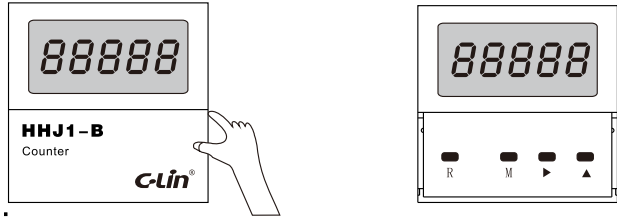


## VII. Function Settings

First, gently hook the concave part on the right - hand side of the cover plate (as shown in the left - hand figure below) and pull it outward. After opening the cover plate, you will see the appearance as shown in the right - hand figure below (be careful not to apply excessive force to avoid breaking the cover plate). Then, set the numbers as required.



### 1. Key Functions

"M" Function Key: "M" Function Key: Press the "M" key once: Displays the preset number (setting range: 1-99999).

Long-press "M" for 4 seconds: Displays *R1*, *R2*, *R3*, *R4*, *R5*

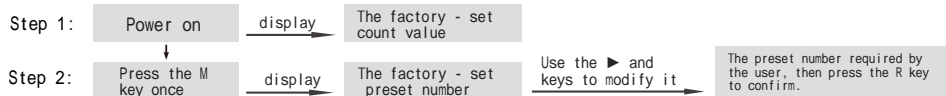
Explanation: *R1*: *R1--1* Represents a  $\times 1$  multiplier (displays 1 for every 1 pulse signal input).  
*R1--10* Represents a  $\times 10$  multiplier (displays 1 for every 10 pulse signals input).  
*R1--100* Represents a  $\times 100$  multiplier (displays 1 for every 100 pulse signals input).  
*R2*: *R2--L* Indicates low - frequency counting (counting frequency 30 times/second).  
*R2--H* Indicates high - frequency counting (counting frequency 1000 times/second).  
*R3*: *R3--U* Indicates up - counting (counting display is 1, 2, 3, 4, 5...).  
*R3--d* Indicates down - counting (counting display is 100, 99, 98, 97...).  
*R4*: *R4--N* Indicates N - mode. *R4--R* Indicates R - mode.  
*R4--C* Indicates C - mode. *R4--H* Indicates X - mode.  
*R4--F* Indicates F - mode.  
*R5*: *R500.0* represents the automatic reset time (setting range: 0.1 s - 99.9 s, applicable only to C and R modes).

"▶" Shift Key: Press this key to shift the digit position, such as from the units digit to the tens digit or from the tens digit to the hundreds digit.

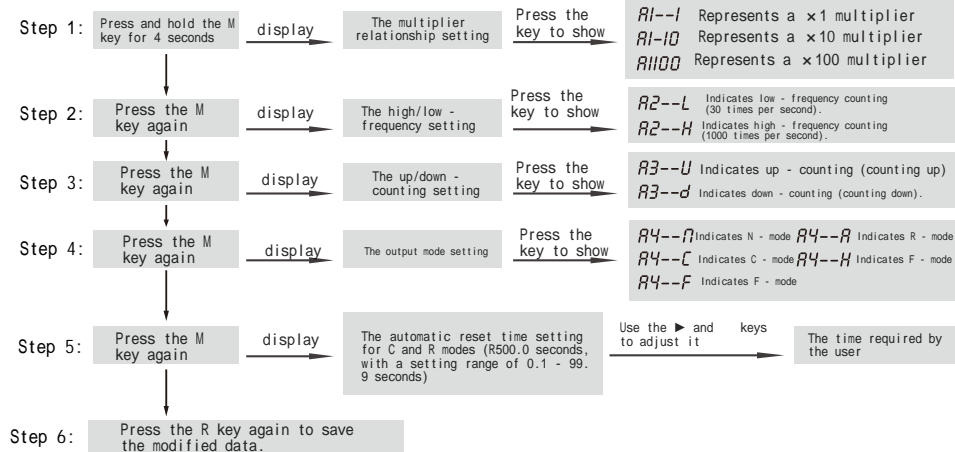
"+" Add Key: Adds a number to the selected (flashing) digit.

"R" Reset Key: Resets the displayed number and counting output state to initial conditions.

### 2. Preset Number Setting



### 3. Parameter Setting (N, F, and X modes do not have the fifth - step setting, applicable only to C and R modes)



**Example:** When the preset number is 12688, the counting multiplier is  $\times 1$ , the counting signal is high - frequency counting, the counting method is up - counting, and the output modes are N, F, and C modes with an automatic reset time of 15.8 seconds, the display codes are as follows:

N - mode	12688	<i>R1--1</i>	<i>R2--H</i>	<i>R3--U</i>	<i>R4--N</i>	Press the R key at the end to save the data
F - mode	12688	<i>R1--1</i>	<i>R2--H</i>	<i>R3--U</i>	<i>R4--F</i>	Press the R key at the end to save the data.
C - mode	12688	<i>R1--1</i>	<i>R2--H</i>	<i>R3--U</i>	<i>R4--C</i>	<i>R515.8</i> Press the R key at the end to save the data.

## VIII. Instructions for Use

- The "R" key serves as both a reset key and a confirmation key. After each parameter setting, this key must be pressed to confirm, so that the device can operate according to the newly - set parameters.
- When using contact signal input for counting, if mis - counting occurs due to poor contact or bounce of the input contacts, connect a 4.7  $\mu$ F/50V electrolytic capacitor between the counting signal input terminals and . Connect the positive terminal of the electrolytic capacitor to and the negative terminal to .
- The counting signal input wire and the reset control wire should be as short as possible. Avoid routing them in the same tube or twisting them together with other wires such as power lines and power - driven lines. If necessary, use shielded wires, and do not apply voltage to the reset terminal to avoid damaging the product.

## IX. Ordering Instructions

When placing an order, the product model, working voltage, and quantity must be specified.

**Example:** HHJ1 - B (New Type), AC220V, 500 pieces.

4



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使用说明书  
Products Instructions

### HHJ1 - B (New Type)

Counting Relay N/C/F/R/X Modes

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

29A005P0

# I. Overview

The HHJ1 - B (New Type) counting relay is applicable as a counting element in control circuits with an alternating current of 50/60Hz and a rated working voltage of 380V or lower, or a direct - current working voltage of 24V. It can connect or disconnect circuits according to preset numbers.

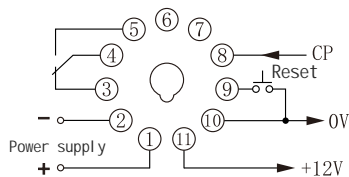
It adopts a single - chip microcomputer circuit, EEPROM memory, opto - isolation for counting signals, 5 - digit LED digital display, and multiple - rate selection. It has advantages such as a wide counting range, multiple counting signal inputs, various output working modes, up/down counting, power - failure memory for up to 10 years, and stable and reliable counting performance.

This product complies with the requirements of GB/T 14048.5.

# II. Main Technical Data

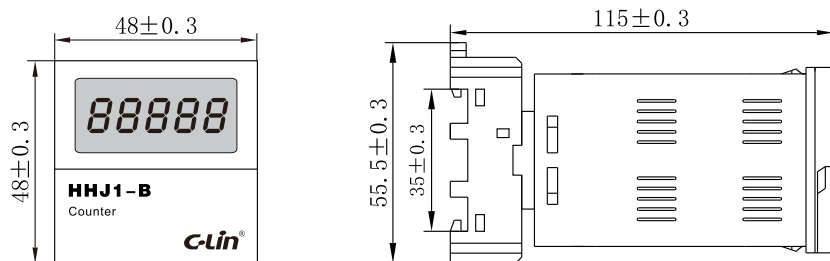
- Working Voltage (Control Power Supply Voltage): AC380V, 220V, 110V, 36V, 24V at 50/60Hz. The allowable voltage fluctuation range is (85% - 110%) of  $U_e$ ; DC24V.
- Counting Range: 1 - 99999 (with  $\times 1$ ,  $\times 10$ ,  $\times 100$  multiples).
- Counting Signals: a) Contact Signals: Relay contacts, limit switches, etc. b) Voltage Signals: Pulse Level (H: DC4V - 30V is valid, L: 0 - DC2V is invalid). c) Sensor Signals: Photoelectric switches, proximity switches, Hall switches.
- Counting Frequency: a) Low - frequency Counting: 30 times per second, minimum signal pulse width 15ms. b) High - frequency Counting: 1000 times per second, minimum signal pulse width 0.5ms when the signal duty cycle is 50%.
- Counting Method: Up - counting or down - counting.
- Power - failure Memory: 10 years.
- Reset Method: Button reset or short - circuit reset by short - connecting terminals and
- Contact Capacity: 3A AC250V (resistive).
- $U_e/I_e$ : Under the usage category, each rated working voltage  $U_e$  / rated working current  $I_e$ : AC - 15  $U_e$ : AC250V,  $I_e$ : 3A.
- Output Modes: N, C, F, R, X systems.
- Rated Thermal Current  $I_{th}$ : 5A.
- Rated Insulation Voltage  $U_i$ : 400V.
- Rated Impulse Withstand Voltage  $U_{imp}$ : 2.5KV.
- Pollution Degree: 3.
- Protection Level: Front panel IP20.
- Ambient Temperature: - 5 - + 40 .
- Relative Humidity: 90%.
- Altitude: 2000m.
- Mounting Method: Panel - type and 35mm DIN rail.

# III. Wiring Diagram

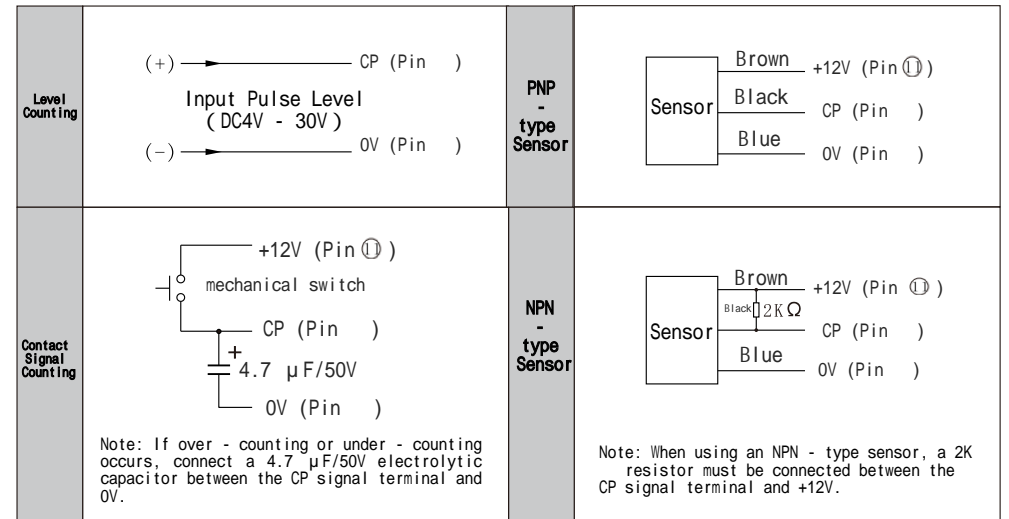


Note: and are power input terminals (for DC, is the positive pole and is the negative pole); and are normally - closed contacts, and are normally - open contacts; is the counting signal input terminal; is the reset terminal; is 0V (i.e., ground); is the DC12V 30mA (max) sensor auxiliary power output terminal.

# IV. Outline and Installation Dimension Diagram (Installation Hole Size: 45<sub>0+0.07</sub> × 45<sub>0+0.07</sub> mm)

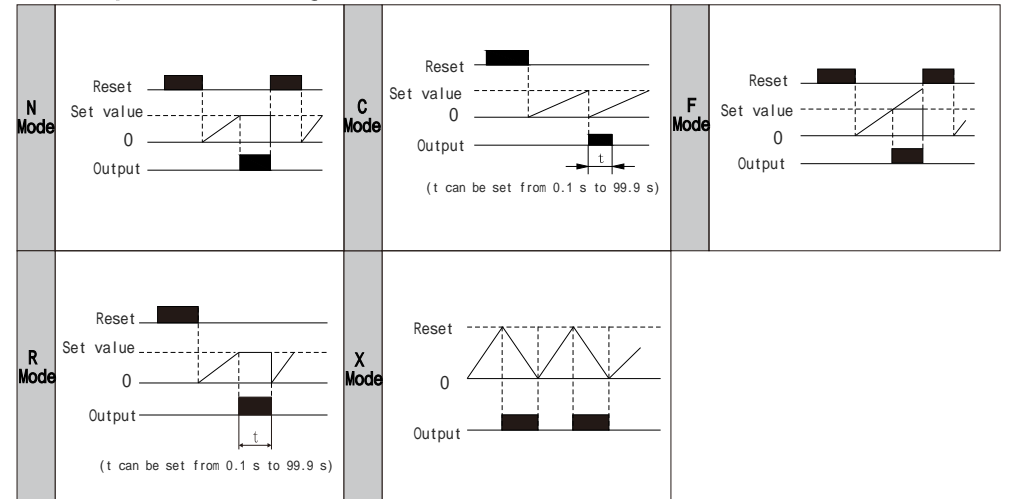


# V. Counting Signal Input



Note: It is recommended to use a DC (DC10 - 30V) PNP normally - open photoelectric switch or proximity switch. When using an NPN - type sensor, connect a 2K resistor as shown in the diagram. Each counter is randomly equipped with a 2K resistor and a 4.7 μF/50V electrolytic capacitor upon leaving the factory.

# VI. Output Mode Diagrams



- N - mode: Stops counting when the set value is reached. The relay is energized. Pressing the reset button resets the counter to zero and starts a new counting cycle.
- C - mode: Automatically resets the display to zero and restarts counting when the set value is reached. Meanwhile, the relay is energized and releases after t seconds.
- F - mode: Continues counting after reaching the set value, but the relay is energized. Pressing the reset button resets the counter to zero and starts a new counting cycle.
- R - mode: Outputs a short - pulse for t seconds when the set value is reached. After the pulse ends, it restarts counting.
- X - mode: The relay is energized when the set value is reached, then counts down to 0 and releases. This cycle repeats.

Note: The N, F, and X modes require manual reset, while the C and R modes are automatically reset.