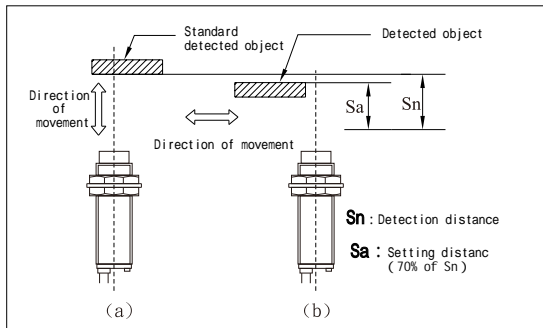


IV. Outline Dimension Drawing (Unit: mm)

Outline Dimensions	Flush Type		Non-flush Type					
	a	b	c	d	e	f	g	
Type	Model	a	b	c	d	e	f	g
Flush Type	LJA8 Series	42±0.5	40±0.5	—	3.5	M8×1	12	(15)
Non-flush Type	LJA8M Series	48±0.5		5				
Flush Type	LJA12 Series	52±0.5	45±0.5	—	4	M12×1	17	(21)
Non-flush Type	LJA12M Series	57±0.5		5				
Flush Type	LJA18 Series	63±0.5	52±0.5	—	4	M18×1	24	(30)
Non-flush Type	LJA18M Series	70±0.5		8.5				
Flush Type	LJA30 Series	67±0.5	52±0.5	—	4.7	M30×1.5	36.2	—
Non-flush Type	LJA30M Series	78±0.5		12.5				

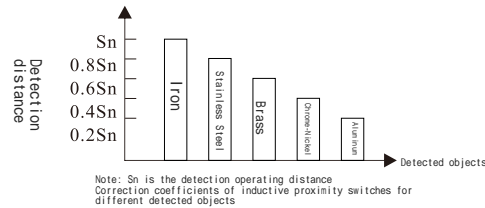
V. Setting Distance and Detection Distance



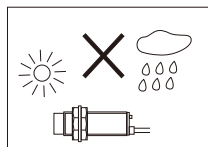
- The operating distance of the switch should be set within 70% of the standard detection distance (Sn). This avoids performance issues caused by temperature, voltage fluctuations, or other environmental factors.
- Detection distance (Sn) is defined as: The distance from the sensor's reference surface to the point where the detection action (or reset action) is triggered when the object is detected using the specified method.
- Setting distance (Sa) calculation: $Sa = Sn \times 70\%$
Example: LJA18M-10N1
 $Sa = 10\text{mm} \times 0.7 = 7\text{mm}$

VI. Relationship Between Detected Object Material and Detection Distance

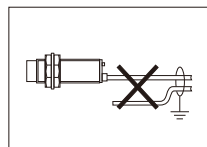
- When detecting different objects, the switch has different operating distances. Please refer to the correction coefficients for inductive proximity switches with different detected objects in the right figure.
- When the switch is used for measuring operating frequency or in high-speed applications, set the operating distance of the switch beyond 1/2 of the standard operating distance. The switch can achieve the maximum operating frequency at this position.



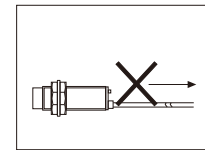
VII. Instructions for Incorrect Usage



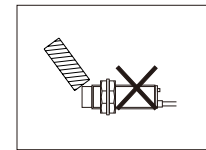
Please do not use in outdoor environments or places with water splashes, and try to avoid outdoor use as much as possible.



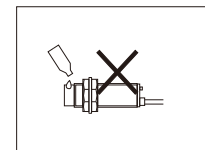
Please do not route together with power lines or power cables in the same conduit; separate wiring should be used.



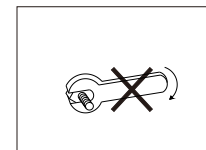
Please do not pull the power cord of the proximity switch with excessive force.



Please do not strike the detection surface with hard objects.



Please do not use the proximity switch in environments with corrosive substances.



Please do not tighten with excessive force; use a washer when tightening.

VIII. Requirements for Power Supply and Load of Proximity Switches

- Power-On Delay: Do not use this product during the moment the power is turned on (within 100ms).
- Surge Protection: When the proximity switch is used near areas with surge interference (e.g., welding operations of electric welders), an additional surge absorption device must be installed.
- High-Current Loads: When connecting high-current loads (e.g., light bulbs, motors), the initial resistance decreases due to current impact. Only after the current increases does the load resistance rise and the current return to normal. This current impact may damage the proximity switch. Use a small relay for switching to protect the proximity switch.
- Transformer Type: The proximity switch cannot be powered by an autotransformer; an isolation transformer must be used.
- Wiring Length: The connecting wires of the proximity switch should be as short as possible to reduce noise interference.
- Two-Wire Type Wiring: The power cord of AC/DC two-wire proximity switches must not be directly connected to the power supply; a load must be connected in series (otherwise, the proximity switch will be damaged).

4

IX. Maintenance and Inspection

To ensure the long-term stable operation of the proximity switch, similar to general controllers, perform the following regular inspections:

- Check whether there is any shift, looseness, or deformation in the installation positions of the detected object and the proximity switch.
- Check whether there is any looseness, poor contact, or wire breakage in the wiring and connection parts.
- Check whether there are any accumulations (such as metal dust) adhered to the detection surface.
- Check whether there is any abnormality in the operating temperature and surrounding environmental conditions.



C-Lin
欣灵电气股份有限公司
XINLING ELECTRICAL CO., LTD.

地址: 浙江省乐清经济开发区纬十九路328号
电话: 0577-62735555 传真: 0577-62722963
Http://www.c-lin.cn E-mail: xl@xinling.com
技术咨询: 0577-62731209



国家高新技术企业 浙江省名牌产品

C-Lin 欣灵

使用说明书
Products Instructions

LJA Long Cylindrical Inductive Proximity Switch

Thank you very much for using C-Lin brand sensors. Please read the instruction manual before using the product!

16A006E2

3

. Model Description

L J A 18 M - 10 N 1

- 1: Normally Open (NO) 2: Normally Closed (NC) 4: Normally Open + Normally Closed
- N: NPN type P: PNP type D: DC two-wire type A: AC two-wire type
- Detection distance: 10mm
- M: Non-flush type : Flush type
- Diameter size: 18mm
- Long cylindrical type
- Inductive type

. Model Types and Technical Data

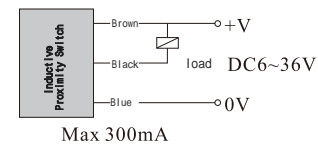
Type		LJA8 Series		LJA12 Series		
Installation Method		Flush Type	Non-flush Type	Flush Type	Non-flush Type	
DC Type	NPN	NO	LJA8-1.5N1	LJA8M-2N1	LJA12-2N1	LJA12M-5N1
		NC	LJA8-1.5N2	LJA8M-2N2	LJA12-2N2	LJA12M-5N2
		NO+NC			LJA12-2N4	LJA12M-5N4
	PNP	NO	LJA8-1.5P1	LJA8M-2P1	LJA12-2P1	LJA12M-5P1
		NC	LJA8-1.5P2	LJA8M-2P2	LJA12-2P2	LJA12M-5P2
		NO+NC			LJA12-2	LJA12M-5
Two-wire	NO	LJA8-1.5D1	LJA8M-2D1	LJA12-2D1	LJA12M-5D1	
	NC	LJA8-1.5D2	LJA8M-2D2	LJA12-2D2	LJA12M-5D2	
AC Type	Two-wire	NO	LJA8-1.5A1	LJA8M-2A1	LJA12-2A1	LJA12M-5A1
		NC	LJA8-1.5A2	LJA8M-2A2	LJA12-2A2	LJA12M-5A2
Detection Distance		1.5mm±10%	2mm±10%	2mm±10%	5mm±10%	
Response Frequency	DC	1.5KHz	0.8KHz	0.8KHz	0.4KHz	
	AC	25Hz		25Hz		
Type		LJA18 Series		LJA30 Series		
Installation Method		Flush Type	Non-flush Type	Flush Type	Non-flush Type	
DC Type	NPN	NO	LJA18-5N1	LJA18M-10N1	LJA30-10N1	LJA30M-18N1
		NC	LJA18-5N2	LJA18M-10N2	LJA30-10N2	LJA30M-18N2
		NO+NC	LJA18-5N4	LJA18M-10N4	LJA30-10N4	LJA30M-18N4
	PNP	NO	LJA18-5P1	LJA18M-10P1	LJA30-10P1	LJA30M-18P1
		NC	LJA18-5P2	LJA18M-10P2	LJA30-10P2	LJA30M-18P2
		NO+NC	LJA18-5	LJA18M-10	LJA30-10	LJA30M-18
Two-wire	NO	LJA18-5D1	LJA18M-10D1	LJA30-10D1	LJA30M-18D1	
	NC	LJA18-5D2	LJA18M-10D2	LJA30-10D2	LJA30M-18D2	
AC Type	Two-wire	NO	LJA18-5A1	LJA18M-10A1	LJA30-10A1	LJA30M-18A1
		NC	LJA18-5A2	LJA18M-10A2	LJA30-10A2	LJA30M-18A2
Detection Distance		5mm±10%	10mm±10%	10mm±10%	18mm±10%	
Response Frequency	DC	0.4KHz	0.2KHz	0.2KHz	0.1KHz	
	AC	25Hz		25Hz		

①

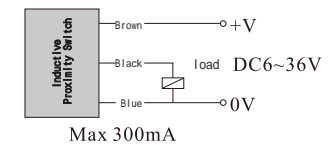
Detected Objects	Iron, copper, steel, aluminum, nickel, etc. The standard detected object is A3 iron.	
Differential Distance	1-10% of the detection distance	
Supply Voltage	DC (NPN, PNP, two-wire type): DC12-24V with ripple (P-P) 10% (10-30VDC); AC type: 90-250V 50/60Hz	
Current Consumption	DC (NPN, PNP, two-wire type): 8mA/12V, 15mA/24V; AC type: <5mA	
Control Output	DC (NPN, PNP type): Max. 300mA; DC (two-wire type): Max. 3-100mA; AC type: Max. 10-300mA	
Circuit Protection	DC (NPN, PNP, two-wire type): Reverse connection and short-circuit protection; AC type: Surge absorption protection	
Operating Temperature	-25 ~+65 (without freezing)	
Operating Humidity	35-95%HR	
Temperature Influence	-25 ~+65 (Within this temperature range, the detection distance variation is within ±15% at the rated supply voltage)	
Voltage Influence	Within ±15% of the rated supply voltage, the detection distance variation is within ±15% at the specified supply voltage	
Residual Voltage	DC (NPN, PNP type): 1V; DC (two-wire type): 3V; AC (two-wire type): 7V	
Insulation Resistance	50M (Between live parts and the housing, measured with DC500V)	
Withstand Voltage	DC (NPN, PNP, two-wire type): AC1000V 50/60Hz, 1 minute, between live parts and the housing; AC (two-wire type): 2000V 50/60Hz, between live parts and the housing	
Vibration	Endurance: 10-55Hz with double amplitude 1.5mm, 2 hours for each of X, Y, Z directions	
Shock	Endurance: 500m/s ² (approx. 50g), 10 times for X, Y, Z directions	
Protection Class	IP54-IP67	
Material	Housing	Brass with nickel plating
	Detection Surface	Heat-resistant ABS

III. Classification by Output Type

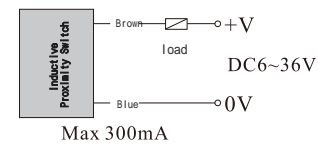
1. DC 3-wire NPN Type (NO or NC)



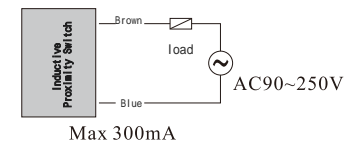
2. DC 3-wire PNP Type (NO or NC)



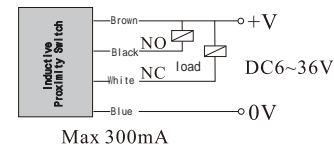
3. DC 2-wire Type (NO or NC)



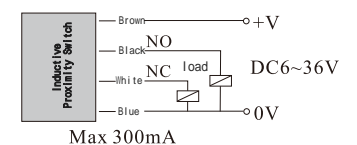
4. AC 2-wire Type (NO or NC)



5. DC 4-wire NPN Type (NO + NC)



6. DC 4-wire PNP Type (NO + NC)



Note: NO stands for Normally Open, NC stands for Normally Closed; NO+NC stands for Normally Open + Normally Closed.

②