

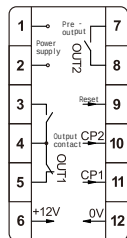
I. Overview

The HHJM series counting relays are used as counting components in control circuits with an alternating current of 50/60Hz and a rated operating voltage of 380V or less, or a direct - current operating voltage of 240V or less. They connect or disconnect the circuit according to the preset number. These relays adopt high - performance single - chip microcomputer chips, EEPROM memory, photoelectric isolation for counting signals, and dual - row LED display. They feature a wide counting range, multiple counting methods and counting signal inputs, and stable and reliable counting performance. They are widely applied in industrial automation control. This product complies with the requirements of GB/T 14048.5.

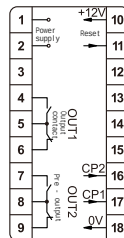
II. Main Technical Data

- Operating Voltage (Control Power Supply Voltage): AC380V, AC/DC10 - 240V, AC/DC24V 50/60Hz. The allowable voltage fluctuation range is (85% - 110%) U_e .
- Counting Range: 1 - 99999 (multiplier: 0.0001 - 9.9999).
- Counting Signals:
 - Contact Signals: Relay contacts, limit switches, etc.
 - Level Signals: Pulse levels (effective between DC5V - 30V).
 - Sensor Signals: Photoelectric switches, proximity switches, Hall switches.
- Counting Frequency: Adjustable at 1, 10, 30, 300, 1000, 3000 times per second, with a signal duty cycle of 50%.
- U_e/I_e : Under the usage category, each rated operating voltage U_e / rated operating current I_e : AC - 15 AC250V/0.75A; AC - 12 AC250V/3A.
- Input Modes: N, C, F, R, X, T - N, T - C modes;
- Output Modes: Counting;
- Reset Modes: Press the R key, or short - circuit the reset terminal and the 0V terminal;
- Contact Capacity: 3A AC250V (resistive);
- Conventional Heating Current I_{th} : 5A;
- Rated Insulation Voltage U_i : 400V;
- Rated Impulse Withstand Voltage U_{imp} : 2.5KV;
- Pollution Degree: Class 3
- Protection Degree: Front panel IP40.
- Ambient Temperature: - 5 °C - + 40 °C.
- Relative Humidity: $\leq 90\%$.
- Altitude: $\leq 2000m$
- Mounting Method: Panel - mounting.

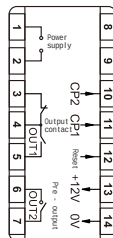
III. Wiring Diagram (The polarity of the power supply terminal is not distinguished)



HHJM-48

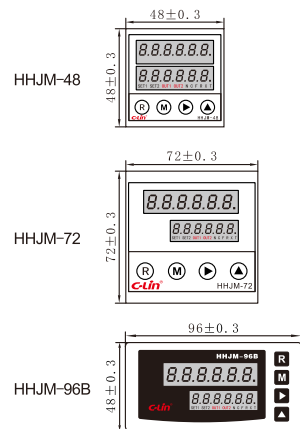


HHJM-72



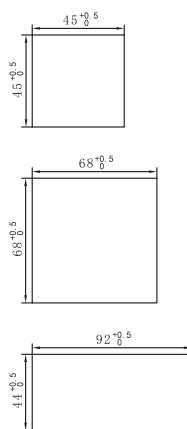
HHJM-96B

IV. Outline and Cutout Dimension Diagrams (mm)



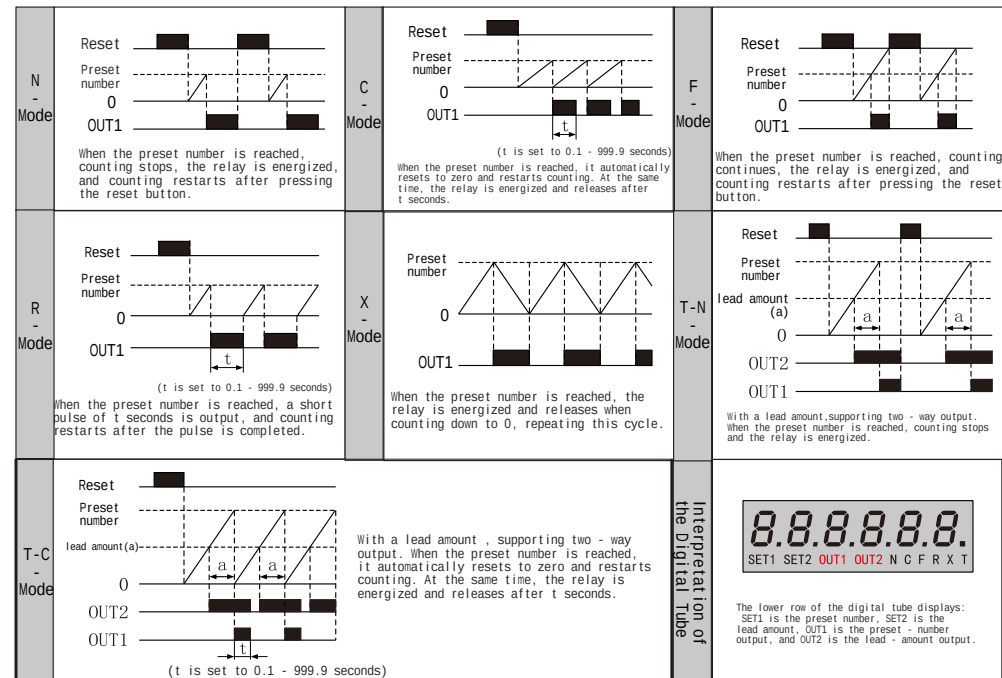
Main View

Left View



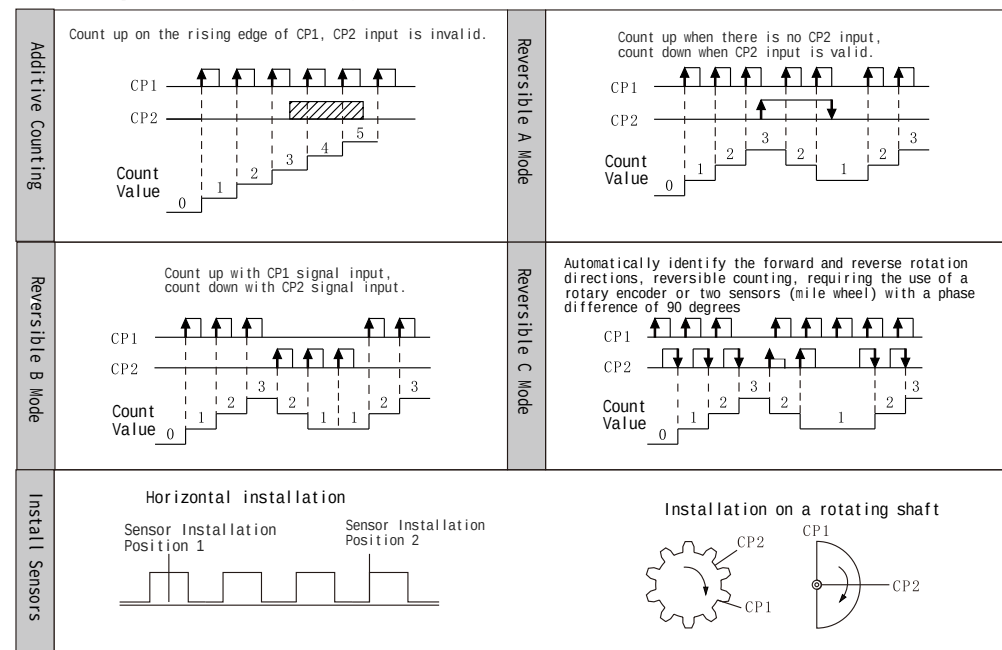
Cutout Dimension

V. Output Mode Diagrams

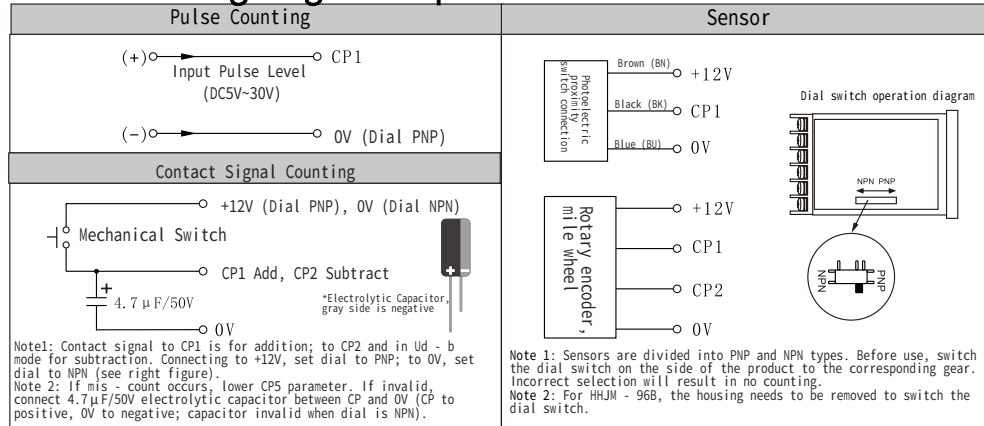


Note: N, F, X, and T - N modes require manual reset, while C, R, and T - C modes are automatic reset.

VI. Input Mode Diagrams



VII. Counting Signal Input



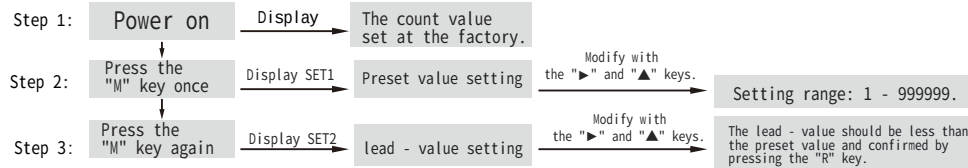
VIII. Function Settings

1. Button Functions ① "M" function key: Press the "M" key once, display SET1: Preset number (setting range: 1~999999); press the "M" key again, display SET2: Lead amount (applicable to T - N and T - C modes, must be less than the preset number); long - press the "M" key for 3 seconds, each press shows *SCL*, *CP5*, *IN*, *OUT*, *C.R-t*, *rSt*, *dP*, *dRtR*;

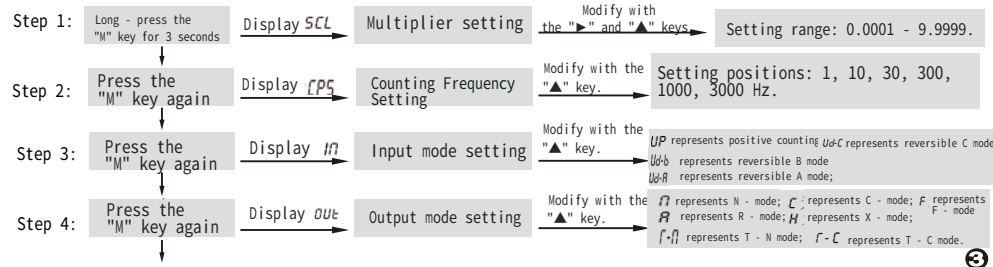
Symbol	Name	Explanation	Setting Range	
<i>SCL</i>	Multiplier	The input signal multiplied by the multiplier is the final display value	0.0001 ~ 9.9999	1.0000
<i>CP5</i>	Counting Frequency	The set value shall not be lower than the input signal frequency	1, 10, 30, 300, 1000, 3000 Hz	1000
<i>IN</i>	Input Mode	<i>UP</i> = forward counting; <i>UD-R</i> = reversible A mode; <i>UD-b</i> = reversible B mode; <i>UD-C</i> = reversible C mode		<i>UP</i>
<i>OUT</i>	Output Mode	<i>n</i> = N mode; <i>C</i> = C mode; <i>F</i> = F mode; <i>R</i> = R mode; <i>H</i> = X mode; <i>r-n</i> = T - N mode; <i>r-C</i> = T - C mode		<i>n</i>
<i>C.R-t</i>	Automatic Reset Time	Only for C, R, T - C modes	0.1 - 999.9 seconds	1.0
<i>rSt</i>	Minimum Reset Time	Set the minimum width of the external reset signal input	1 millisecond, 20 milliseconds	1
<i>dP</i>	Counting Precision	The decimal point can be set from 0 to 4 digits		0
<i>dRtR</i>	Data Preservation	<i>CLr</i> means power - off clear count value; <i>rEC</i> means power - off memory		<i>rEC</i>

- ② “►” Shift Key: Press this key to move the digit position, such as moving the tens digit to the units digit.
- ③ “▲” Increment Key: Press this key to increment the flashing digit unidirectionally, or switch parameters.
- ④ “R” Reset Key: Press this key to reset the count value, or save and exit the setting interface.

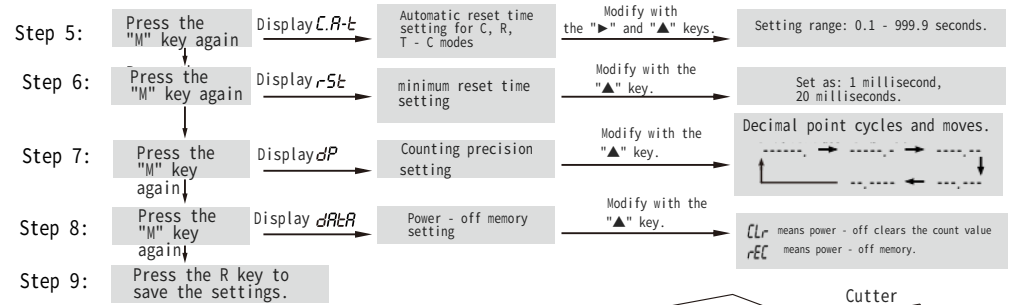
2. SET1/SET2 Settings (The third - step SET2 setting is only applicable to T - N and T - C modes)



3. Parameter Settings (The C.R - t setting in the fifth step is restricted to C, R, and T - C modes)



③



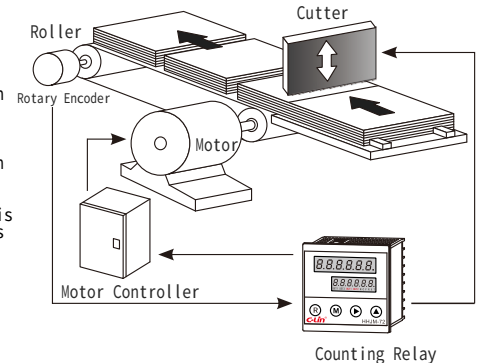
IX. Instructions for Use

- The counting signal line and reset control line should be as short as possible, avoid sharing the same pipe or twisting with other lines such as power lines and power - driven lines. When necessary, please use shielded wires, and do not input voltage at the reset end to avoid damaging the product.
- The multiplier, also known as the magnitude coefficient. When the multiplier is set to 1.0000, it can be used as a counter.
- The measurement unit is meter. Take the meter wheel GK - 80A as an example: when connecting the green wire, the multiplier is set to 0.01; when connecting the white wire, the multiplier is 0.1, and so on.
- The calculation method of the multiplier is as follows:

Example 1: The diameter of the roller connected to the encoder is 0.05 meters, and the encoder generates 100 pulse signals per revolution. Then:

$$\text{Multiplier} = \frac{\text{Roller Circumference}}{\text{Pulse Number per Revolution of Encoder}} = \frac{\pi \times \text{Roller Diameter}}{\text{Pulse Number per Revolution of Encoder}} = \frac{3.1416 \times 0.05}{100} \approx 0.0016$$

④



Example 2: The roller connected to the sensor has a circumference of 0.2 meters. Each time the roller rotates one circle, the sensor generates one pulse signal. Then:

$$\text{Multiplier} = \frac{\text{Circumference of the Roller}}{\text{Pulse Number for One Rotation of the Roller}} = \frac{0.2}{1} = 0.2$$

X. Ordering Instructions

When ordering, the product model, operating voltage, and quantity must be specified.
Example: HHJM - 72 AC/DC100 - 240V 800 pieces



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国家高新技术企业 浙江省乐清市商号

C-lin 欣灵

使用说明书
Products Instructions

HHJM-48
HHJM-72
HHJM-96B

Counting Relay N/C/F/R/X/T - N/T - C mode

Thank you very much for using C-lin products.
Please read the instruction manual before use.

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