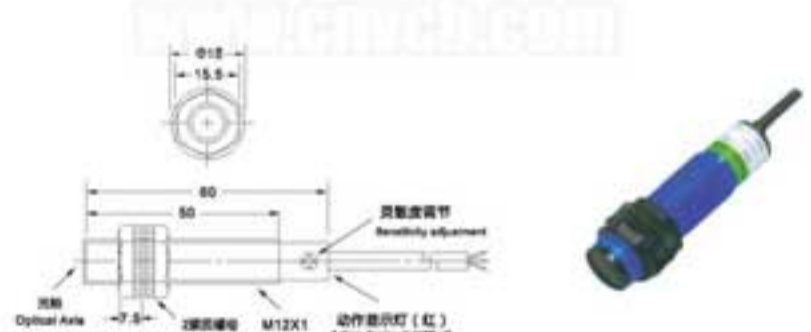


Chart 162 图162 E3F-□



Chart 163 图163 E3F3-□(进口型 Import type)



Chart 164 图164 E3F3-□

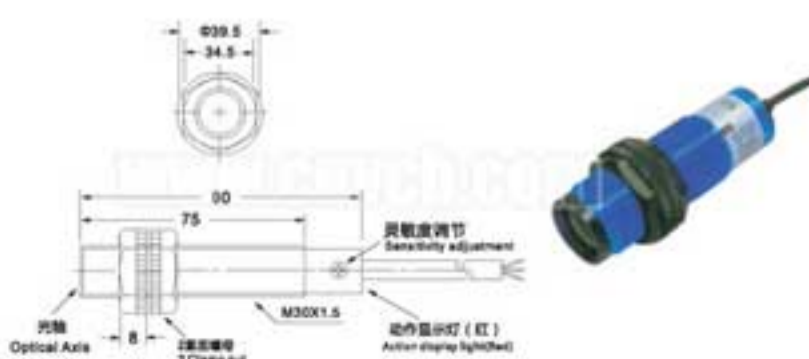


Chart 165 图165 CDD-□



圆柱型与国内外各相同品种直接替换 the columned can with various domestic same species directly replaced

- 电源反接保护、短路保护，可直接与PLC相联接
- 新增电流过载保护
- 长寿命和高可靠性，耐环境性强
- 红色LED显示可以检测传感器工作状态
- 新增金属外壳形，增大了安装强度
- 增加外壳强度和断线的对策
- M8对射已试制推出
- IP67防护结构(IEC规格)
- 使用前请先阅读产品说明书的“注意事项”
- Power supply reversal connection protection; short-circuit protection, can directly connect with PLC
- Newly added current over-load protection
- Long service life, high reliability and strong resistance property to environment
- Red LED indicates that it's available to detect the sensor operating state
- Newly added metal housing to improve the installation intensity
- Countermeasure to improve the housing intensity and to solve disconnection
- M8 correlation has been trial-produced and promoted
- IP67 protection structure (IEC specification)
- Read the "Matters needing attention" of the Product Instruction before use



型号规格 Type and Specification

尺寸 Dimension		18X50X50			25X65X75			20X43X60		
检测方式 Mounting way		漫反射式 Diffuse type	反馈反射式 Feedback reflection type	对射式 Dusha type	漫反射式 Diffuse type	反馈反射式 Feedback reflection type	对射式 Dusha type	漫反射式 Diffuse type	反馈反射式 Feedback reflection type	对射式 Dusha type
型号 Type	直流继电器 DC illuminate	E3JK-DS30M1	E3JK-R4M1	E3JK-5DM1-5L	E3JM-DS70M4	E3JM-R4M4	E3JM-10DM4-10L	E3K60-DS70M1	E3K60-R4M1	E3K60-5DM1-5L
	交流继电器 AC illuminate	E3JK-DS30M1	E3JK-R4M1	E3JK-5DM1-5L	E3JM-DS70M4	E3JM-R4M4	E3JM-10DM4-10L	E3K60-DS70M1	E3K60-R4M1	E3K60-5DM1-5L
	直流继电器 DC non-illuminate	E3JK-DS30M2	E3JK-R4M2	E3JK-5DM2-5L	E3JM-DS70M2	E3JM-R4M2	E3JM-10DM2-10L	E3K60-DS70M2	E3K60-R4M2	E3K60-5DM2-5L
	交流继电器 AC non-illuminate	E3JK-DS30M2	E3JK-R4M2	E3JK-5DM2-5L	E3JM-DS70M2	E3JM-R4M2	E3JM-10DM2-10L	E3K60-DS70M2	E3K60-R4M2	E3K60-5DM2-5L
检测范围 Detection range		30cm±10%	4m±10%	5m±10%	70cm±10%	4m±10%	10m±10%	70cm±10%	4m±10%	5m±10%
检测目标 Detection target		透明/不透明物体 Transparent/Opaque object	不透明物体 Opaque object	不透明物体 Opaque object	透明/不透明物体 Transparent/Opaque object	不透明物体 Opaque object	不透明物体 Opaque object	透明/不透明物体 Transparent/Opaque object	不透明物体 Opaque object	不透明物体 Opaque object
检测范围调节 Detection range regulation		灵敏度调节器 sensitivity adjuster	灵敏度调节器 sensitivity adjuster	固定Fixed	灵敏度调节器 sensitivity adjuster	灵敏度调节器 sensitivity adjuster	固定Fixed	灵敏度调节器 sensitivity adjuster	灵敏度调节器 sensitivity adjuster	固定Fixed
响应时间 Respsnee Time		30ms	30ms	30ms	30ms	30ms	30ms	30ms	30ms	30ms
图例 illustration		图166 Chart 166			图167 Chart 167			图168 Chart 168		

型号规格 Type and Specification

尺寸 Dimension		26X63X78			24X53.3X80			36X69X100		
检测方式 Mounting way		漫反射式 Diffuse type	反馈反射式 Feedback reflection type	对射式 Dusha type	漫反射式 Diffuse type	反馈反射式 Feedback reflection type	对射式 Dusha type	漫反射式 Diffuse type	反馈反射式 Feedback reflection type	对射式 Dusha type
型号 Type	直流继电器 DC illuminate	E3K78-DS80M1	E3K78-R4M1	E3K78-5DM1-5L	E3K80-DS70M4	E3K80-R4M1	E3K80-5DM4-10L	E3K100-DS100M1	E3K100-R4M1	E3K100-10DM1-5L
	交流继电器 AC illuminate	E3K78-DS80M1	E3K78-R4M1	E3K78-5DM1-5L	E3K80-DS70M4	E3K80-R4M1	E3K80-5DM4-10L	E3K100-DS100M1	E3K100-R4M1	E3K100-10DM1-5L
	直流继电器 DC non-illuminate	E3K78-DS80M2	E3K78-R4M2	E3K78-5DM2-5L	E3K80-DS70M2	E3K80-R4M2	E3K80-5DM2-10L	E3K100-DS100M2	E3K100-R4M2	E3K100-10DM2-5L
	交流继电器 AC non-illuminate	E3K78-DS80M2	E3K78-R4M2	E3K78-5DM2-5L	E3K80-DS70M2	E3K80-R4M2	E3K80-5DM2-10L	E3K100-DS100M2	E3K100-R4M2	E3K100-10DM2-5L
检测范围 Detection range		80cm±10%	4m±10%	5m±10%	80cm±10%	4m±10%	5m±10%	100cm±10%	4m±10%	10m±10%
检测目标 Detection target		透明/不透明物体 Transparent/Opaque object	不透明物体 Opaque object	不透明物体 Opaque object	透明/不透明物体 Transparent/Opaque object	不透明物体 Opaque object	不透明物体 Opaque object	透明/不透明物体 Transparent/Opaque object	不透明物体 Opaque object	不透明物体 Opaque object
检测范围调节 Detection range regulation		灵敏度调节器 sensitivity adjuster	灵敏度调节器 sensitivity adjuster	固定Fixed	灵敏度调节器 sensitivity adjuster	灵敏度调节器 sensitivity adjuster	固定Fixed	灵敏度调节器 sensitivity adjuster	灵敏度调节器 sensitivity adjuster	固定Fixed
响应时间 Respsnee Time		30ms	30ms	30ms	30ms	30ms	30ms	30ms	30ms	30ms
图例 illustration		图169 Chart 169			图170 Chart 170			图170 Chart 170		

型号规格 Type and Specification

尺寸 Dimension		18X50X50		
检测方式 Mounting way		漫反射式 Diffuse type	反馈反射式 Feedback reflection type	对射式 Dusha type
型号 Type	交直流继电器输出 DC relay output	BEN300-DRF	BEN5M-MRF	BEN10M-MRF
	光透通道可调 Adjustable Light Pass through The Dark			
检测范围 Detection illuminate		30cm ±10%	5m ±10%	10m ±10%
检测目标 Detection target		透明/不透明物体 Transparent/Opaque object	不透明物体 Opaque object	不透明物体 Opaque object
检测范围调节 Detection range regulation		灵敏度调节器 sensitivity adjuster	灵敏度调节器 sensitivity adjuster	固定 Fixed
响应时间 Respsnee Time		30ms	30ms	30ms
图例 illustration		图171 Chart 171		

圆柱型与国内外各相同品种直接替换 the columned can with various domestic same species directly replaced

- 电源反接保护、短路保护，可直接与PLC相联接
- 新增电流过载保护
- 长寿命和高可靠性，耐环境性强
- 红色LED显示可以检测传感器工作状态
- 新增金属外壳形，增大了安装强度
- 增加外壳强度和断线的对策
- M8对射已试制推出
- IP67防护结构(IEC规格)
- 使用前请先阅读产品说明书的“注意事项”
- Power supply reversal connection protection; short-circuit protection, can directly connect with PLC
- Newly added current over-load protection
- Long service life, high reliability and strong resistance property to environment
- Red LED indicates that it's available to detect the sensor operating state
- Newly added metal housing to improve the installation intensity
- Countermeasure to improve the housing intensity and to solve disconnection
- M8 correlation has been trial-produced and promoted
- IP67 protection structure (IEC specification)
- Read the "Matters needing attention" of the Product Instruction before use



型号规格 Type and Specification

尺寸 Dimension		26X56X76			27X60X85			51X76X73		
检测方式 Mounting way		漫反射式 Diffuse type	反馈反射式 Feedback reflection type	对射式 Dushu type	漫反射式 Diffuse type	反馈反射式 Feedback reflection type	对射式 Dushu type	漫反射式 Diffuse type	反馈反射式 Feedback reflection type	对射式 Dushu type
感应 Type 放大内置 DC type	直流光源 DC Illuminate	E3K76-DS60M1	E3K76-R2M1	E3K76-5DM1-5L	E3K85-DS60M1	E3K85-R2M1	E3K85-5DM1-5L	GKF-2	GDK-5	GDK-50
	交流光源 AC Illuminate	E3K76-DS60M1	E3K76-R2M1	E3K76-5DM1-5L	E3K85-DS60M1	E3K85-R2M1	E3K85-5DM1-5L	GKF-2	GDK-5	GDK-50
	直流光源 DC non-Illuminate	E3K76-DS60M2	E3K76-R2M2	E3K76-5DM2-5L	E3K85-DS60M2	E3K85-R2M2	E3K85-5DM2-5L			
	交流光源 AC non-Illuminate	E3K76-DS60M2	E3K76-R2M2	E3K76-5DM2-5L	E3K85-DS60M2	E3K85-R2M2	E3K85-5DM2-5L			
检测范围 Detection range	60cm±10%	2m±10%	5m±10%	60cm±10%	2m±10%	5m±10%	50cm±10%	5m±10%	50m±10%	
检测目标 Detection target	透明/不透明物体 Transparent/Opaque object	不透明物体 Opaque object	不透明物体 Opaque object	透明/不透明物体 Transparent/Opaque object	不透明物体 Opaque object	不透明物体 Opaque object	透明/不透明物体 Transparent/Opaque object	不透明物体 Opaque object	不透明物体 Opaque object	
检测范围调节 Detection range regulation	灵敏度调节器 sensitivity adjuster	灵敏度调节器 sensitivity adjuster	固定Fixed	灵敏度调节器 sensitivity adjuster	灵敏度调节器 sensitivity adjuster	固定Fixed	灵敏度调节器 sensitivity adjuster	固定Fixed	固定Fixed	
响应时间 Response Time	30ms	30ms	30ms	30ms	30ms	30ms	30ms	30ms	30ms	
图例 Illustration	图172 Chart 172			图173 Chart 173			图174 Chart 174			

型号规格 Type and Specification

尺寸 Dimension		13X35X40			13X43.5X50			17.5X32.5X75		
检测方式 Mounting way		漫反射式 Diffuse type	反馈反射式 Feedback reflection type	对射式 Dushu type	漫反射式 Diffuse type	反馈反射式 Feedback reflection type	对射式 Dushu type	漫反射式 Diffuse type	反馈反射式 Feedback reflection type	对射式 Dushu type
感应 Type 放大内置 DC type	直流光源 DC Illuminate	E3K40-DS30N1	E3K40-R2N1	E3K40-5DN1-5L	E3K50-DS30N1	E3K50-R2N1	E3K50-5DN1-5L	E3K75-DS30N1	E3K75-R2N1	E3K75-5DN1-5L
	交流光源 AC Illuminate	E3K40-DS30N1	E3K40-R2N1	E3K40-5DN2-5L	E3K50-DS30N2	E3K50-R2N1	E3K50-5DN2-5L	E3K75-DS30N2	E3K75-R2N1	E3K75-5DN2-5L
	直流光源 DC non-Illuminate	E3K40-DS30P2	E3K40-R2N2	E3K40-5DP1-5L	E3K50-DS30P1	E3K50-R2N2	E3K50-5DP1-5L	E3K75-DS30P1	E3K75-R2N2	E3K75-5DP1-5L
	交流光源 AC non-Illuminate	E3K40-DS30P2	E3K40-R2N2	E3K40-5DP2-5L	E3K50-DS30P2	E3K50-R2N2	E3K50-5DP2-5L	E3K75-DS30P2	E3K75-R2N2	E3K75-5DP2-5L
检测范围 Detection range	30cm±10%	2m±10%	5m±10%	30cm±10%	2m±10%	5m±10%	30cm±10%	2m±10%	5m±10%	
检测目标 Detection target	透明/不透明物体 Transparent/Opaque object	不透明物体 Opaque object	不透明物体 Opaque object	透明/不透明物体 Transparent/Opaque object	不透明物体 Opaque object	不透明物体 Opaque object	透明/不透明物体 Transparent/Opaque object	不透明物体 Opaque object	不透明物体 Opaque object	
检测范围调节 Detection range regulation	灵敏度调节器 sensitivity adjuster	灵敏度调节器 sensitivity adjuster	固定Fixed	灵敏度调节器 sensitivity adjuster	灵敏度调节器 sensitivity adjuster	固定Fixed	灵敏度调节器 sensitivity adjuster	灵敏度调节器 sensitivity adjuster	固定Fixed	
响应时间 Response Time	1ms	1ms	10ms	1ms	1ms	1ms	1ms	1ms	1ms	
图例 Illustration	图175 Chart 175			图176 Chart 176			图177 Chart 177			

型号规格 Type and Specification

尺寸 Dimension		15.5X58.5X64			23X61X63			26X45.5X86		
检测方式 Mounting way		漫反射式 Diffuse type	反馈反射式 Feedback reflection type	对射式 Dushu type	漫反射式 Diffuse type	反馈反射式 Feedback reflection type	对射式 Dushu type	漫反射式 Diffuse type	反馈反射式 Feedback reflection type	对射式 Dushu type
感应 Type 放大内置 DC type	直流光源 DC Illuminate	E3K64-DS30N1	E3K64-R2N1	E3K64-5DN1-5L	E3K63-DS30N1	E3K63-R2N1	E3K63-5DN1-5L	E3K86-DS30N1	E3K86-R2N1	E3K86-5DN1-5L
	交流光源 AC Illuminate	E3K64-DS30N1	E3K64-R2N1	E3K64-5DN2-5L	E3K63-DS30N2	E3K63-R2N1	E3K63-5DN2-5L	E3K86-DS30N2	E3K86-R2N1	E3K86-5DN2-5L
	直流光源 DC non-Illuminate	E3K64-DS30P2	E3K64-R2N2	E3K64-5DP1-5L	E3K63-DS30P1	E3K63-R2N2	E3K63-5DP1-5L	E3K86-DS30P1	E3K86-R2N2	E3K86-5DP1-5L
	交流光源 AC non-Illuminate	E3K64-DS30P2	E3K64-R2N2	E3K64-5DP2-5L	E3K63-DS30P2	E3K63-R2N2	E3K63-5DP2-5L	E3K86-DS30P2	E3K86-R2N2	E3K86-5DP2-5L
检测范围 Detection range	30cm±10%	2m±10%	5m±10%	30cm±10%	2m±10%	5m±10%	30cm±10%	2m±10%	5m±10%	
检测目标 Detection target	透明/不透明物体 Transparent/Opaque object	不透明物体 Opaque object	不透明物体 Opaque object	透明/不透明物体 Transparent/Opaque object	不透明物体 Opaque object	不透明物体 Opaque object	透明/不透明物体 Transparent/Opaque object	不透明物体 Opaque object	不透明物体 Opaque object	
检测范围调节 Detection range regulation	灵敏度调节器 sensitivity adjuster	灵敏度调节器 sensitivity adjuster	固定Fixed	灵敏度调节器 sensitivity adjuster	灵敏度调节器 sensitivity adjuster	固定Fixed	灵敏度调节器 sensitivity adjuster	灵敏度调节器 sensitivity adjuster	固定Fixed	
响应时间 Response Time	1ms	1ms	1ms	1ms	1ms	1ms	1ms	1ms	1ms	
图例 Illustration	图178 Chart 178			图179 Chart 179			图180 Chart 180			

性能参数 Characteristic parameter

- 接通延时: 1.5ms
- 光源: 红外光660nm
- 电源电压: 直流型: DC12-24V(6-36V)脉动(p-p)10%以下, 交流型: AC110-220V(90-250V)50/60Hz
- 消耗电流: N.P型: 20mA以下, A型: 1.7mA以下
- 控制输出: N.P型: 300mA以下, A型: 400mA以下, J型: 2A以下 (触点寿命: 10万次)
- 回路保护: N.P.D型: 逆连接保护、浪涌吸收、负载短路保护, A型: 浪涌吸收
- 环境温、湿度: 动作时、保存时: 各-30~65°C(不结冰、不结露), 动作时、保存时: 各35-95%RH
- 绝缘阻抗: 50MΩ以上(DC500兆欧表)充电部分与外壳间
- 耐电压: AC1000V 50/60Hz 1 min 充电部分与外壳间
- 温度的影响: 温度范围-30~+65°C, +23°C时, ±15%检测距离以内, 温度范围-25~+60°C, +23°C时, ±10%检测距离以内
- 电压的影响: 额定电源电压范围±15%以内、额定电源电压值时, ±10%检测距离以内
- 保护构造: IP65(IEC规格)
- 材质: (外壳)压铸ABS (检测面(透镜): PMMA)
- Connection delay: 1.5ms
- Light source: Infrared light 660nm
- Supply voltage: DC type: DC12-24V (6-36V) Impulse (p-p) 10% below, AC type: AC110-220V(90-250V) 50/60Hz
- Consumption current: N.P type: 20mA below, A type: 1.7mA below
- Control output: N.P type: 300mA below, A type: 400mA below, J type: 2A below (contact service life: 0.1 million times).
- Loop protection: N.P..D type: reversal connection protection, surge absorption, load short-circuit protection, A type: surge absorption
- Ambient temperature & humidity: During operation, storage: individually -30~+65°C (no freeze, no dew), During operation, storage: individually 35-95% RH.
- Insulation impedance: 50MΩ above (DC500 megameter) between charging part and housing.
- Withstand voltage: AC1000V 50/60Hz 1min between charging part and housing
- Temperature influence: Temperature range -30~+65°C, at+23°C, ±15% detection distance; temperature range -25~+60°C, ±23°C, ±10% detection distance.
- Voltage influence; Inside ±15% rated supply voltage range, at rated supply voltage value, inside ±10% detection distance.
- Protection structure: IP65 (IEC specification).
- Material: Housing: Nickel plated brass (ABS) Detection surface (lens): PMMA.

外形尺寸(mm) External dimension

Chart 172 图172 E3K78-□

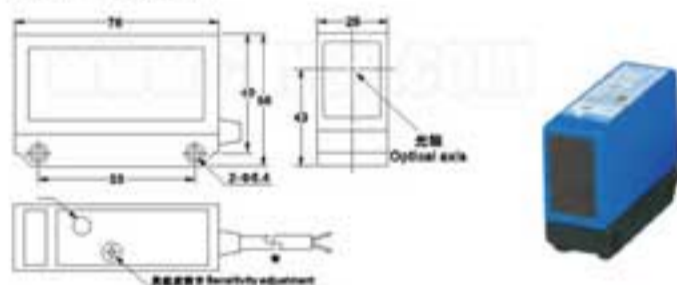


Chart 173 图173 E3K85-□

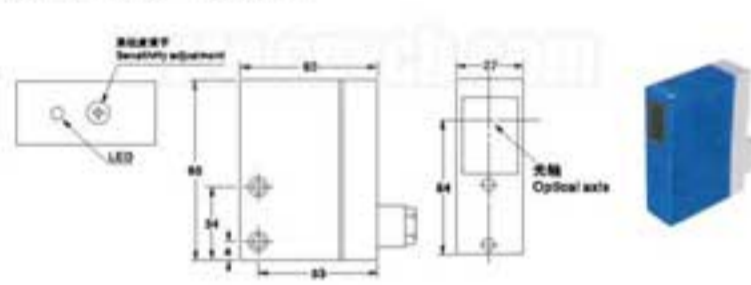


Chart 174 图174 GDK-□

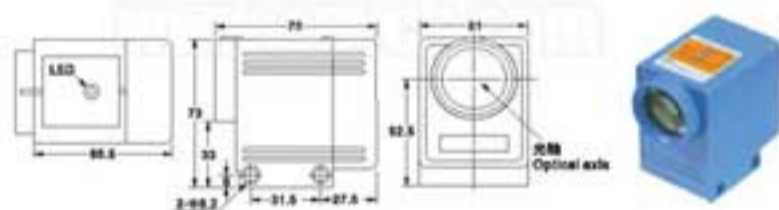


Chart 175 图175 E3K40-□

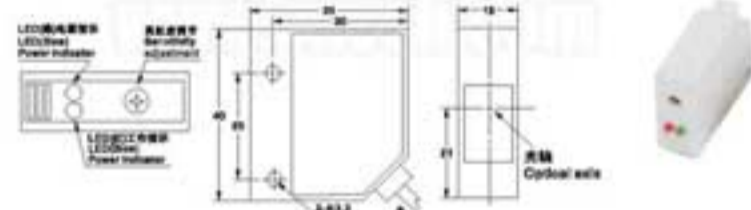


Chart 176 图176 E3K50-□

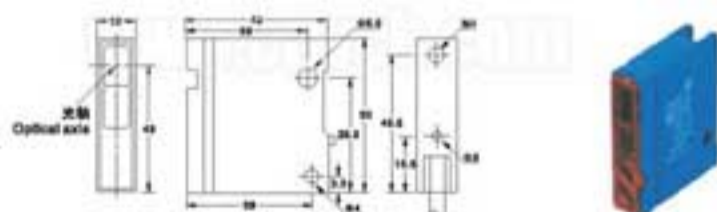


Chart 177 图177 E3K75-□

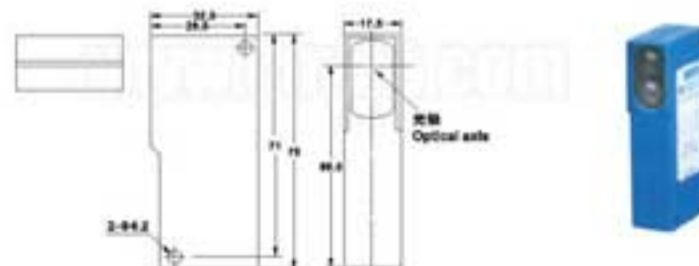


Chart 178 图178 E3K64-□

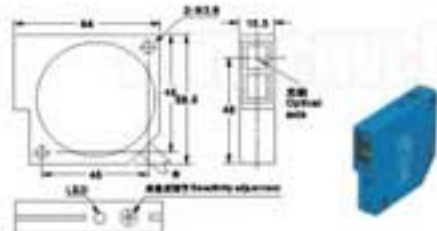


Chart 179 图179 E3K63-□

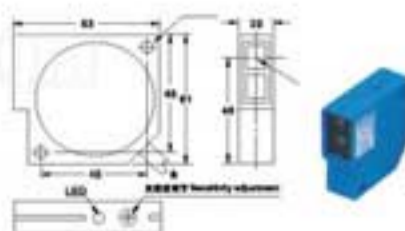
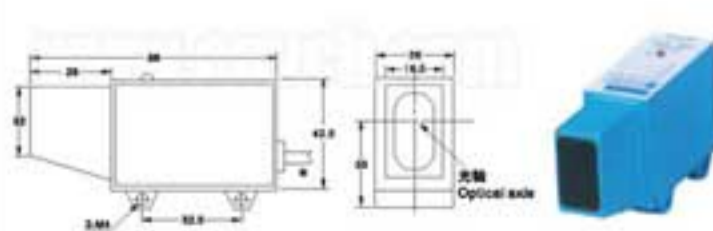


Chart 180 图180 E3K88-□



方型与国内外各相同品种直接替换 Square model can with various domestic same species directly replaced

- 电源反接保护、短路保护，可直接与PLC相联接
- 新增电流过载保护
- 长寿命和高可靠性，耐环境性强
- 红色LED显示可以检测传感器工作状态
- 新增金属外壳形，增大了安装强度
- 增加外壳强度和断线的对策
- IP65防护结构(IEC规格)
- 使用前请先阅读产品说明书的“注意事项”

- Power supply reversal connection protection; short-circuit protection, can directly connect with PLC
- Newly added current over-load protection
- Long service life, high reliability and strong resistance property to environment
- Red LED indicates that it's available to detect the sensor operating state
- Newly added metal housing to improve the installation intensity
- Countermeasure to improve the housing intensity and to solve disconnection
- IP65 protection structure (IEC specification)
- Read the "Matters needing attention" of the Product Instruction before use



型号规格 Type and Specification

尺寸 Dimension		12X25X30			15.5X21X41			20X20X64			
安装方式 Mounting way		漫反射式 Diffuse type	反馈反射式 Feedback reflection type	对射式 Dui she type	漫反射式 Diffuse type	反馈反射式 Feedback reflection type	对射式 Dui she type	漫反射式 Diffuse type	反馈反射式 Feedback reflection type	对射式 Diffuse type	
直流型 DC type	NPN	NO	E3K30-DS10N1	E3K30-R2N1	E3K30-3DN1-3L	E3K41-DS20N1	E3K41-R2N1	E3K41-5DN1-5L	E3S-DS30N1	E3S-R2N1	E3S-5DN1-5L
		NC	E3K30-DS10N2	E3K30-R2N2	E3K30-3DN2-3L	E3K41-DS20N2	E3K41-R2N2	E3K41-5DN2-5L	E3S-DS30N2	E3S-R2N2	E3S-5DN2-5L
		NO+NC							E3S-DS30N3	E3S-R2N3	E3S-5DN3-5L
	PNP	NO	E3K30-DS10P1	E3K30-R2P1	E3K30-3DP1-3L	E3K41-DS20P1	E3K41-R2P1	E3K41-5DP1-5L	E3S-DS30P1	E3S-R2P1	E3S-5DP1-5L
		NC	E3K30-DS10P2	E3K30-R2P2	E3K30-3DP2-3L	E3K41-DS20P2	E3K41-R2P2	E3K41-5DP2-5L	E3S-DS30P2	E3S-R2P2	E3S-5DP2-5L
		NO+NC							E3S-DS30P3	E3S-R2P3	E3S-5DP3-5L
	NPN/PNP/NO/NC								E3S-DS30X	E3S-R2X	E3S-5X
	交流型 AC type	二线 Two-wire	NO						E3S-DS30Y1	E3S-R2Y1	E3S-5DY1
		NC							E3S-DS30Y2	E3S-R2Y2	E3S-5DY2
		三线NO Three-Wire No									
继电器输出 Relay Output											
检测范围 Detection range		10cm±10%	2m±10%	3m±10%	20cm±10%	2m±10%	5cm±10%	30cm±10%	2m±10%	5m±10%	
检测目标 Detection target		透明/不透明物体 Transparent/Opaque object	不透明物体 Opaque object	不透明物体 Opaque object	透明/不透明物体 Transparent/Opaque object	不透明物体 Opaque object	不透明物体 Opaque object	透明/不透明物体 Transparent/Opaque object	不透明物体 Opaque object	不透明物体 Opaque object	
检测范围调节 Detection range adjuster		固定Fixed	固定Fixed	固定Fixed	灵敏度调节器 sensitivity adjuster	固定Fixed	固定Fixed	灵敏度调节器 sensitivity adjuster	固定Fixed	固定Fixed	
响应时间 Response Time		1ms	1ms	1ms	1ms	1ms	1ms	1ms	1ms	1ms	
图例 Illustration		图181 Chart 181			图182 Chart 182			图183 Chart 183			

型号规格 Type and Specification

尺寸 Dimension		12X26X55			18X37X70			16X28X51				
安装方式 Mounting way		漫反射式 Diffuse type	反馈反射式 Diffuse type	对射式 Dui she type	漫反射式 Diffuse type	反馈反射式 Diffuse type	对射式 Dui she type	漫反射式 Diffuse type	反馈反射式 Diffuse type	对射式 Diffuse type		
直流型 DC type	NPN	NO	E3K55-DS30N1	E3K55-R2N1	E3K55-3DN1-5L	E3K70-DS50N1	E3K70-R2N1	E3K70-5DN1-5L	E3K51-DS30N1	E3K51-R2N1	E3K51-5DN1-5L	
		NC	E3K55-DS30N2	E3K55-R2N2	E3K55-3DN2-5L	E3K70-DS50N2	E3K70-R2N2	E3K70-5DN2-5L	E3K51-DS30N2	E3K51-R2N2	E3K51-5DN2-5L	
		NO+NC							E3K51-DS30N3	E3K51-R2N3	E3K51-5DN3-5L	
	PNP	NO	E3K55-DS30P1	E3K55-R2P1	E3K55-3DP1-5L	E3K70-DS50P1	E3K70-R2P1	E3K70-5DP1-5L	E3K51-DS30P1	E3K51-R2P1	E3K51-5DP1-5L	
		NC	E3K55-DS30P2	E3K55-R2P2	E3K55-3DP2-5L	E3K70-DS50P2	E3K70-R2P2	E3K70-5DP2-5L	E3K51-DS30P2	E3K51-R2P2	E3K51-5DP2-5L	
		NO+NC										
	NPN/PNP/NO/NC		E3K55-DS30Y1	E3K55-R2Y1	E3K55-5DY1	E3K70-DS50Y1	E3K70-R2Y1	E3K70-5DY1	E3K51-DS30Y1	E3K51-R2Y1	E3K51-5DY1	
	交流型 AC type	二线 Two-wire	NO	E3K55-DS30Y2	E3K55-R2Y2	E3K55-5DY2	E3K70-DS50Y2	E3K70-R2Y2	E3K70-5DY2	E3K51-DS30Y2	E3K51-R2Y2	E3K51-5DY2
		NC										
		三线NO Three-Wire No										
继电器输出 Relay Output												
检测范围 Detection range		30cm±10%	2m±10%	5m±10%	50cm±10%	2m±10%	5m±10%	30cm±10%	2m±10%	5m±10%		
检测目标 Detection target		透明/不透明物体 Transparent/Opaque object	不透明物体 Opaque object	不透明物体 Opaque object	透明/不透明物体 Transparent/Opaque object	不透明物体 Opaque object	不透明物体 Opaque object	透明/不透明物体 Transparent/Opaque object	不透明物体 Opaque object	不透明物体 Opaque object		
检测范围调节 Detection range adjuster		固定Fixed	固定Fixed	固定Fixed	灵敏度调节器 sensitivity adjuster	固定Fixed	固定Fixed	灵敏度调节器 sensitivity adjuster	固定Fixed	固定Fixed		
响应时间 Response Time		DC:1ms AC:30ms	DC:1ms AC:30ms	DC:1ms AC:30ms	DC:1ms AC:30ms	DC:1ms AC:30ms	DC:1ms AC:30ms	DC:1ms AC:30ms	DC:1ms AC:30ms	DC:1ms AC:30ms		
图例 Illustration		图184 Chart 184			图185 Chart 185			图186 Chart 186				

性能参数 Characteristic parameter

- 接通延时: 1.5ms
- 光源: 红外光660nm
- 电源电压: 直流型: DC12-24V(6-36V)脉动(p-p)10%以下, 交流型: AC110-220V(90-250V)50/60Hz
- 消耗电流: N.P型: 20mA以下, A型: 1.7mA以下
- 控制输出: N.P型: 300mA以下, A型: 400mA以下, J型: 2A以下 (触点寿命: 10万次)
- 回路保护: N.P.D型: 逆连接保护、浪涌吸收、负载短路保护, A型: 浪涌吸收
- 环境温、湿度: 动作时、保存时: 各-30~65°C(不结冰、不结露), 动作时、保存时: 各35-95%RH
- 绝缘阻抗: 50MΩ以上(DC500兆欧表)充电部分与外壳间
- 耐电压: AC1000V 50/60Hz 1 min 充电部分与外壳间
- 温度的影响: 温度范围-30~+65°C, +23°C时, ±15%检测距离以内, 温度范围-25~+60°C, +23°C时, ±10%检测距离以内
- 电压的影响: 额定电源电压范围±15%以内、额定电源电压值时, ±10%检测距离以内
- 保护构造: IP65(IEC规格)
- 材质: (外壳)压铸ABS (检测面)透镜: PMMA
- Connection delay: 1.5ms
- Light source: Infrared light 660nm
- Supply voltage: DC type: DC12-24V (6-36V) Impulse (p-p) 10% below, AC type: AC110-220V(90-250V) 50/60Hz
- Consumption current: N.P type: 20mA below, A type: 1.7mA below
- Control output: N.P type: 300mA below, A type: 400mA below, J type: 2A below (contact service life: 0.1 million times).
- Loop protection: N.P..D type: reversal connection protection, surge absorption, load short-circuit protection, A type: surge absorption
- Ambient temperature & humidity: During operation, storage: individually -30~+65°C (no freeze, no dew), During operation, storage: Individually 35-95% RH.
- Insulation impedance: 50MΩ above (DC500 megameter) between charging part and housing.
- Withstand voltage: AC1000V 50/60Hz 1min between charging part and housing
- Temperature influence: Temperature range -30~+65°C, at +23°C, ±15% detection distance; temperature range -25~+60°C, ±23°C, ±10% detection distance.
- Voltage influence; Inside ±15% rated supply voltage range, at rated supply voltage value, inside ±10% detection distance.
- Protection structure: IP65 (IEC specification).
- Material: Housing: Nickel plated brass (ABS) Detection surface (lens): PMMA.

外形尺寸(mm) External dimension

Chart 181 图181 E3K30-□

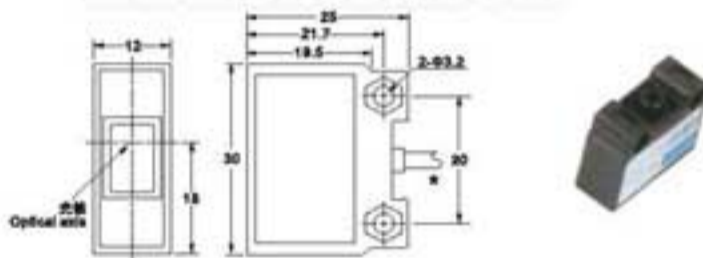


Chart 182 图182 E3K41-□

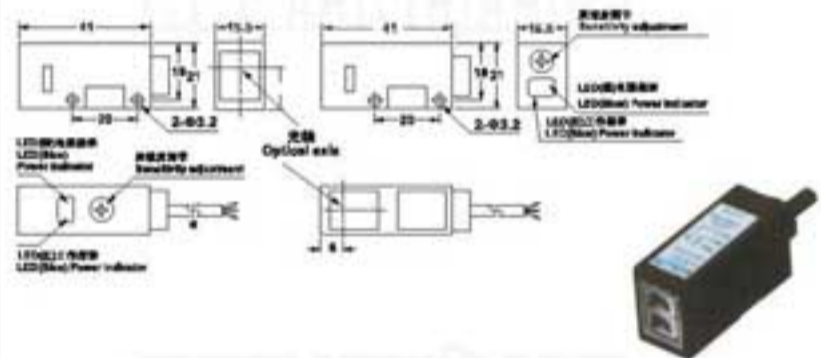


Chart 183 图183 E3S-□

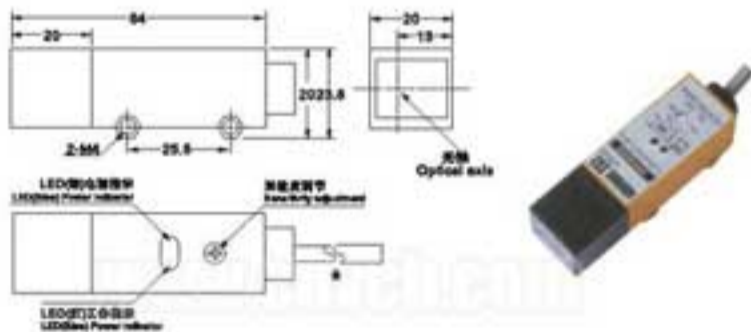


Chart 184 图184 E3K55-□

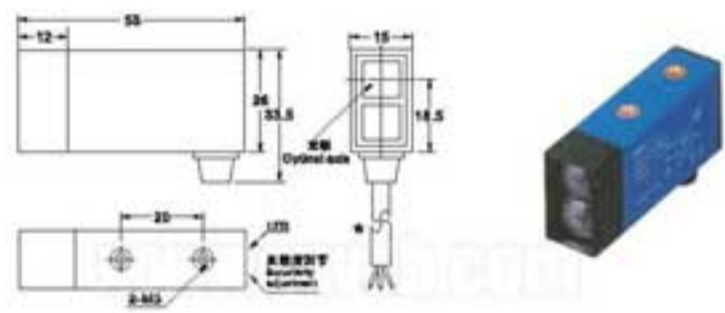


Chart 185 图185 E3K70-□

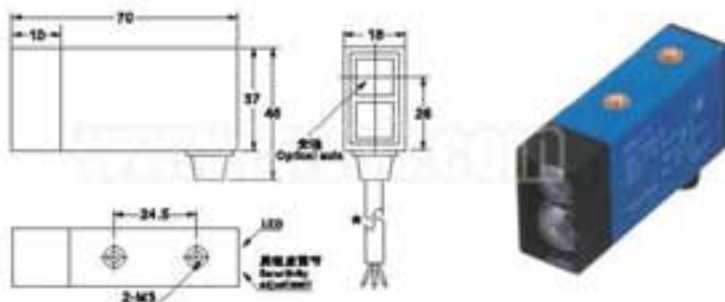
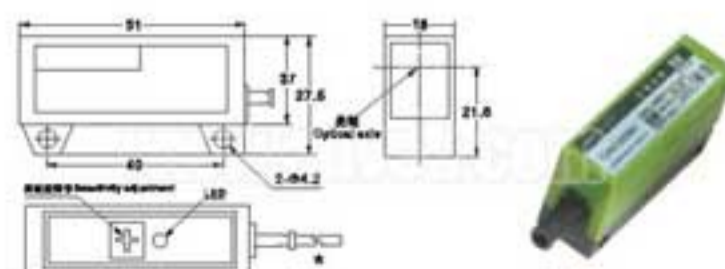


Chart 186 图186 E3K51-□



方型能与国内外各相同品种直接替换 Square mode can with various domestic same species directly replaced

- 电源反接保护、短路保护，可直接与PLC相联接
- 新增电流过载保护
- 长寿命和高可靠性，耐环境性强
- 红色LED显示可以检测传感器工作状态
- 新增金属外壳形，增大了安装强度
- 增加外壳强度和断线的对策
- M8对射已试制推出
- IP67防护结构(IEC规格)
- 使用前请先阅读产品说明书的“注意事项”
- Power supply reversal connection protection; short-circuit protection, can directly connect with PLC
- Newly added current over-load protection
- Long service life, high reliability and strong resistance property to environment
- Red LED indicates that it's available to detect the sensor operating state
- Newly added metal housing to improve the installation intensity
- Countermeasure to improve the housing intensity and to solve disconnection
- M8 correlation has been trial-produced and promoted
- IP67 protection structure (IEC specification)
- Read the "Matters needing attention" of the Product Instruction before use



型号规格 Type and Specification

尺寸 Dimension		15.5x21x41			20x20x64				
安装方式 Mounting way		漫反射式 Diffuse type	反馈反射式 Feedback reflex	对射式 DUISHE type	漫反射式 Diffuse type	反馈反射式 Feedback reflex	对射式 Diffuse type		
型号 Type	直流型 DC type	NPN	NO	E3S-DS10E4	E3S-R2E4	E3S-5DE4-5L	E3S-DS30N1	E3S-R2N1	E3S-5DN1-5L
			NC	E3S-DS10E2	E3S-R2E2	E3S-5DE2-5L	E3S-DS30N2	E3S-R2N2	E3S-5DN2-5L
			NO+NC				E3S-DS30N3	E3S-R2N3	E3S-5DN3-5L
		PNP	NO	E3S-DS10B1	E3S-R2B1	E3S-5DB1-5L	E3S-DS30P1	E3S-R2P1	E3S-5DP1-5L
			NC	E3S-DS10B2	E3S-R2B2	E3S-5DB2-5L	E3S-DS30P2	E3S-R2P2	E3S-5DP2-5L
			NO+NC				E3S-DS30P3	E3S-R2P3	E3S-5DP3-5L
	NPN/PNP/NO/NC								
	交流型 AC type	二线 Two-wire	NO				E3S-DS30Y1	E3S-R2Y1	E3S-5Y1
			NC				E3S-DS30Y2	E3S-R2Y2	E3S-5Y2
		三线NO Three-Wire No							
继电器输出 Relay Output									
检测范围 Detection range	10cm±10%	2m±10%	5m±10%	30cm±10%	2m±10%	5m±10%			
检测目标 Detection target	透明/不透明物体 Transparent/Opaque object	不透明物体 Opaque object	不透明物体 Opaque object	透明/不透明物体 Transparent/Opaque object	不透明物体 Opaque object	不透明物体 Opaque object			
检测范围调节 Detection range regulation	灵敏度调节器 Sensitivity adjuster	固定Fixed	固定Fixed	固定Fixed	固定Fixed	固定Fixed			
响应时间 Response Time	1ms	1ms	1ms	DC:1ms AC:30ms	DC:1ms AC:30ms	DC:1ms AC:30ms			
图例 Illustration	图187 Chart 187			图188 Chart 188					

型号规格 Type and Specification

尺寸 Dimension		16X25X55	20X55X72	16X35.5X40.5	20X52X72	20X52X72		
安装方式 Mounting way		槽式 Diffuse type	槽式 Diffuse type	槽式 Diffuse type	槽式 Diffuse type	槽式 Diffuse type		
型号 Type	直流型 DC type	NPN	NO	E3S-GS7N1	E3S-GS10N1	E3S-GS15N1	E3S-GS30E4	E3S-GS50E4
			NC	E3S-GS7N2	E3S-GS10N2	E3S-GS15N2	E3S-GS30E2	E3S-GS50E2
			NO+NC				E3S-GS30E42	E3S-GS50E42
	PNP	NO	E3S-GS7P1	E3S-GS10P1	E3S-GS15P1	E3S-GS30F4	E3S-GS50F4	
		NC	E3S-GS7P2	E3S-GS10P2	E3S-GS15P2	E3S-GS30F2	E3S-GS50F2	
		NO+NC				E3S-GS30F42	E3S-GS50F42	
检测范围 Detection range	7mm	10mm	15mm	30mm	50mm			
检测目标 Detection target	不透明物体 Opaque object	不透明物体 Opaque object	不透明物体 Opaque object	不透明物体 Opaque object	不透明物体 Opaque object			
检测范围调节 Detection range regulation	灵敏度调节器 Sensitivity adjuster	灵敏度调节器 Sensitivity adjuster	灵敏度调节器 Sensitivity adjuster	灵敏度调节器 Sensitivity adjuster	灵敏度调节器 Sensitivity adjuster			
响应时间 Response Time	1ms	1ms	1ms	1ms	1ms			
图例 Illustration	图189 Chart 189	图190 Chart 190	图191 Chart 191	图192 Chart 192				

性能参数 Characteristic parameter

- 接通延时: 1.5ms
- 光源: 红外光 860nm
- 电源电压: 直流型: DC12-24V(6-36V) 脉动(p-p) 10% 以下, 交流型: AC110-220V(90-250V) 50/60Hz
- 消耗电流: N.P型: 20mA 以下, A型: 1.7mA 以下
- 控制输出: N.P型: 300mA 以下, A型: 400mA 以下, J型: 2A 以下 (触点寿命: 10万次)
- 回路保护: N.P.D型: 逆连接保护、浪涌吸收、负载短路保护, A型: 浪涌吸收
- 环境温度、湿度: 动作时、保存时: 各-30~65°C (不结冰、不结露), 动作时、保存时: 各35~95%RH
- 绝缘阻抗: 50MΩ 以上 (DC500兆欧表) 充电部分与外壳间
- 耐电压: AC1000V 50/60Hz 1min 充电部分与外壳间
- 温度的影响: 温度范围 -30~+65°C, +23°C 时, ±15% 检测距离以内, 温度范围 -25~+60°C, +23°C 时, ±10% 检测距离以内
- 电压的影响: 额定电源电压范围 ±15% 以内, 额定电源电压值时, ±10% 检测距离以内
- 保护构造: IP66 (IEC规格)
- 材质: (外壳: 压铸铝 ABS) (检测窗(透镜): PMMA)
- Connection delay: 1.5ms
- Light source: Infrared light 860nm
- Supply voltage: DC type: DC12-24V (6-36V) Impulse (p-p) 10% below, AC type: AC110-220V(90-250V) 50/60Hz
- Consumption current: N.P type: 20mA below, A type: 1.7mA below
- Control output: N.P type: 300mA below, A type: 400mA below, J type: 2A below (contact service life: 0.1 million times).
- Loop protection: N.P.D type: reversal connection protection, surge absorption, load short-circuit protection, A type: surge absorption
- Ambient temperature & humidity: During operation, storage: individually -30~+65°C (no freeze, no dew), During operation, storage: individually 35-95% RH.
- Insulation impedance: 50MΩ above (DC500 megameter) between charging part and housing.
- Withstand voltage: AC1000V 50/60Hz 1min between charging part and housing
- Temperature influence: Temperature range -30~+65°C, at +23°C, ±15% detection distance; temperature range -25~+60°C, ±23°C, ±10% detection distance.
- Voltage influence; Inside ±15% rated supply voltage range, at rated supply voltage value, inside ±10% detection distance.
- Protection structure: IP66 (IEC specification).
- Material: Housing: Nickel plated brass (ABS) Detection surface (lens): PMMA.

外形尺寸(mm) External dimension

Chart 187 图187 E3S-DS01□

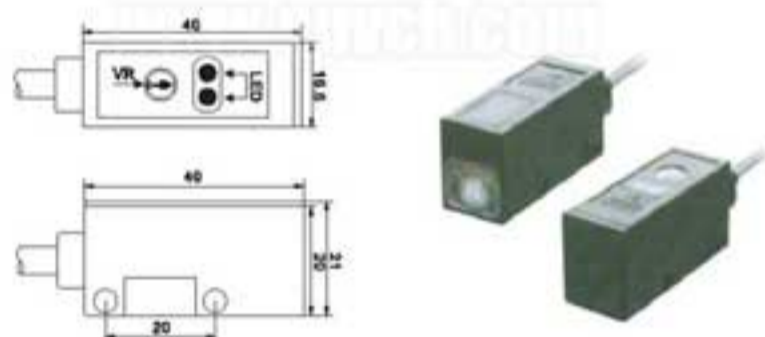


Chart 188 图188 E3S-DS30□

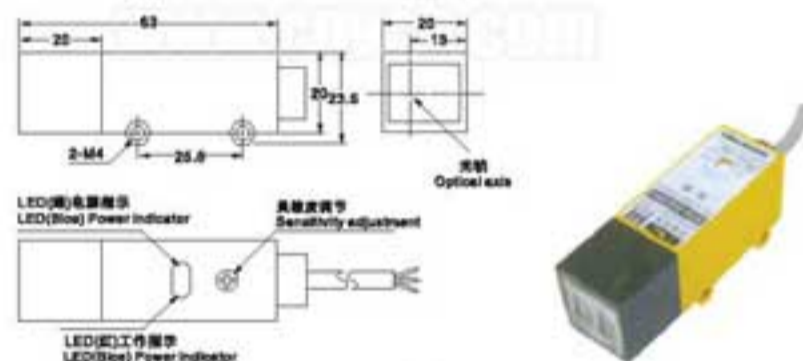


Chart 189 图189 E3S-GS7□



Chart 190 图190 E3S-GS10□

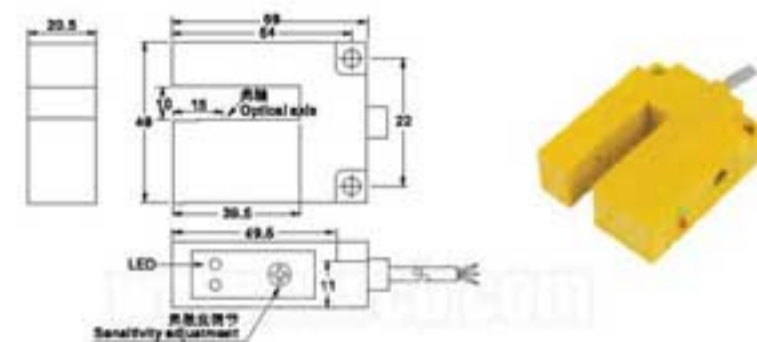


Chart 191 图191 E3S-GS15□

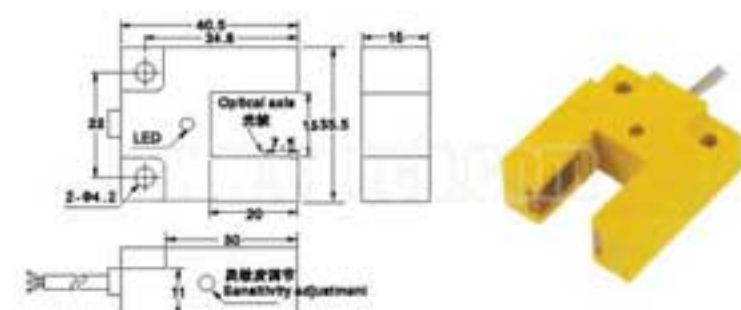


Chart 192 图192 E3S-GS30□

