

LJA Series Long Cylindrical Proximity Sensor



Application

LJA Series Long Cylindrical type Inductive proximity switch (brief as proximity switch) composed of three parts: Oscillator, switching circuit and amplifier output circuit.

The oscillator produce a alternating magnetic field, when metal object approaching this field, and reach the sensing distance, a eddy current will produced accordingly, and cause decrement of oscillation and down to stop. Such change of oscillation of oscillator is converting to a switching signal by the following part of amplifier circuit, and to triggering the drive control element, thus to achieve the non-contact detection.

LJA Series Long Cylindrical Type Inductive Proximity Sensor is mainly used to detect metal object, such as Iron, Steel, Copper etc.



Model meanings

LJ A - 18 M - 10 N 1
 ↓ ↓ ↓ ↓ ↓ ↓ ↓
 ① ② ③ ④ ⑤ ⑥ ⑦

①	LJ: Inductive
②	A : Long cylindrical
③	Outer size : 8mm ; 12mm ; 18mm ; 30mm
④	M : Unshielded □ Shielded
⑤	Sensing distance : 1.5mm ; 2mm ; 5mm ; 10mm ; 18mm
⑥	N : NPN P : PNP D : DC 2-wire A : AC 2-wire
⑦	1 : NO 2 : NC 4 : NO+NC

Product Features

- High Water Proof level, reach IP67, can be used in severe environment;
- Patented design, compact structure and nice out looking;
- With multi installation method, to match different space requirement;
- With high response frequency;
- Wide voltage range: AC: 90VAC ~ 250VAC, DC: 10VDC~30VDC;
- As GB/T 14048.10 and IEC60947-5-2.

Product Specifications

Picture	LJA8		LJA12		LJA18		LJA30			
Model	Shielded	Unshielded	Shielded	Unshielded	Shielded	Unshielded	Shielded	Unshielded		
DC Type	NPN	NO	LJA8-1.5N1	LJA8M-2N1	LJA12-2N1	LJA12M-5N1	LJA18-5N1	LJA18M-10N1	LJA30-10N1	LJA30M-18N1
		NC	LJA8-1.5N2	LJA8M-2N2	LJA12-2N2	LJA12M-5N2	LJA18-5N2	LJA18M-10N2	LJA30-10N2	LJA30M-18N2
		NO+NC			LJA12-2N4	LJA12M-5N4	LJA18-5N4	LJA18M-10N4	LJA30-10N4	LJA30M-18N4
	PNP	NO	LJA8-1.5P1	LJA8M-2P1	LJA12-2P1	LJA12M-5P1	LJA18-5P1	LJA18M-10P1	LJA30-10P1	LJA30M-18P1
		NC	LJA8-1.5P2	LJA8M-2P2	LJA12-2P2	LJA12M-5P2	LJA18-5P2	LJA18M-10P2	LJA30-10P2	LJA30M-18P2
		NO+NC			LJA12-2P4	LJA12M-5P4	LJA18-5P4	LJA18M-10P4	LJA30-10P4	LJA30M-18P4
AC Type	2 Wire	NO	LJA8-1.5D1	LJA8M-2D1	LJA12-2D1	LJA12M-5D1	LJA18-5D1	LJA18M-10D1	LJA30-10D1	LJA30M-18D1
		NC			LJA12-2D2	LJA12M-5D2	LJA18-5D2	LJA18M-10D2	LJA30-10D2	LJA30M-18D2
	2 Wire	NO	LJA8-1.5A1	LJA8M-2A1	LJA12-2A1	LJA12M-5A1	LJA18-5A1	LJA18M-10A1	LJA30-10A1	LJA30M-18A1
		NC			LJA12-2A2	LJA12M-5A2	LJA18-5A2	LJA18M-10A2	LJA30-10A2	LJA30M-18A2
	Sensing distance		1.5mm±10%	2mm±10%	2mm±10%	5mm±10%	5mm±10%	10mm±10%	10mm±10%	18mm±10%
	Frequency DC/AC		1.5kHz/25Hz	0.8kHz/25Hz	0.8kHz/25Hz	0.4kHz/25Hz	0.4kHz/25Hz	0.2kHz/25Hz	0.2kHz/25Hz	0.1kHz/25Hz

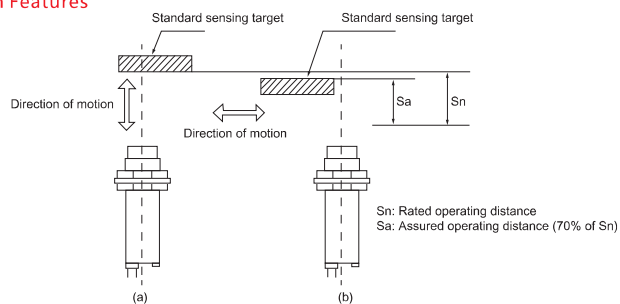




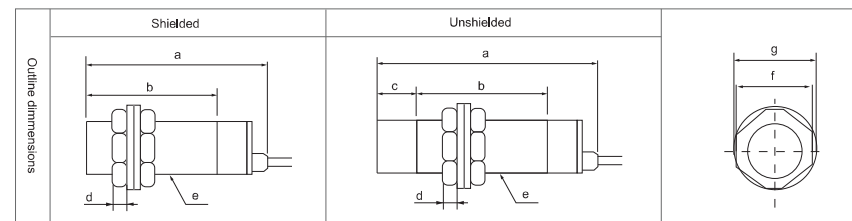
Technical Data

Item	Data
Power supply Voltage range	DC(NPN,PNP,2-wire) type : DC12-24V Ripple wave (P-P) <10% (10-30VDC) ; AC type : 90-250V 50/60Hz
Light element	Φ3 red light tube
Sensing distance	1.5mm ~ 18mm
Current Consumption	DC (NPN,PNP) : ≤ 2.5mA ; AC Type : < 10mA ; DC 2-wire : ≤ 1mA
Output	NPN; PNP ; DC 2-wire; AC 2-wire
Max.load current	≤ 300mA
Sensing target	Sensing object is metal (such as: Iron, Copper, Steel etc)
Residual Voltage	DC (NPN,PNP)Type : <1.5V ; DC 2-wire : <3.5V ; AC 2-wire: <7V
Switch mode	Proximity switch
Repeat accuracy	The difference of each two measured value, should not more than 10% of the effective operating distance, $R_s \leq 0.1S_r$
Protection circuit	Polarity reversal protection
Ambient temp.	Within the range of -25°C ~ +70°C , usable operating distance is 90%~110% of the effective operating distance.
Connection Method	Pre-wired connection
Voltage Withstand	DC (NPN,PNP,2-wire)Type : AC1000V 50/60Hz, one min between current-carrying parts and case AC (2-wire)type : 2000V 50/60Hz,between current-carrying parts and case
Vibration resistance	Vibration frequency range 10Hz ~ 55Hz
Shock resistance	Peak accelerated speed 30gn ; pulse duration 11ms ; Half-sine shock waveform
Insulation resistance	50MΩ min. (at DC500V) between current-carrying parts and case
EMC	Static test: air discharge 8KV,electrical fast transient pulse group
Degree of Protection	IP67
Material	Case : Brass with nickel coated ; Sensing face: heat-resistance ABS

Sensing Position Features



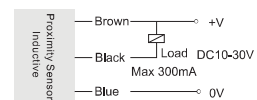
Outline and mounting dimensions



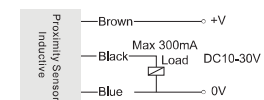
Mode	Type	a	b	c	d	e	f	g
Embeddable	LJA8 Series	42±0.5	-	-	-	-	-	-
Non-embed.	LJA8M Series	48±0.5	40±0.5	5	3.5	M8X1	12	(15)
Embeddable	LJA12 Series	52±0.5	-	-	-	-	-	-
Non-embed.	LJA12M Series	57±0.5	45±0.5	5	4	M12X1	17	(21)
Embeddable	LJA18 Series	63±0.5	-	-	-	-	-	-
Non-embed.	LJA18M Series	70±0.5	52±0.5	8.5	4	M18X1	24	(30)
Embeddable	LJA30 Series	67±0.5	-	-	-	-	-	-
Non-embed.	LJA30M Series	78±0.5	52±0.5	12.5	4.7	M30X1.5	36.2	-

Wiring Drawing

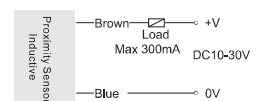
1. DC 3-wire NPN NO or NC



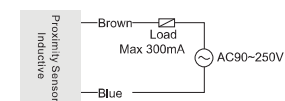
2. DC 3-wire PNP NO or NC



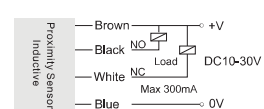
3. DC 2-wire NO or NC



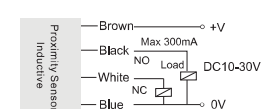
4. AC 2-wire NO or NC



5. DC 4-wire NPN NO+NC



6. DC 4-wire PNP NO+NC



Cautions

- Please do not use this product under ambient conditions that exceed the ratings;
- This product is not designed or rated for ensuring safety of persons either directly or indirectly. Do not use it for such purpose
- Please specify the detail model number when ordering



LJA/B Series Long Cylindrical Inductive Proximity Sensor

Application

LJA/B Series Long Cylindrical type Inductive proximity switch (brief as proximity switch) composed of three parts: Oscillator, switching circuit and amplifier output circuit.

The oscillator produce a alternating magnetic field, when metal object approaching this field, and reach the sensing distance, a eddy current will produced accordingly, and cause decrement of oscillation and down to stop. Such change of oscillation of oscillator is converting to a switching signal by the following part of amplifier circuit, and to triggering the drive control element, thus to achieve the non-contact detection.

LJA/B Series Long Cylindrical Type Inductive Proximity Sensor is mainly used to detect metal object, such as Iron, Steel, Copper etc.



Model meanings

LJ A - 18 M - 10 N 1 / B

↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓
① ② ③ ④ ⑤ ⑥ ⑦ ⑧

①	LJ: Inductive
②	A : Long cylindrical
③	Outer size : 8mm ; 12mm ; 18mm ; 30mm
④	M : Unshielded □ Shielded
⑤	Sensing distance : 1.5mm ; 2mm ; 4mm ; 10mm ; 18mm
⑥	N : NPN P : PNP D : DC 2-wire A : AC 2-wire
⑦	1 : NO 2 : NC 4 : NO+NC
⑧	B : Design code

Product Features

- High Water Proof level, reach IP67, can be used in severe environment;
- Patented design, compact structure and nice out looking;
- With multi installation method, to match different space requirement;
- With high response frequency;
- Wide voltage range: AC: 90VAC ~ 250VAC, DC: 10VDC~30VDC;
- As GB/T 14048.10 and IEC60947-5-2.

Product Specifications

Picture										
Model	LJA8/B		LJA12/B		LJA18/B		LJA30/B			
Installation Mode	Shielded	Unshielded	Shielded	Unshielded	Shielded	Unshielded	Shielded	Unshielded		
DC Type	NPN	NO	LJA8-1.5N1/B	LJA8M-2N1/B	LJA12-2N1/B	LJA12M-4N1/B	LJA18-4N1/B	LJA18M-10N1/B	LJA30-10N1/B	LJA30M-18N1/B
		NC	LJA8-1.5N2/B	LJA8M-2N2/B	LJA12-2N2/B	LJA12M-4N2/B	LJA18-4N2/B	LJA18M-10N2/B	LJA30-10N2/B	LJA30M-18N2/B
		NO+NC			LJA12-2N4/B	LJA12M-4N4/B	LJA18-4N4/B	LJA18M-10N4/B	LJA30-10N4/B	LJA30M-18N4/B
	PNP	NO	LJA8-1.5P1/B	LJA8M-2P1/B	LJA12-2P1/B	LJA12M-4P1/B	LJA18-4P1/B	LJA18M-10P1/B	LJA30-10P1/B	LJA30M-18P1/B
		NC	LJA8-1.5P2/B	LJA8M-2P2/B	LJA12-2P2/B	LJA12M-4P2/B	LJA18-4P2/B	LJA18M-10P2/B	LJA30-10P2/B	LJA30M-18P2/B
		NO+NC			LJA12-2P4/B	LJA12M-4P4/B	LJA18-4P4/B	LJA18M-10P4/B	LJA30-10P4/B	LJA30M-18P4/B
AC Type	2 Wire	NO	LJA8-1.5D1/B	LJA8M-2D1/B	LJA12-2D1/B	LJA12M-4D1/B	LJA18-4D1/B	LJA18M-10D1/B	LJA30-10D1/B	LJA30M-18D1/B
		NC			LJA12-2D2/B	LJA12M-4D2/B	LJA18-4D2/B	LJA18M-10D2/B	LJA30-10D2/B	LJA30M-18D2/B
		NO+NC			LJA12-2A1/B	LJA12M-4A1/B	LJA18-4A1/B	LJA18M-10A1/B	LJA30-10A1/B	LJA30M-18A1/B
	2 Wire	NO	LJA8-1.5A1/B	LJA8M-2A1/B	LJA12-2A1/B	LJA12M-4A1/B	LJA18-4A1/B	LJA18M-10A1/B	LJA30-10A1/B	LJA30M-18A1/B
		NC			LJA12-2A2/B	LJA12M-4A2/B	LJA18-4A2/B	LJA18M-10A2/B	LJA30-10A2/B	LJA30M-18A2/B
		Sensing distance	1.5mm±10%	2mm±10%	2mm±10%	4mm±10%	4mm±10%	10mm±10%	10mm±10%	18mm±10%
Frequency DC/AC	1.5kHz/25Hz	0.8kHz/25Hz	0.8kHz/25Hz	0.4kHz/25Hz	0.4kHz/25Hz	0.2kHz/25Hz	0.2kHz/25Hz	0.1kHz/25Hz		

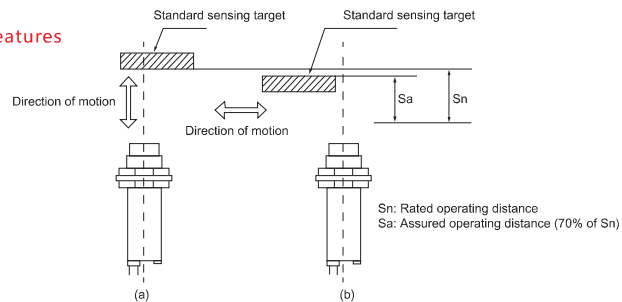




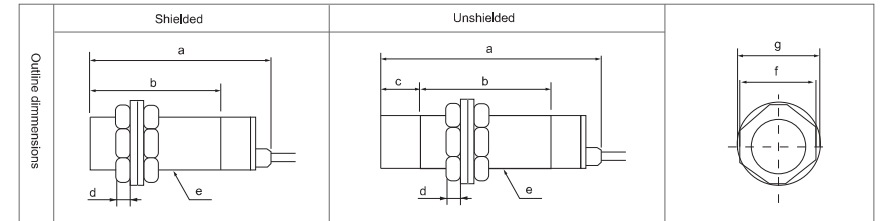
Technical Data

Item	Data
Power supply Voltage range	DC(NPN,PNP,2-wire) type : DC10-30V Ripple wave (P-P) <10% (10-30VDC) ; AC type : 90-250V 50/60Hz
Light element	Φ3 red light tube
Sensing distance	1.5mm ~ 18mm
Current Consumption	DC (NPN,PNP) : ≤ 2.5mA ; AC Type : < 10mA ; DC 2-wire : ≤ 1mA
Output	NPN; PNP ; DC 2-wire; AC 2-wire
Max.load current	≤ 300mA
Sensing target	Sensing object is metal (such as: Iron, Copper, Steel etc)
Residual Voltage	DC (NPN,PNP)Type : <1.5V ; DC 2-wire : <3.5V ; AC 2-wire: <7V
Switch mode	Proximity switch
Repeat accuracy	The difference of each two measured value, should not more than 10% of the effective operating distance, $R_s \leq 0.1S_r$
Protection circuit	Polarity reversal protection, short-circuit protection
Ambient temp.	Within the range of -25°C ~ +70°C , usable operating distance is 90%~110% of the effective operating distance.
Connection Method	Pre-wired connection (2-wire, 3-wire,4-wire)
Voltage Withstand	DC (NPN,PNP,2-wire)Type : AC1000V 50/60Hz, one min between current-carrying parts and case AC (2-wire)type : 2000V 50/60Hz,between current-carrying parts and case
Vibration resistance	Vibration frequency range 10Hz ~ 55Hz
Shock resistance	Peak accelerated speed 30gn ; pulse duration 11ms ; Half-sine shock waveform 500m/s 10 times each in X,Y,Z direction
Insulation resistance	50MΩ min. (at DC500V) between current-carrying parts and case
EMC	Static test: air discharge 8KV,electrical fast transient pulse group
Degree of Protection	IP67
Material	Case : Brass with nickel coated ; Sensing face: heat-resistance ABS

Sensing Position Features



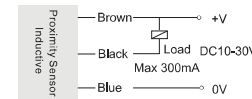
Outline and mounting dimensions



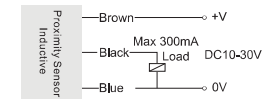
Mode	Type	a	b	c	d	e	f	g
Embeddable	LJA8 Series	42±0.5	40±0.5	-	3.5	M8X1	12	(15)
	Non-embed.	LJA8M Series		48±0.5				
Embeddable	LJA12 Series	52±0.5	45±0.5	-	4	M12X1	17	(21)
	Non-embed.	LJA12M Series		57±0.5				
Embeddable	LJA18 Series	63±0.5	52±0.5	-	4	M18X1	24	(30)
	Non-embed.	LJA18M Series		70±0.5				
Embeddable	LJA30 Series	67±0.5	52±0.5	-	4.7	M30X1.5	36.2	-
	Non-embed.	LJA30M Series		78±0.5				

Wiring Drawing

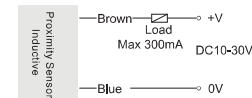
1. DC 3-wire NPN NO or NC



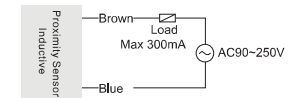
2. DC 3-wire PNP NO or NC



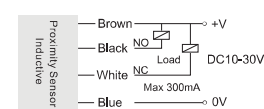
3. DC 2-wire NO or NC



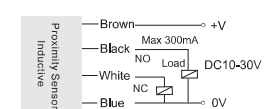
4. AC 2-wire NO or NC



5. DC 4-wire NPN NO+NC



6. DC 4-wire PNP NO+NC



Cautions

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- Please specify the detail model number when ordering

