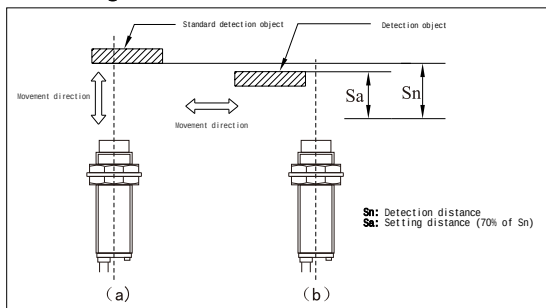


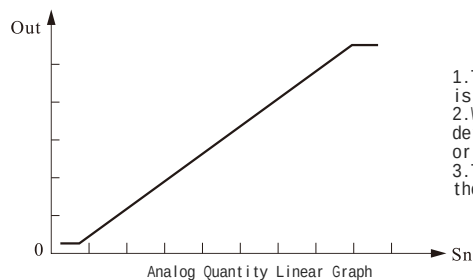
## IV.Outline Dimension Diagram (Unit: mm)

| Type              | Model         | Recessed Type  |              | Non-recessed Type |     |         |      |      |
|-------------------|---------------|----------------|--------------|-------------------|-----|---------|------|------|
|                   |               | a              | b            | c                 | d   | e       | f    | g    |
| Recessed Type     | CHJ8 Series   | $41.5 \pm 0.5$ | $40 \pm 0.5$ | —                 | 3.5 | M8×1    | 12   | (15) |
| Non-recessed Type | CHJ8M Series  | $46.5 \pm 0.5$ |              | 4.5               |     |         |      |      |
| Recessed Type     | CHJ12 Series  | $41 \pm 0.5$   | $35 \pm 0.5$ | —                 | 4   | M12×1   | 17   | (21) |
| Non-recessed Type | CHJ12M Series | $41 \pm 0.5$   | $30 \pm 0.5$ | 5                 |     |         |      |      |
| Recessed Type     | CHJ18 Series  | $46 \pm 0.5$   | $40 \pm 0.5$ | —                 | 4   | M18×1   | 24   | (30) |
| Non-recessed Type | CHJ18M Series | $46 \pm 0.5$   | $30 \pm 0.5$ | 10                |     |         |      |      |
| Recessed Type     | CHJ30 Series  | $46 \pm 0.5$   | $40 \pm 0.5$ | —                 | 4.7 | M30×1.5 | 36.2 | —    |
| Non-recessed Type | CHJ30M Series | $52 \pm 0.5$   | $30 \pm 0.5$ | 16                |     |         |      |      |

## V.Setting Distance and Detection Distance

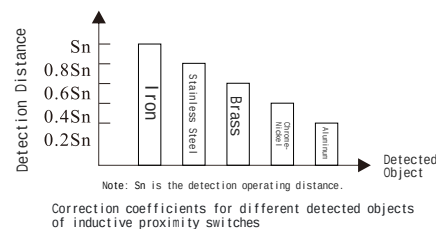


- 1) Please set the operating distance of the switch within 70% of the standard operating distance (Sn) to prevent the switch operation from being affected by temperature, voltage, etc.
- 2) Detection distance: Detect the object according to the specified method; it refers to the distance from the reference position to the measured action position.
- 3) Setting distance (Sa):  $Sa = (Sn) \times 70\%$   
Example: For CHJ18M - 10N1,  $Sa = 10\text{mm} \times 0.7 = 7\text{mm}$
- 4) For the installation method, try to use left - right or up - down movement as much as possible, and do not use near - far movement.



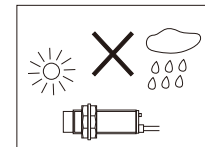
## VI.Relationship between the Material of the Detected Object and the Detection Distance

- 1.When detecting different objects, the switch has different operating distances. Please refer to the correction coefficients for different detected objects of the inductive proximity switch in the right diagram.
- 2.When the switch is used to measure the operating frequency or in high-speed scenarios, please set the operating distance of the switch to 1/2 of the standard operating distance. At this position, the switch can achieve the maximum operating frequency.

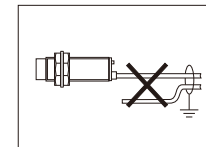


③

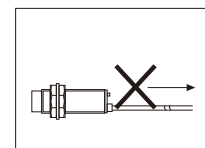
## VII.Instructions for Incorrect Usage Conditions



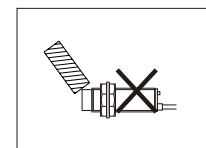
◀ Please try to avoid using it in outdoor environments or places where water splashes.



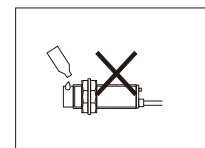
◀ Please do not route wires together with power lines or power cables in the same conduit; separate wiring should be used to reduce interference.



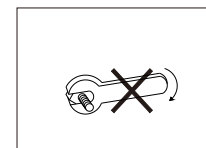
◀ Please do not pull the power cord of the proximity switch with great force.



◀ Please do not strike the detection surface with hard objects.



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



◀ Please do not tighten with excessive force; add washers when tightening.

## VIII.Requirements of Proximity Switches for Power Supply and Load

- 1.This product must not be used at the moment when the power supply is turned on (within 100ms).
- 2.Surge protection: When the proximity switch is used near places with severe surge interference (such as welding by electric welders), please add an additional surge absorption device.
- 3.When the load current is greater than 200mA, please use a small relay for conversion, that is, the proximity switch controls the coil of the small relay, and the contacts of the small relay control the load.AC-type proximity switches cannot be powered by autotransformers; isolation transformers should be used instead.

④

- 5.The connecting wires of the proximity switch should be kept within 10 meters as much as possible to reduce interference.
- 6.The power cords of AC and DC two-wire proximity switches cannot be directly connected to the power supply; a load must be connected in series, otherwise the proximity switch will be damaged.

## IX.Maintenance and Usage Instructions

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

- 1.Check whether the installation positions of the detected object and the proximity switch are shifted, loosened, or deformed.
- 2.Check whether the wiring and connection parts are loose, have poor contact, or are broken.
- 3.Check whether there are accumulated substances (such as attached metal dust) on the detection surface.
- 4.Check whether the operating temperature and surrounding environmental conditions are abnormal.

## X.Ordering Information

- 1.CHJ12M-4N1, 2 meters, 100 pieces;
- 2.CHJ18M-8U1, analog output, 100 pieces.

C-Lin

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RECYCLABLE

国家高新技术企业 浙江高新技术企业

C-Lin 欣灵

使用说明书  
Products Instructions

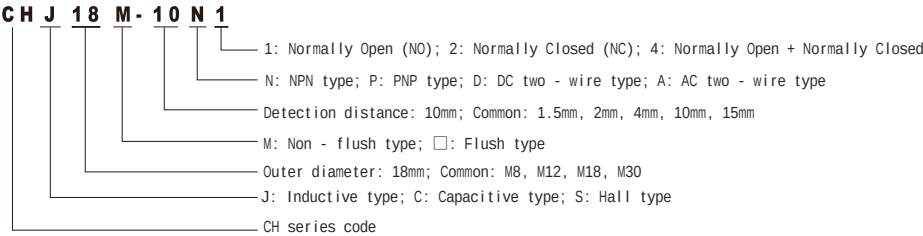
CHJ Series

Inductive Proximity Switches

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

16A024E2

I.Model Description



Note: The suffix -5UI or -10UI is for analog output (0 - 20mA and DC0 - 10V).

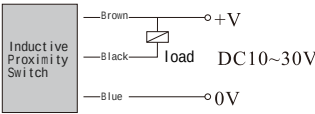
II.Model Types and Technical Data

| Type               |            |       | CHJ8 Series  |                  | CHJ12 Series |                  |
|--------------------|------------|-------|--------------|------------------|--------------|------------------|
| Mounting Method    |            |       | Flush Type   | Non - flush Type | Flush Type   | Non - flush Type |
| DC Type            | NPN        | NO    | CHJ8-1.5N1   | CHJ8M-2N1        | CHJ12-2N1    | CHJ12M-4N1       |
|                    |            | NC    | CHJ8-1.5N2   | CHJ8M-2N2        | CHJ12-2N2    | CHJ12M-4N2       |
|                    | PNP        | NO    | CHJ8-1.5P1   | CHJ8M-2P1        | CHJ12-2P1    | CHJ12M-4P1       |
|                    |            | NC    | CHJ8-1.5P2   | CHJ8M-2P2        | CHJ12-2P2    | CHJ12M-4P2       |
|                    | Two - wire | NO    | CHJ8-1.5D1   | CHJ8M-2D1        | CHJ12-2D1    | CHJ12M-4D1       |
|                    |            | NC    | CHJ8-1.5D2   | CHJ8M-2D2        | CHJ12-2D2    | CHJ12M-4D2       |
| AC Type            | Two - wire | NO    | CHJ8-1.5A1   | CHJ8M-2A1        | CHJ12-2A1    | CHJ12M-4A1       |
|                    |            | NC    | CHJ8-1.5A2   | CHJ8M-2A2        | CHJ12-2A2    | CHJ12M-4A2       |
| Detection Distance |            |       | 1.5mm±10%    | 2mm±10%          | 2mm±10%      | 4mm±10%          |
| Response Frequency | DC         |       | 1.5KHz       | 1KHz             | 1.5KHz       | 0.5KHz           |
|                    | AC         |       | 20Hz         |                  | 20Hz         |                  |
| Type               |            |       | CHJ18 Series |                  | CHJ30 Series |                  |
| Mounting Method    |            |       | Flush Type   | Non - flush Type | Flush Type   | Non - flush Type |
| DC Type            | NPN        | NO    | CHJ18-5N1    | CHJ18M-10N1      | CHJ30-10N1   | CHJ30M-15N1      |
|                    |            | NC    | CHJ18-5N2    | CHJ18M-10N2      | CHJ30-10N2   | CHJ30M-15N2      |
|                    |            | NO+NC | CHJ18-5N4    | CHJ18M-10N4      | CHJ30-10N4   | CHJ30M-15N4      |
|                    | PNP        | NO    | CHJ18-5P1    | CHJ18M-10P1      | CHJ30-10P1   | CHJ30M-15P1      |
|                    |            | NC    | CHJ18-5P2    | CHJ18M-10P2      | CHJ30-10P2   | CHJ30M-15P2      |
|                    |            | NO+NC | CHJ18-5P4    | CHJ18M-10P4      | CHJ30-10P4   | CHJ30M-15P4      |
|                    | Two - wire | NO    | CHJ18-5D1    | CHJ18M-10D1      | CHJ30-10D1   | CHJ30M-15D1      |
|                    |            | NC    | CHJ18-5D2    | CHJ18M-10D2      | CHJ30-10D2   | CHJ30M-15D2      |
|                    | Analog     |       | CHJ18-5UI    | CHJ18M-8UI       | CHJ30-10UI   | CHJ30M-15UI      |
| AC Type            | Two - wire | NO    | CHJ18-5A1    | CHJ18M-10A1      | CHJ30-10A1   | CHJ30M-15A1      |
|                    |            | NC    | CHJ18-5A2    | CHJ18M-10A2      | CHJ30-10A2   | CHJ30M-15A2      |
| Detection Distance |            |       | 5mm±10%      | 10mm±10%         | 10mm±10%     | 15mm±10%         |
| Response Frequency | DC         |       | 0.5KHz       | 0.35KHz          | 0.4KHz       | 0.2KHz           |
|                    | AC         |       | 20Hz         |                  | 20Hz         |                  |

|                          |                                                                                                                                                                    |
|--------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Detected Object          | Metal: iron, copper, steel, aluminum, nickel, etc. The standard detected object is A3 iron.                                                                        |
| Differential Distance    | Within 10% of the detection distance                                                                                                                               |
| Power Supply Voltage     | DC (NPN, PNP, two-wire) type: DC10-30V; Analog output type: DC15-30VAC type: 100-240V 50/60Hz                                                                      |
| Current Consumption      | DC (NPN, PNP) type: ≤2.5mA; AC type: <10mA; DC two-wire type: ≤1mA                                                                                                 |
| Control Output           | Max 200mA                                                                                                                                                          |
| Circuit Protection       | DC (NPN, PNP, two-wire) type: Short-circuit protection; AC type: Surge absorption protection                                                                       |
| Operating Environment    | Temperature: -25℃~+70℃ (without freezing); Humidity: 35~95%HR                                                                                                      |
| Influence of Temperature | When the temperature is -25℃ and +70℃, the detection distance is within ±10% of that at 25℃                                                                        |
| Influence of Voltage     | When the power supply voltage is within ±15% of the rated power supply voltage, the variation of the detection distance is within ±10%                             |
| Residual Voltage         | DC (NPN, PNP) type: ≤1.5V; DC (two-wire) type: ≤3.5V; AC (two-wire) type: ≤10V                                                                                     |
| Insulation Resistance    | ≥50MΩ (with DC500V) between live parts and the housing                                                                                                             |
| 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, complex amplitude 1.5mm, 2 hours for each of X, Y, Z directions                                                                                |
| Impact                   | Endurance: 500m/s² (about 50g), 10 times for X, Y, Z directions                                                                                                    |
| Protection Class         | IP67                                                                                                                                                               |
| Material                 | Housing: Brass plated with nickel; Detection surface: Heat-resistant ABS                                                                                           |

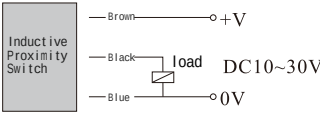
III.Classification by Output Form

1.DC three - wire NPN type (normally open or normally closed)



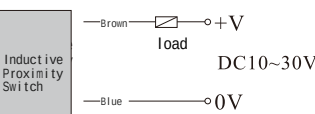
Max 200mA

2.DC three - wire PNP type (normally open or normally closed)



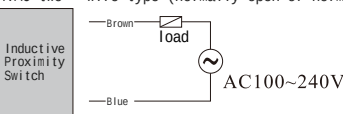
Max 200mA

3.DC two - wire type (normally open or normally closed)



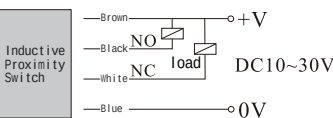
Max 200mA

4.AC two - wire type (normally open or normally closed)



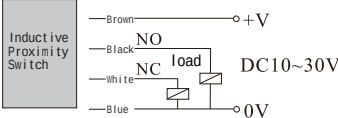
Max 200mA

5.DC Four - wire NPN Type (Normally Open + Normally Closed)



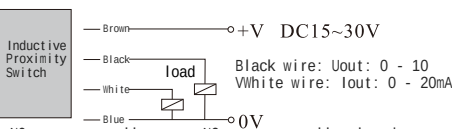
Max 200mA

6.DC Four - wire PNP Type (Normally Open + Normally Closed)

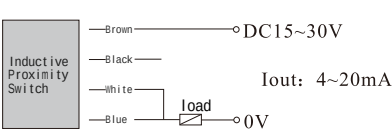


Max 200mA

7.Analog Type



Note: NO means normally open, NC means normally closed; NO + NC means normally open + normally closed;



Iout: 4~20mA