

应用图示
APPLICATION DIAGRAM

检查·测量 Inspection·measurement

各种工件的计数 Counting various parts

用微小光点光电传感器，金属通过传感器，智能传感器等多种检查方法对各种工件进行计数。
Use Micro photoelectric sensors, proximity sensors, and intelligent sensors to check and count various parts.

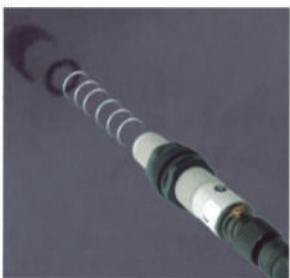
利用声波原理对前方透明物体进行监测，并进行数据传输。
Use ultrasonic waves to monitor the transparent objects in front and transmit data.



超声波传感器
Ultrasonic sensor

RU18系列
RU18 Series

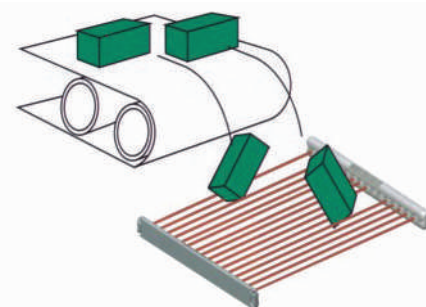
将被测物体放在B点，然后长按设定按钮(约1秒)，等LED灯亮起，即B点设定完成。
A到B点的距离即为感应距离。
Put the object at point B, then press and hold the set button (1 second). The point B was set when the LED light on. The distance from point B to point A is the sensing distance.



超声波传感器
Ultrasonic sensor

RU18系列
RU18 Series

适用于自动化流水线，电梯，危险禁区，锻压机，冲剪机床，切纸机等安全检测，起保护作用。
Suitable for security protection for automated assembly line, lift, dangerous restricted area, forging machine, punching machine, paper cutter and other facilities.



超薄型安全光幕
Ultra-thin safety curtain

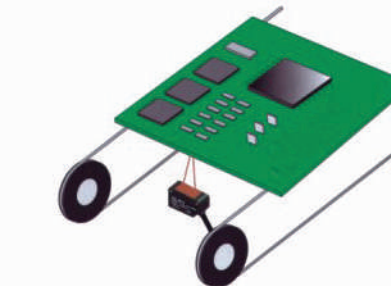
GM系列
GM Series

威卡炉灶节能器具有环保，操作方便，性能稳定，使用寿命长，连续点燃150万次无故障等优点。节能效果高达40-50%。
Weika stove energy-saving device is environmentally friendly, and easily operational. It has stable performance and long life and can continuously light up to 1.5 million times without failure. Energy could be saved by 40-50%.



智能炉灶传感器
Intelligent stove sensor

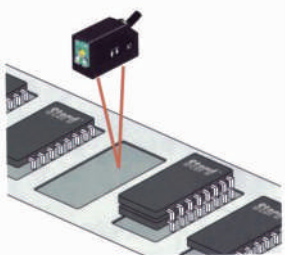
用CCD摄像机智能传感器检查孔的个数，由于进行的是面监测，即使工件位置有偏移，也能进行检查。
Use a CCD camera-based intelligent sensor to check out the number of holes, as a result of the face detection, even if there is a shift of the position of parts, the check can be done.



智能传感器--(超高速CCD摄像机型)
Intelligent sensor (ultra-high-speed
CCD camera-based type)

ZFV系列
ZFV Series

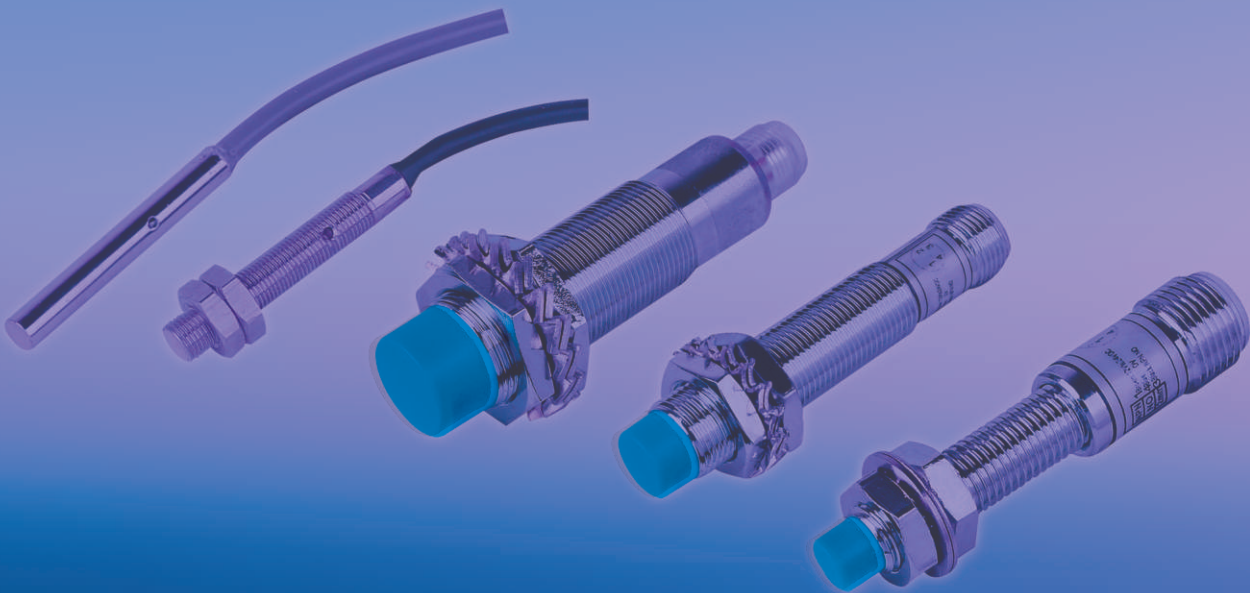
由于进行的是面监测，即使工件位置有偏移，也能进行检查。
As a result of the face detection, even if there is a shift of the position of parts, the check can be done.



检测有无IC
Check whether is IC

PK3-V03NFV

接近开关
PROXIMITY SWITCH



接近开关
PROXIMITY SWITCH

接近开关型号说明 Model explanation of proximity switch

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

Table with 2 columns: Category (开关类别, 外形代号, 工作电压, 检测距离) and Description (Output form, Output state, Subsidiary functions, etc.).

电感式接近开关工作原理 Working principle inductive proximity switch

Diagram of inductive proximity switch principle and a graph of current consumption vs distance.

接近开关应用图例 Application illustration of proximity switch

Table showing 6 application examples: Machine tool detection, Bottle lid detection, Grinding machine stopper detection, Robot arm detection, Paper package inspection, and Spacing detection.

接近开关
PROXIMITY SWITCH

接近开关的特性 Features of proximity switch

主要特性 Main features
以高频振荡型接近传感器(前面检测器)为代表例，概略说明接近传感器的一般特性。
Take high frequency oscillation type proximity sensor (front detector) as representative example to briefly explain features of proximity switch

Table with 4 columns: Item (检测物体的大小, 检测物体的厚度, 检测物体材料和镀层), Explanation (说明), Features (特性), and About detected object / About ambient weather / About maintenance.

接近开关
PROXIMITY SWITCH

技术用词的说明 EXPLANATION OF TECHNICAL TERMS

检测距离 Detection distance	设定距离 Setting distance	标准检测物体 Standard detected object
按指定方法移动检测物体，从基准位置(基准面到测定动作复位)的距离 Move the detected object according to assigned method, the distance from the reference position (reference plane) to the detecting action(resetting) object.	包括温度、电压影响在内，没有误动作从能实用的检测面到检测物体通过位置的距离。 Ncluding the effects like temperature and voltage, without erroraction, the distance passed through from the practical detection surface to the objected object.	为测定基本性能作为标准的检测物体，形状尺寸、材料已决定的 Take as standard detected object to detect the basi erformance. The shape, size and material have be de termined.
差动距离 Differential distance	响应时间 Response time	响应效率 Response frequency
到动作的距离和到复位的距离之差的绝对值。 The absolute value of the distance difference between the distance to action and the distance to resetting	T1:检测物体进入动作区内，从接近传感器成为动作状态到出现输出的时间。 T2:从离开动作区到输出消失为止的时间。 T1: When the objected object enters the action zone, the time from proximity sensor being in action state to output appearance. T2: The time from leaving action zone to output disappearance.	反复接近检测物体时，能得出跟踪它的输出每秒次数。测定方法概略如上图。 Work out the tracking output times per secondl repeatedly approaching the detected object, Brief detection method sees the above diagram.

串联、并联 SERIES CONNECTION AND PARALLEL CONNECTION

★ 三线电流与三线直流传感器的串联 Series connection of three-wire DC and therr-wire DC sensor	★ 三线电流与三线直流传感器的并联 Parallel connection of three-wire DC and therr-wire DC sensor	★ 两线交流传感器的串联 Series connection of two-wire AC sensor
◆ 两线交流传感器的并联 Parallel connection of two-wire AC sensor	◆ 机械开关与交流传感器的串联 Series connection of machinery switch and AC sensor	◆ 机械开关与交流传感器的并联 Parallel connection of machinery switch and AC sensor

接近开关
PROXIMITY SWITCH

主要特征 Main features

- ✦ 体积小 Compact volume
- ✦ 重复定位精度高 High precision of repeated location
- ✦ 外形结构多样 Diversified exterior structures
- ✦ 抗干扰性能好 Good performance of anti-interference
- ✦ 输出形式多 Many output forms
- ✦ 开关频率高 High on-off frequency
- ✦ 电压范围宽 Wide voltage range
- ✦ 防尘、防震、防水、防油 Dust proof, vibration proof, water proof and oil proof
- ✦ 具备短路保护，反连接保护 With short-circuit protection and inverted connecting protection
- ✦ 使用寿命长 Long service life

正确使用和安装及注意事项 Correct use, installation and cautions

✦ 螺纹式开关的安装 Mounting screw switch ✦ 安装开关时不可采用过大力距紧固，紧固时请务必采用齿垫圈 Do not tighten with over-torque when mounting the switch, Adopt toothed washer then tightening	✦ 无螺纹式柱型开关的安装 Mounting non screw type pillar switch ✦ 采用调节螺钉时，紧固力矩请用2-4kgf-cm以下安装 When adopt adjusting screw, the tightening torque should be within 2-4kgf-cm.	✦ 防止非检测物体的干扰 Protection against the interference of non detected object ✦ 在金属件上安装接近开关时，请务必参照下图，所示预留一定空间，以避免开关产生误动作 When mounting the proximity switch in the metal part, do refer ti the following diagram. Remain acertain space in sdvance according to the shown diagram so as to prevent the switch from error action

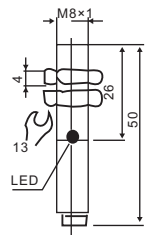
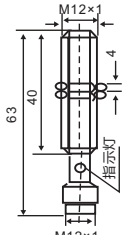
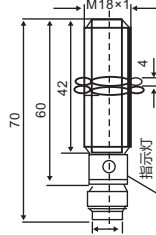
正确使用和安装及注意事项 Correct use, installation and cautions

✦ 螺纹式开关的安装 Mounting screw switch ✦ 安装开关时不可采用过大力距紧固，紧固时请务必采用齿垫圈 Do not tighten with over-torque when mounting the switch, Adopt toothed washer then tightening	✦ 开关动作距离(灵敏度)可调节 Adjustable swith actiondistance (sensitivity) ✦ 接近开关可通过微调电位器调节动作距离(灵敏度)。顺时针动作距离增大(灵敏度减低)，逆时针，反之，切忌在动作距离最大临界状态下使用 The action distance (sensitivity) of proximity switch can be adjusted by the means ottriming potentiometer, increase the action distance and reduce sensitivity when turnclockwise, vice versa. Do not use in thecritical state of max. Action distance.	✦ 开关引线的防护 Gusrd of switch lead-wire ✦ 按装开关时，请将离开开关10cm左右引线位置用线夹固定，防止开关引线受外力的作用损坏。 When mount switch, fix the lead-wire at a dastance anpit 10cm from the switch with wire clip so as to prevent the switch lead wire from damage from outer force.

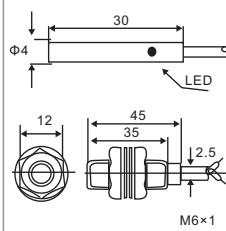
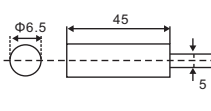
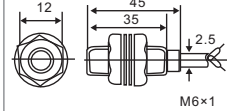
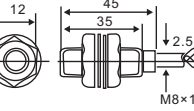
注意事项 Cautions

- ✦ 直流开关应使用绝缘变压器，并确保稳压电源纹波。
- ✦ 如有电力线动力线通过开关引线周围时，防止开关损坏或误动作，将金属管套在开关引线上并接地。
- ✦ 开关使用距离请设定在额定距离以内，以免受温度和电压影响。
- ✦ 严禁通电接线，应严格按接线图输出回路原理图接线。
- ✦ 用户如需要防水、防油、耐酸、碱、耐高温开关等特殊要求或其他规格应在订货时说明，并给定定做。
- ✦ Dc switch should adopt insulation transformer and ensure stabc voltage mains corrugation.
- ✦ If any electric power line or dynamic line passes through the surrounding of switch lead-wire, in order ot precent the switch from damage or error action ,cover the metal bushing on the switch lead-wire and ground it to the earth.
- ✦ Set the switch use distance within the rated distance to avoid the effects from temperature and voltage.
- ✦ Wiring while power-on is strictly prohibited. connecting the wires strictly according to the wiring diagram and output return elementary diagram.
- ✦ If there areany special requirements to the switch like water proof, oil proof, acid proof, base proof, high temperature proof of with any other specifications, the users are required togive clear indication when placing an order. we can produce according to the requirements of the user.

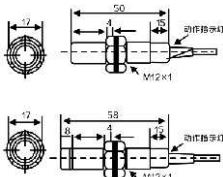
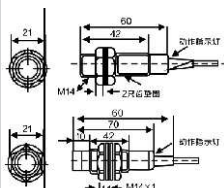
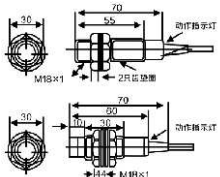
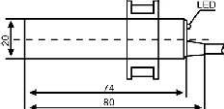
接近开关
PROXIMITY SWITCH

结构分类 Structural category				圆柱型 Cylinder type		接插件型Connector type			
外形编号Outward Appearance code				LM8-□□T /LM8-□□T3		LM12-□T /LM12-□T3		LM18-□T	
外形图例 Outward appearance illustration									
外形尺寸 Overall dimensions									
埋入式 Flush	检测距离 DETECTION DISTANCE			1mm		2mm		5mm	
	直流 DC 10-30 VDC	NPN	NO	LM8-3001NAT		LM12-3002NAT		LM18-3005NAT	
			NC	LM8-3001NBT		LM12-3002NBT		LM18-3005NBT	
			NO+NC			LM12-3002NCT		LM18-3005NCT	
	交流 AC 90-250 VAC	PNP	NO	LM8-3001PAT		LM12-3002PAT		LM18-3005PAT	
			NC	LM8-3001PBT		LM12-3002PBT		LM18-3005PBT	
			NO+NC			LM12-3002PCT		LM18-3005PCT	
	交流 AC 90-250 VAC	二线制 two wire system	NO	LM8-3001LAT		LM12-3002LAT		LM18-3005LAT	
			NC	LM8-3001LBT		LM12-3002LBT		LM18-3005LBT	
			SCR 可控硅 Control- lable silicon	NO		LM12-2002AT		LM18-2005AT	
	交流 AC 90-250 VAC	SCR 可控硅 Control- lable silicon	NC			LM12-2002BT		LM18-2005BT	
			NO+NC						
	继电器输出 Relay output								
非埋入式 Non-Flush	检测距离 DETECTION DISTANCE			2mm		4mm			
	直流 DC 10-30 VDC	NPN	NO	LM8-3002NAT		LM12-3004NAT		LM18-3008NAT	
			NC	LM8-3002NBT		LM12-3004NBT		LM18-3008NBT	
			NO+NC			LM12-3004NCT		LM18-3008NCT	
	交流 AC 90-250 VAC	PNP	NO	LM8-3002PAT		LM12-3004PAT		LM18-3008PAT	
			NC	LM8-3002PBT		LM12-3004PBT		LM18-3008PBT	
			NO+NC			LM12-3004PCT		LM18-3008PCT	
	交流 AC 90-250 VAC	二线制 two wire system	NO	LM8-3002LAT		LM12-3004LAT		LM18-3008LAT	
			NC	LM8-3002LBT		LM12-3004LBT		LM18-3008LBT	
			SCR 可控硅 Control- lable silicon	LM8-2002AT		LM12-2004AT		LM18-2008AT	
	交流 AC 90-250 VAC	SCR 可控硅 Control- lable silicon	NC			LM12-2004BT		LM18-2008BT	
			NO+NC						
	继电器输出 Relay output								
输出电流 Controloutput	DC			150mA		200mA			
	SCR/继电器 Relay							300mA	
输出电压降 Output voltage drop DC/AC				直流(NPN PNP)型3V以下、二线型:3.9V以下、交流AC 10V以下 DC<3V、AC<10V					
消耗电流 Consumption current				直流(NPN PNP)型DC 12V时8mA、24V时15mA、交流AC 10mA以下 DC<15mA、AC<10mA					
标准检测物体 Standard detected object				8×8×1(A3铁iron)		12×12×1(A3铁iron)		18×18×1(A3铁iron)	
重复精度 Repeated precision				0.01		0.01		0.02	
响应频率 DC/AC				500Hz/10Hz		400Hz/10Hz		200Hz/10Hz	
工作环境温度 Working environment temperature				-25℃~+70℃		-25℃~+70℃		-25℃~+70℃	
绝缘电阻 Insulation resistance				50MΩ		50MΩ		50MΩ	
外壳材料 Shell material				金属 Metal		金属 Metal		金属 Metal	
防护等级 Protection grade				IP67		IP67		IP67	
可替代国内型号 Alyemative model at home and abroad				E2E-X1R5-M1		E2E-X2E1-M1		E2E-X5E5-M1	

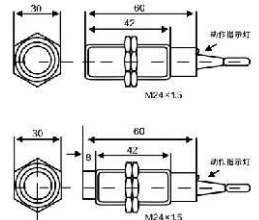
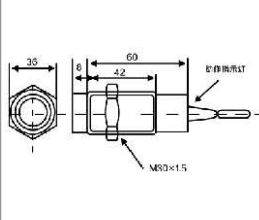
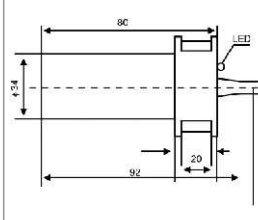
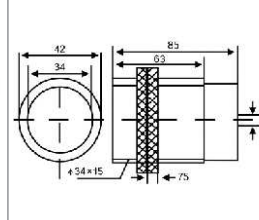
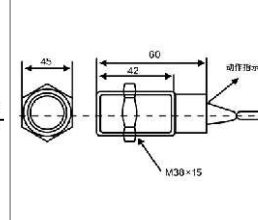
接近开关
PROXIMITY SWITCH

结构分类 Structural category				圆柱型 Cylinder type			
外形编号Outward Appearance code				LM4/LM5	LM6	LM06	LM8
外形图例 Outward appearance illustration							
外形尺寸 Overall dimensions							
埋入式 Flush	检测距离 DETECTION DISTANCE			0.8mm/1mm	1mm	1mm	1mm
	直流 DC 10-30 VDC	NPN	NO	LM4-300.8NA/LM5-3001NA	LM6-3001NA	LM06-3001NA	LM8-3001NA
			NC		LM6-3001NB		LM8-3001NB
			NO+NC				LM8-3001NC
	交流 AC 90-250 VAC	PNP	NO	LM4-300.8PA/LM5-3001PA	LM6-3001PA	LM06-3001PA	LM8-3001PA
			NC		LM6-3001PB		LM8-3001PB
			NO+NC				LM8-3001PC
	交流 AC 90-250 VAC	二线制 two wire system	NO		LM6-3001LA		LM8-3001LA
			NC		LM6-3001LB		LM8-2001LB
			SCR 可控硅 Control- lable silicon		LM6-2001A		LM8-2001A
	交流 AC 90-250 VAC	SCR 可控硅 Control- lable silicon	NC		LM6-2001B		LM8-2001B
			NO+NC				
	继电器输出 Relay output						
非埋入式 Non-Flush	检测距离 DETECTION DISTANCE				1.5mm		2mm
	直流 DC 10-30 VDC	NPN	NO		LM6-3002NA		LM8-3002NA
			NC		LM6-3002NB		LM8-3002NB
			NO+NC				
	交流 AC 90-250 VAC	PNP	NO		LM6-3002PA		LM8-3002PA
			NC		LM6-3002PB		LM8-3002PB
			NO+NC				
	交流 AC 90-250 VAC	二线制 two wire system	NO		LM6-3002LA		LM8-3002LA
			NC		LM6-3002LB		LM8-3002LB
			SCR 可控硅 Control- lable silicon		LM6-2002A		LM8-2002A
	交流 AC 90-250 VAC	SCR 可控硅 Control- lable silicon	NC		LM6-2002B		LM8-2002B
			NO+NC				
	继电器输出 Relay output						
输出电流 Controloutput	DC			200mA	200mA	200mA	200mA
	SCR/继电器 Relay						
输出电压降 Output voltage drop DC/AC				直流(NPN PNP)型3V以下、二线型:3.9V以下、交流AC 10V以下 DC<3V、AC<10V			
消耗电流 Consumption current				直流(NPN PNP)型DC 12V时8mA、24V时15mA、交流AC 10mA以下 DC<15mA、AC<10mA			
标准检测物体 Standard detected object				6×6×1(A3铁iron)	8×8×1(A3铁iron)	8×8×1(A3铁iron)	8×8×1(A3铁iron)
重复精度 Repeated precision				0.01	0.01	0.01	0.01
响应频率 DC/AC				500Hz	500Hz	500Hz	500Hz/25Hz
工作环境温度 Workong environment temperature				-25℃~+70℃	-25℃~+75℃	-25℃~+70℃	-25℃~+75℃
绝缘电阻 Insulation resistance				50MΩ	≥30MΩ	50MΩ	≥50MΩ
外壳材料 Shell material				金属 Metal	不锈钢 Stainless steel	金属 Metal	金属 Metal
防护等级 Protection grade				IP67	IP67	IP67	IP67
可替代国内型号 Alyemative model at home and abroad				E2E-X1R5□□			

接近开关
PROXIMITY SWITCH

结构分类 Structural category				圆柱型 Cylinder type				
外形编号Outward Appearance code				LM12	LM14	LM18	LM20	
外形图例 Outward appearance illustration								
外形尺寸 Overall dimensions								
检测距离 DETECTION DISTANCE				2mm	3mm	5mm		
埋入式 Flush	直流 DC 10-30 VDC	NPN	NO	LM12-3002NA	LM14-3003NA	LM18-3005NA		
			NC	LM12-3002NB	LM14-3003NB	LM18-3005NB		
			NO+NC	LM12-3002NC	LM14-3003NC	LM18-3005NC		
	交流 AC 90-250 VAC	PNP	NO	LM12-3002PA	LM14-3003PA	LM18-3005PA		
			NC	LM12-3002PB	LM14-3003PB	LM18-3005PB		
			NO+NC	LM12-3002PC	LM14-3003PC	LM18-3005PC		
	交流 AC 90-250 VAC	二线制 two wire system	NO	LM12-3002LA	LM14-3003LA	LM18-3005LA		
			NC	LM12-2002LB	LM14-2003LB	LM18-3005LB		
			SCR 可控硅 Control- lable silicon	NO	LM12-2002A	LM14-2003A	LM18-2005A	
			NC	LM12-2002B	LM14-2003B	LM18-2005B		
继电器输出 Relay output					LM18-2005C			
检测距离 DETECTION DISTANCE				4mm	5mm	8mm	10mm	
非埋入式 Non-Flush	直流 DC 10-30 VDC	NPN	NO	LM12-3004NA	LM14-3005NA	LM18-3008NA	LM20-3010NA	
			NC	LM12-3004NB	LM14-3005NB	LM18-3008NB	LM20-3010NB	
			NO+NC	LM12-3004NC	LM14-3005NC	LM18-3008NC	LM20-3010NC	
	交流 AC 90-250 VAC	PNP	NO	LM12-3004PA	LM14-3005PA	LM18-3008PA	LM20-3010PA	
			NC	LM12-3004PB	LM14-3005PB	LM18-3008PB	LM20-3010PB	
			NO+NC	LM12-3004PC	LM14-3005PC	LM18-3008PC	LM20-3010PC	
	交流 AC 90-250 VAC	二线制 two wire system	NO	LM12-3004LA	LM14-3005LA	LM18-3008LA	LM20-3010LA	
			NC	LM12-3004LB	LM14-3005LB	LM18-2008LB	LM20-3010LB	
			SCR 可控硅 Control- lable silicon	NO	LM12-2004A	LM14-2005A	LM18-2008A	LM20-2010A
			NC	LM12-2004B	LM14-2005B	LM18-2008B	LM20-2010B	
继电器输出 Relay output					LM18-2008C	LM20-2010C		
输出电流 Controloutput				DC	200mA	200mA	200mA	200mA
SCR/继电器 Relay				300mA	300mA	300mA	300mA	300mA/1A
输出电压降 Output voltage drop DC/AC				直流(NPN PNP)型3V以下、二线型:3.9V以下、交流AC 10V以下 DC<3V、AC<10V				
消耗电流 Consumption current				直流(NPN PNP)型DC 12V时8mA、24V时15mA、交流AC 10mA以下 DC<15mA、AC<10mA				
标准检测物体 Standard detected object				15×15×1(A3铁iron)	15×15×1(A3铁iron)	18×18×1(A3铁iron)	20×20×1(A3铁iron)	
重复精度 Repeated precision				0.01	0.02	0.02	0.05	
响应频率 DC/AC				400Hz/25Hz	300Hz/25Hz	200Hz/25Hz	200Hz/25Hz	
工作环境温度 Working environment temperature				-25℃~+75℃	-25℃~+75℃	-25℃~+75℃	-25℃~+75℃	
绝缘电阻 Insulation resistance				≥50MΩ	≥50MΩ	50MΩ	50MΩ	
外壳材料 Shell material				金属 Metal	金属 Metal	金属 Metal	ABS树脂 Resin	
防护等级 Protection grade				IP67	IP67	IP67	IP67	
可替代国内型号 Alyemative model at home and abroad				E2E-X5□□	LJ14A3-□□	LJ18A3-8-□□		

接近开关
PROXIMITY SWITCH

圆柱型 Cylinder type				
LM24	LM30	LM34	LM35	LM38
				
				
8mm	10mm			12mm
LM24-3008NA	LM30-3010NA			LM38-3012NA
LM24-3008NB	LM30-3010NB			LM38-3012NB
LM24-3008NC	LM30-3010NC			LM38-3012NC
LM24-3008PA	LM30-3010PA			LM38-3012PA
LM24-3008PB	LM30-3010PB			LM38-3012PB
LM24-3008PC	LM30-3010PC			LM38-3012PC
LM24-3008LA	LM30-3010LA			LM38-3012LA
LM24-3008LB	LM30-3010LB			LM38-3012LB
LM24-2008A	LM30-2010A			LM38-2012A
LM24-2008B	LM30-2010B			LM38-2012B
LM24-2008C	LM30-2010C			LM38-2012C
	LM30-2010JC			
10mm	15mm	17mm	17mm	18mm
LM24-3010NA	LM30-3015NA	LM34-3017NA	LM35-3017NA	LM38-3018NA
LM24-3010NB	LM30-3015NB	LM34-3017NB	LM35-3017NB	LM38-3018NB
LM24-3010NC	LM30-3015NC	LM34-3017NC	LM35-3017NC	LM38-3018NC
LM24-3010PA	LM30-3015PA	LM34-3017PA	LM35-3017PA	LM38-3018PA
LM24-3010PB	LM30-3015PB	LM34-3017PB	LM35-3017PB	LM38-3018PB
LM24-3010PC	LM30-3015PC	LM34-3017PC	LM35-3017PC	LM38-3018PC
LM24-3010LA	LM30-3015LA	LM34-3017LA	LM35-3017LA	LM38-3018LA
LM24-3010LB	LM30-3015LB	LM34-3017LB	LM35-3017LB	LM38-3018LB
LM24-2010A	LM30-2015A	LM34-2017A	LM35-2017A	LM38-2018A
LM24-2010B	LM30-2015B	LM34-2017B	LM35-2017B	LM38-2018B
LM24-2010C	LM30-2015C	LM34-2017C	LM35-2017C	LM38-2018C
	LM30-2015JC	LM34-2017JC	LM35-2017JC	LM38-2018JC
200mA	200mA	200mA	200mA	200mA
300mA	300mA/1A			
直流(NPN PNP)型3V以下、二线型:3.9V以下、交流AC 10V以下 DC<3V、AC<10V				
直流(NPN PNP)型DC 12V时8mA、24V时15mA、交流AC 10mA以下 DC<15mA、AC<10mA				
24×24×1(A3铁iron)	30×30×1(A3铁iron)	34×34×1(A3铁iron)	40×40×1(A3铁iron)	40×40×1(A3铁iron)
0.05	0.05		0.1	
200Hz/25Hz	200Hz/25Hz		100Hz/15Hz	
-25℃~+75℃	-25℃~+75℃		-25℃~+75℃	
50MΩ	50MΩ		50MΩ	
金属 Metal	金属 Metal	ABS树脂 Resin	ABS树脂 Resin	ABS树脂 Resin
IP67	IP67		IP67	
LJ24A3-10-□□	E2E-X18M□			LJ38A4-18-□□