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

开关类别 Switch category

Lm: 电感式 Inductance type
Cm: 电容式 Capacitance type
Sm: 霍尔式 Hall type
Am: 安全防爆式Safety Explosion-proof type
Xm: 模拟线性式 Mimic Linear type
Hm: 舌簧式 Reed type
Ru: 超声波 Ultrasonic type

外形代号 Outward appearance code

□: 圆柱型 Cylinder type
F□: 角柱型及平面安装型 Angular Column Type And Plane Installation Type

工作电压 Working voltage

30:6-36VDC 310:5-24VDC 320:12-60VDC 330:10-30VDC
340:10-55VDC 350:10-60VDC 360:5-36VDC 20:90-250VAC
210:24-250VAC 220:380VAC40:12-240VDC/24-240AC
50:特殊电压: Special voltage

检测距离 Detection distance

01:1mm 05:5mm 10:10mm .....

输出形式 Output form

N: 三线直流 NpN负逻辑输出 Three-wire Dc NpN Output
P: 三线直流 PnP正逻辑输出 Three-wire Dc PnP Output
L: 二线直流输出 Two-wire Dc Output
: 交流二线输出 Ac Two-wire Output
J: 继电器触点输出 Relay Contact Output
Np: NpN+PnP 双输出 NpN+PnP Double Output

输出状态 Output state

A: 常开(no) normally Open (no) B: 常闭(nc) Normally Close (nc)
C: 一开一闭(no-nc) normally Open-Normally Close(no+nc)
Mu: 模拟电压 Mimic Voltage Mi: 模拟电流 Mimic Current
Mui: 电压+电流 双输出 Voltage+Current

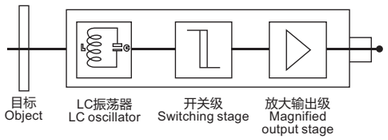
附属功能 Subsidiart functions

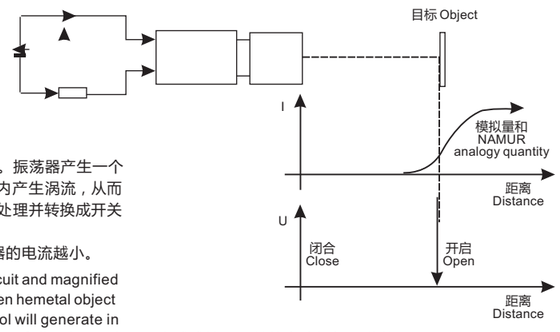
T: 带航空插座 with aviation connector Y: 防水、防油 water proof, oil proof
I: 特殊要求 special requirement H: 耐高温 high temp resistance
R: 环形 ring type

远距离 Long-distance

L: 远距离型 Long- distance

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





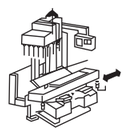
电感式接近开关由三大部分组成: 振荡器、开关电路及放大输出电路。振荡器产生一个交变磁场。当金属目标接近这一磁场，并达到感应距离时，在金属目标内产生涡流，从而导致振荡器衰减，以至停振。振荡器振荡及停振的变化被后级放大电路处理并转换成开关信号，触发驱动控制器件，从而达到非接触式之检测目的。

目标离传感器越近，线圈内的阻尼就越大，阻尼越大，传感器振荡器的电流越小。

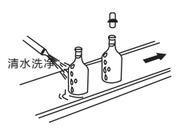
Inductive proximity switch is composed of three parts: oscillator, switch circuit and magnified output circuit. The oscillator will generate an alternating electric field. When hemetal object approaches this electric field and reaches the induction distance, whirlpool will generate in metal object, resulting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

电感式接近开关的电流损耗，随着
与金属目标距离的减小而减小。
Current consumption of inductive proxi mity switch
decreases proportional to the metal object distance.

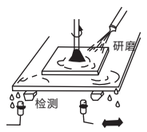
接近开关应用图例 Application illustration of proximity switch



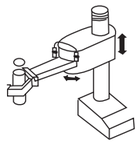
机加工中心的各种位置检测
Various location detection of machinery process center



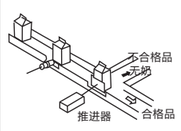
瓶盖检测
Bottle lid detection



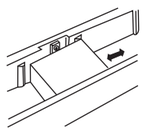
磨床的档块检测
Stopper detection of grinding machine



机器人手臂位置检测
Arm location detection of robot



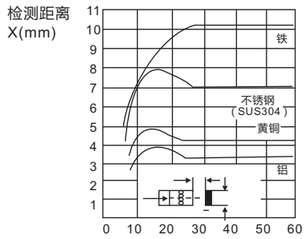
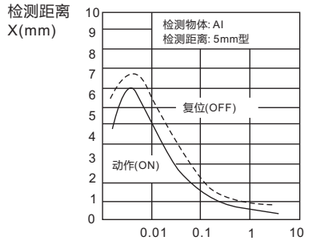
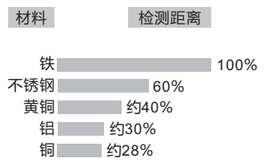
检测纸包装内有无牛奶
Inspection of the exiating of milk inside the paper package



限位检测
Spacing detection

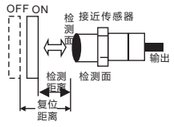
接近开关的特性 Features of proximity switch

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 repesentative example to briefly explain features of proximity switch

项目/Item	说明/Explanation	特性/Features	◆关于检测物体 / About detected object
检测物体的大小和检测距离 the size of detected object and detection distance	检测物体为正方形金属板，厚度恒定(t=1mm)，改变其边长dmm时的检测距离X进行测定。 If the detected object is square metal sheet with constant thickness(t=1mm), detect at detection distance X when change its side length dmm.  	✢ 检测物体为大于标准检测物体时，检测距离基本上恒定。 ✢ 根据机种的不同，有时和左边特性不同。 ✢ 贯通型等，以圆柱状金属棒为检测物体。 ✢ When the detected object is bigger than standard detected object, on the main, the dete-ction distance is constant. ✢ According to different machine type, sometimes the features will be different with that me-ntioned on the left. ✢ To through type, the detection object is like cylinder metal bar.	✢ 检测物体的材料是非磁性金属时，动作的距离要下降。但厚度为大于0.01mm左右的箔材料时，会获得和磁性物体相同的检测距离，而镀膜等级其薄时及无导电性时，则不能检测。 ✢ 镀层的影响检测物体具有镀层时，请注意其检测距离就变了。 ✢ When the material of detected object is non magnetic metal, the distance of action should deseend. But when the foil material is appr-oximaterly thicker than a.01mm, the detection diatance willbe the same as that of magnetic object. If the film plating is extremely thin or non-conductive, detection cannot be conducted. ✢ The effect of cladding material ,when detected object has cladding material, take note of the changing of detection diatance.
检测物体的厚度和检测距离 the thickness of detected object and detection distance	测定改变指定的标准检测物体形状的厚1mm时的检测距离Xmm(前面检测型) Detect at detection distance Xmm (front detector) when change the thickn ess of the assigned standard detected object 1mm.  	✢ 磁性金属(铁等)时，厚度在1mm以上时，检测距离基本上没有变化 ✢ For more than 1mm thick ma-gnetic metal like iron, on the main, the detection distance will not chaneg.	◆关于环境气候 About ambient weather ✢ 为保护动作的可靠和寿命长，请避免在有关规定以外的温度外界(户外)条件下使用，接近传感器虽为耐水结构，若装上罩使用，勿使水和水容性切削油等淋到，则可更好地提高可靠性及寿命。还请避免在有化学药剂，特别是在强碱、酸、硝酸、铬酸、热浓硫酸等气候中使用。 ✢ In order to maintain reliable action and long service life, please avoid the (outdoor) occasion beond the stiplatedambient temperature.Do not drench it with water-soluble cutting lubricant when it is used with cover, althouththeproximity sensor is waterproof. Do not use in the occasion swith chemical agents, especially strong base, acid, nitric acid, hot strong sulfuric acid and so on .
检测物体材料和镀层等造成的影响 the effects resulted from the thickness of detected object and cladding material	标准检测物体的由于形状、尺寸因具材料。或各种镀引起的影响，用检测距离Xmm的测定加以确认。 Because the detection to standard detected object will be effected by its shape, size, material, and various caldding material, confirm through detection distance Xmm measurement.  	✢ 铁以外的金属造成的检测距离及镀层的影响，根据不同的机种而不同。 ✢ 检测所有金属的机种时，基本上不受镀层的影响。 ✢ The effects resulted from de-tection distance and cladding material of the metal excluded iron will be different according to different machine type. ✢ On the main, the machine type which detects all the metals will not be effected by cladding material.	◆关于维护检修 About maintenance and overhaul ✢ 为使接近传感器长期稳定工作，和一般的控制器一样请实行下列定期检查。 1.被测物体及接近传感器的安装位置，偏移、松动，变形的有无。 2.配线，连接部位有无松动，接触，不良，断线。 3.有无附粘金属粉末等积物。 4.使用温度条件，周围环境条件有无异常。 5.检查距离有无异常。 ✢ In order to keep the proximity sensor to work stably for long time, the ollowing regular examinations should be performed just like general control. 1.Check the installation position of detected object and proximityseensor if any deviation, loosening of deformation exiss. 2.Check the attached wires and connecting parts if any loosening, bad contact or wire breaking off exists. 3.Check if there is any metallic powder accumulation or not. 4.Cherck if the temperature condition and surrounding environment condition are mormal or not. 5.Cherck if the detection distance is normal or not.

技术用词的说明 EXPLANATION OF TECHNICAL TERMS

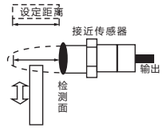
检测距离 Detection distance



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 toassigned method, thedistance from the referance position (refernce plane) to the detecting action(resetting)

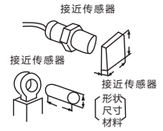
设定距离 Setting distance



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 objest.

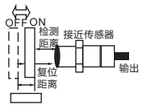
标准检测物体 Standard detected object



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.

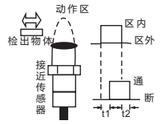
差动距离 Differential distance



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

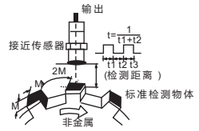
响应时间 Response time



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.

响应效率 Response frequency

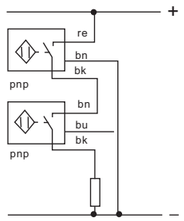


反复接近检测物体时，能得出跟踪它的输出每秒次数。测定方法概略如上图。

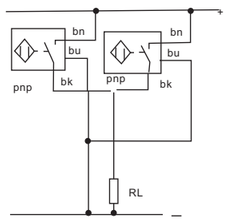
Work out the tracking output times per secondl repeatedly approaching the detected object, Brief detection method sees the above diagram.

串联、并联 SERIES CONNECTION AND PARALLEL CONNECTION

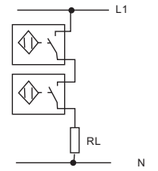
★ 三线电流与三线直流传感器的串联
Series connection of three-wire DC and therr-wire DC sensor



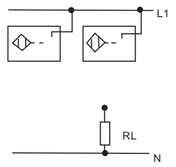
★ 三线电流与三线直流传感器的并联
Parallel connection of three-wire DC and therr-wire DC sensor



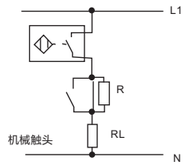
★ 两线交流传感器的串联
Series connection of two-wire AC sensor



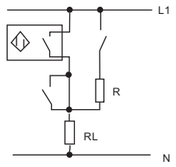
◆两线交流传感器的并联
Parallel connection of two-wire AC sensor



◆机械开关与交流传感器的串联
Series connection of machinery switch and AC sensor



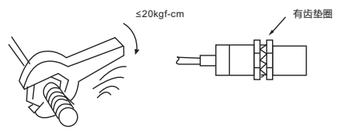
◆机械开关与交流传感器的并联
Parallel connection of machinery switch and AC sensor



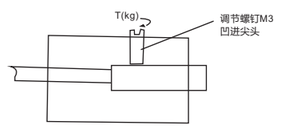
主要特征 Main features

- 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, vibtation 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

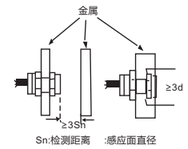
正确使用和安装及注意事项 Correct use, installation and cautons



- 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

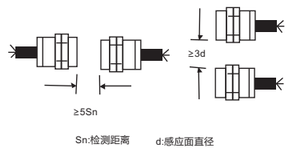


- 无螺纹式柱型开关的安装
  Mounting non screw type pillar switch
- 采用调节螺钉时，紧固力矩请用2-4kgf-cm以下安装
  When adopt adjusting screw, the tightening torque should be within 2-4kgf-cm.



- 防止非检测物体的干扰
  Protection against the interference of non detected object
- 在金属件上按装接近开关时，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 acertai-nspace 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 cautons



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  Mounting screw switch
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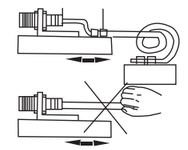
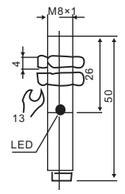
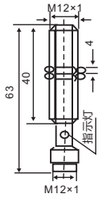
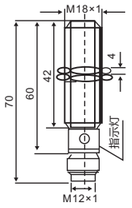
- 开关动作距离(灵敏度)可调节
  Adjustable swicth actiondistance (sensitivity)
- 接近开关可通过微调电位器调节动作距离(灵敏度)。顺时针动作距离增大(灵敏度减低)，逆时针，反之，切忌在动作距离最大临界状态下使用
  The action distance (sensitivity) of proximity switch can be adjusted by the means ottrimming potentiometer, increase the action distance and reduse sensitivity when turnclockwise, vice versa. Do not use in thecritical state of max. Action distance.

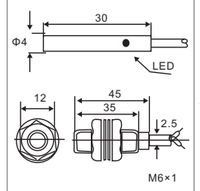
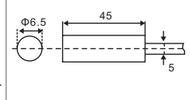
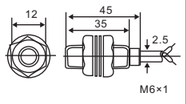
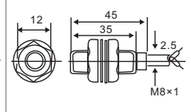


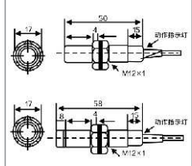
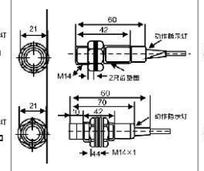
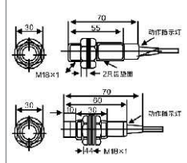
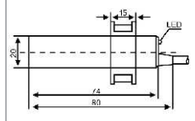
- 开关引线的防护
  Gusrd of switch lead-wire
- 按装开关时，请将离开关10cm左右引线位置用线夹固定，防止开关引线受外力的作用损坏。
  When mount switch, fix the lead-wire at a dostamce anpit 10cm from the switch with wire clip so as to prevent the switch lead wire from damage from outer force.

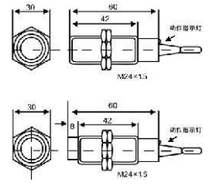
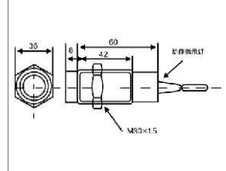
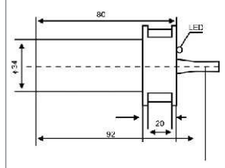
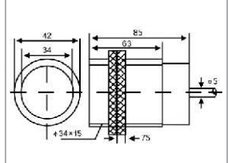
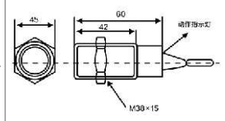
注意事项 Cautions

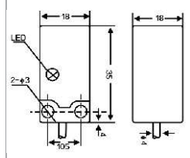
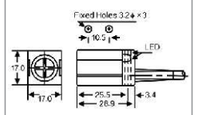
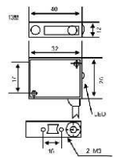
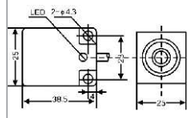
- 直流开关应使用绝缘变压器，并确保稳压电源纹波。
- 如有电力线动力线通过开关引线周围时，防止开关损坏或误动作，将金属管套在开关引线上并接地。
- 开关使用距离请设定在额定距离以内，以免受温度和电压影响。
- 严禁通电接线，应严格按接线图输出回路原理图接线。
- 用户如需要防水、防油、耐酸、碱、耐高温开关等特殊要求或其他规格应在订货时说明，并给予定做。
- Dc switch should adopt insulation transformer and ensure stablc voltage mains corrugation.
- If any electric power line 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 elmentary 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 specfications, the users are required togive clear indication when placing an order. we can produce according to the requirements of the user.

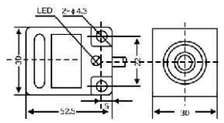
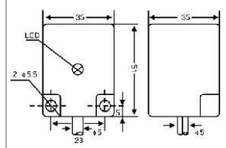
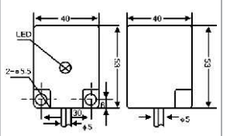
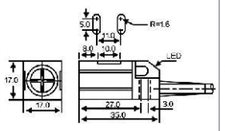
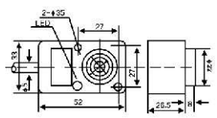
结构分类 Structural category			圆柱型 Cylinder type	接插件型Connector type	
外形编号Outward Appearance code			LM8-□□T /LM8-□□T3	LM12-□T /LM12-□T3	LM18-□T
外形图例 Outward appearance illustration					
外形尺寸 Overall dimensions					
	检测距离 DETECTION DISTANCE		1mm	2mm	5mm
埋入式 Flush	直流 DC 10-30 VDC	NPN NO	LM8-3001NAT	LM12-3002NAT	LM18-3005NAT
		NPN NC	LM8-3001NBT	LM12-3002NBT	LM18-3005NBT
		NPN NO+NC		LM12-3002NCT	LM18-3005NCT
		PNP NO	LM8-3001PAT	LM12-3002PAT	LM18-3005PAT
		PNP NC	LM8-3001PBT	LM12-3002PBT	LM18-3005PBT
		PNP 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
		二线制 two wire system NC	LM8-3001LBT	LM12-3002LBT	LM18-3005LBT
		SCR 可控硅 Controlable silicon NO		LM12-2002AT	LM18-2005AT
		SCR 可控硅 Controlable silicon NC		LM12-2002BT	LM18-2005BT
		SCR 可控硅 Controlable silicon NO+NC			
		继电器输出 Relay output			
	检测距离 DETECTION DISTANCE		2mm	4mm	
非埋入式 Non-Flush	直流 DC 10-30 VDC	NPN NO	LM8-3002NAT	LM12-3004NAT	LM18-3008NAT
		NPN NC	LM8-3002NBT	LM12-3004NBT	LM18-3008NBT
		NPN NO+NC		LM12-3004NCT	LM18-3008NCT
		PNP NO	LM8-3002PAT	LM12-3004PAT	LM18-3008PAT
		PNP NC	LM8-3002PBT	LM12-3004PBT	LM18-3008PBT
		PNP 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
		二线制 two wire system NC	LM8-3002LBT	LM12-3004LBT	LM18-3008LBT
		SCR 可控硅 Controlable silicon NO	LM8-2002AT	LM12-2004AT	LM18-2008AT
		SCR 可控硅 Controlable silicon NC		LM12-2004BT	LM18-2008BT
		SCR 可控硅 Controlable silicon 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			Typ DC (NPN PNP) 3 V lub mniej, typ dwuprzewodowy: 3,9 V lub mniej, AC 10 V lub mniej DC < 3 V, AC＜10V		
消耗电流 Consumption current			Typ DC (NPN PNP): 8 mA przy 12 V, 15 mA przy 24 V, AC 10 mA lub mniej DC < 15 mA, AC < 10 mA		
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

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						
	检测距离 DETECTION DISTANCE		0.8mm/1mm	1mm	1mm	1mm
埋入式 Flush	直流 DC 10-30 VDC	NPN NO	LM4-300.8NA/LM5-3001NA	LM6-3001NA	LM06-3001NA	LM8-3001NA
		NPN NC		LM6-3001NB		LM8-3001NB
		NPN NO+NC				LM8-3001NC
		PNP NO	LM4-300.8PA/LM5-3001PA	LM6-3001PA	LM06-3001PA	LM8-3001PA
		PNP NC		LM6-3001PB		LM8-3001PB
		PNP NO+NC				LM8-3001PC
	交流 AC 90-250 VAC	二线制 two wire system NO		LM6-3001LA		LM8-3001LA
		二线制 two wire system NC		LM6-3001LB		LM8-2001LB
		SCR 可控硅 Controlable silicon NO		LM6-2001A		LM8-2001A
		SCR 可控硅 Controlable silicon NC		LM6-2001B		LM8-2001B
		SCR 可控硅 Controlable silicon NO+NC				
		继电器输出 Relay output				
	检测距离 DETECTION DISTANCE			1.5mm		2mm
非埋入式 Non-Flush	直流 DC 10-30 VDC	NPN NO		LM6-3002NA		LM8-3002NA
		NPN NC		LM6-3002NB		LM8-3002NB
		NPN NO+NC				
		PNP NO		LM6-3002PA		LM8-3002PA
		PNP NC		LM6-3002PB		LM8-3002PB
		PNP NO+NC				
	交流 AC 90-250 VAC	二线制 two wire system NO		LM6-3002LA		LM8-3002LA
		二线制 two wire system NC		LM6-3002LB		LM8-3002LB
		SCR 可控硅 Controlable silicon NO		LM6-2002A		LM8-2002A
		SCR 可控硅 Controlable silicon NC		LM6-2002B		LM8-2002B
		SCR 可控硅 Controlable silicon 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			Typ DC (NPN PNP) 3 V lub mniej, typ dwuprzewodowy: 3,9 V lub mniej, AC 10 V lub mniej DC < 3 V,AC＜10V			
消耗电流 Consumption current			Typ DC (NPN PNP): 8 mA przy 12 V, 15 mA przy 24 V, AC 10 mA lub mniej DC < 15 mA, AC < 10 mA			
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□□

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	
Zabudowany 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	
		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	LM12-3002LB	LM14-3003LB	LM18-3005LB	
		SCR 可控硅 Control-lable silicon	NO	LM12-2002A	LM14-2003A	LM18-2005A	
			NC	LM12-2002B	LM14-2003B	LM18-2005B	
			NO+NC			LM18-2005C	
		继电器输出 Relay output					
	检测距离 DETECTION DISTANCE			4mm	5mm	8mm	10mm
Wysuniętу 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
		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
			NO+NC			LM18-2008C	LM20-2010C
		继电器输出 Relay output					
输出电流 Controloutput		DC		200mA	200mA	200mA	200mA
		SCR/继电器 Relay		300mA	300mA	300mA	300mA/1A
输出电压降 Output voltage drop DC/AC				Typ DC (NPN PNP) 3 V lub mniej, typ dwuprzewodowy: 3,9 V lub mniej, AC 10 V lub mniej DC < 3 V,AC＜10V			
消耗电流 Consumption current				Typ DC (NPN PNP): 8 mA przy 12 V, 15 mA przy 24 V, AC 10 mA lub mniej DC < 15 mA, AC < 10 mA			
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-□□	

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			
Typ DC (NPN PNP) 3 V lub mniej, typ dwuprzewodowy: 3,9 V lub mniej, AC 10 V lub mniej DC < 3 V, AC＜10V				
Typ DC (NPN PNP): 8 mA przy 12 V, 15 mA przy 24 V, AC 10 mA lub mniej DC < 15 mA, AC < 10 mA				
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-□□

结构分类 Structural category				角柱型 Angular column type			
外形编号Outward Appearance code				LMF3	LMF4	LMF5	LMF6
外形图例 Outward appearance illustration							
外形尺寸 Overall dimensions							
检测距离 DETECTION DISTANCE				5mm	5mm	2mm	8mm
Zabudowany 埋入式 Flush	直流 DC 10-30 VDC	NPN	NO	LMF3-3005NA	LMF4-3005NA	LMF5-3002NA	LMF6-3008NA
			NC	LMF3-3005NB	LMF4-3005NB	LMF5-3002NB	LMF6-3008NB
			NO+NC		LMF4-3005NC	LMF5-3002NC	LMF6-3008NC
		PNP	NO	LMF3-3005PA	LMF4-3005PA	LMF5-3002PA	LMF6-3008PA
			NC	LMF3-3005PB	LMF4-3005PB	LMF5-3002PB	LMF6-3008PB
			NO+NC		LMF4-3005PC	LMF5-3002PC	LMF6-3008PC
	交流 AC 90-250 VAC	二线制 two wire system	NO	LMF3-3005LA	LMF4-3005LA	LMF5-3002LA	LMF6-3008LA
			NC	LMF3-3005LB	LMF4-3005LB	LMF5-3002LB	LMF6-3008LB
		SCR 可控硅 Control-lable silicon	NO				LMF6-2008A
			NC				LMF6-2008B
			NO+NC				
		继电器输出 Relay output					
检测距离 DETECTION DISTANCE						4mm	10mm
Wysuniety 非埋入式 Non-Flush	直流 DC 10-30 VDC	NPN	NO			LMF5-3004NA	LMF6-3010NA
			NC			LMF5-3004NB	LMF6-3010NB
			NO+NC			LMF5-3004NC	LMF6-3010NC
		PNP	NO			LMF5-3004PA	LMF6-3010PA
			NC			LMF5-3004PB	LMF6-3010PB
			NO+NC			LMF5-3004PC	LMF6-3010PC
	交流 AC 90-250 VAC	二线制 two wire system	NO			LMF5-3004LA	LMF6-3010LA
			NC			LMF5-3004LB	LMF6-3010LB
		SCR 可控硅 Control-lable silicon	NO	LMF3-2005A			LMF6-2010A
			NC	LMF3-2005B			LMF6-2010B
			NO+NC				
		继电器输出 Relay output					
输出电流 Controloutput		DC		200mA	200mA	200mA	200mA
		SCR/继电器 Relay		300mA/1A			300mA
输出电压降 Output voltage drop DC/AC				Typ DC (NPN PNP) 3 V lub mniej, typ dwuprzewodowy: 3,9 V lub mniej, AC 10 V lub mniej DC < 3 V, AC＜10V			
消耗电流 Consumption current				Typ DC (NPN PNP): 8 mA przy 12 V, 15 mA przy 24 V, AC 10 mA lub mniej DC < 15 mA, AC < 10 mA			
标准检测物体 Standard detected object				20×20×1(A3铁iron)	20×20×1(A3铁iron)	15×15×1(A3铁iron)	30×30×1(A3铁iron)
重复精度 Repeated precision				0.02	0.03	0.03	0.05
响应频率 DC/AC				400Hz/25Hz	300Hz	400Hz	200Hz/10Hz
工作环境温度 Working environment temperature				-25℃~+75℃	-25℃~+75℃		-25℃~+75℃
绝缘电阻 Insulation resistance				50MΩ	50MΩ		50MΩ
外壳材料 Shell material				ABS树脂 Resin	ABS树脂 Resin	ABS树脂 Resin	ABS树脂 Resin
防护等级 Protection grade				IP67	IP67		IP67
可替代国内型号 Alyemative model at home and abroad				PS17-5PN	PS05-N、PS05-P		TL-N5ME□□

角柱型 Angular column type					
LMF7	LMF8	LMF10	LMF11	LMF12
				
				
10mm	10mm	15mm	5mm	
LMF7-3010NA	LMF8-3010NA	LMF10-3015NA	LMF11-3005NA	
LMF7-3010NB	LMF8-3010NB	LMF10-3015NB	LMF11-3005NB	
	LMF8-3010NC	LMF10-3015NC	LMF11-3005NC	
LMF7-3010PA	LMF8-3010PA	LMF10-3015PA	LMF11-3005PA	
LMF7-3010PB	LMF8-3010PB	LMF10-3015PB	LMF11-3005PB	
	LMF8-3010PC	LMF10-3015PC	LMF11-3005PC	
LMF7-3010LA	LMF8-3010LA	LMF10-3015LA	LMF11-3005LA	
LMF7-3010LB	LMF8-3010LB	LMF10-3015LB	LMF11-3005LB	
LMF7-2010A	LMF8-2010A	LMF10-2015A		
LMF7-2010B	LMF8-2010B	LMF10-2015B		
LMF7-2010C	LMF8-2010C	LMF10-2015C		
15mm	15mm	20mm		8mm
LMF7-3015NA	LMF8-3015NA	LMF10-3020NA		LMF12-3008NA
LMF7-3015NB	LMF8-3015NB	LMF10-3020NB		LMF12-3008NB
LMF7-3015NC	LMF8-3015NC	LMF10-3020NC		LMF12-3008NC
LMF7-3015PA	LMF8-3015PA	LMF10-3020PA		LMF12-3008PA
LMF7-3015PB	LMF8-3015PB	LMF10-3020PB		LMF12-3008PB
LMF7-3015PC	LMF8-3015PC	LMF10-3020PC		LMF12-3008PC
LMF7-3015LA	LMF8-3015LA	LMF10-3020LA		LMF12-3008LA
LMF7-3015LB	LMF8-3015LB	LMF10-3020LB		LMF12-3008LB
LMF7-2015A	LMF8-2015A	LMF10-2020A		LMF12-2008A
LMF7-2015B	LMF8-2015B	LMF10-2020B		LMF12-2008B
LMF7-2015C	LMF8-2015C	LMF10-2020C		LMF12-2008C
200mA	200mA	200mA	200mA	200mA
300mA		500mA		500mA
Typ DC (NPN PNP) 3 V lub mniej, typ dwuprzewodowy: 3,9 V lub mniej, AC 10 V lub mniej DC < 3 V, AC＜10V				
Typ DC (NPN PNP): 8 mA przy 12 V, 15 mA przy 24 V, AC 10 mA lub mniej DC < 15 mA, AC < 10 mA				
35×35×1(A3铁iron)	40×40×1(A3铁iron)	45×45×1(A3铁iron)	20×20×1(A3铁iron)	25×25×1(A3铁iron)
0.05	0.05	0.05	0.05	0.04
200Hz/15Hz	200Hz/15Hz	100Hz/15Hz	500Hz	200Hz/15Hz
-25℃~+75℃	-25℃~+75℃	-25℃~+70℃	-25℃~+70℃	-25℃~+70℃
50MΩ	50MΩ	50MΩ	50MΩ	50MΩ
ABS树脂 Resin	ABS树脂 Resin	ABS树脂 Resin	ABS树脂 Resin	ABS树脂 Resin
IP67	IP67	IP67	IP67	IP67
TL-N10M		TL-N20M□	PL-05N PL-05P	LJ1A-24