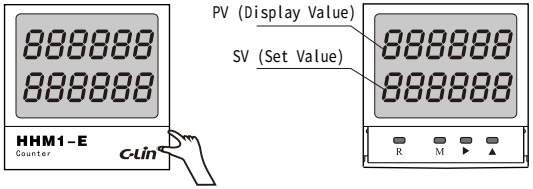
VII.Function Setting

First, hook the concave part on the right side of the cover plate with your hand (as shown in the left figure below) and pull it out gently. After opening the cover plate, it will be as shown in the right figure below (be careful not to use excessive force to avoid breaking the cover plate), and then set the numbers as required.



1.Key Functions

① "**M**" Function Key:Press the "M" key once: The lower display shows the preset value (setting range: 1～999999).Long-press the "M" key for 4 seconds: The lower display shows the quantity value coefficients R2, R3, R4, R5.

Description:a)Quantity Value Coefficient: Setting range: 0.001～9.999.
b)High/Low Frequency Setting:R2---L = Low-frequency counting (30 counts/second).R2---H = High-frequency counting (1000 counts/second).
c)Forward/Reverse Counting Setting:R3---U = Forward counting (incremental counting).
R3---d = Reverse counting (decremental counting).
d)Output Mode (N/C/F) Setting:R4---n = N mode;R4---C = C mode;R4---F = F mode.
e)Automatic Reset Time Setting for C Mode:R5-00.0 = Reset time (setting range: 0.1s～99.9s).

② "▶" Shift Key:Press this key to shift digit positions (e.g., shift units to tens, or tens to hundreds).
③ "▲" Increment Key:Press this key to increment the selected (flashing) digit.
④ "**R**" Reset Key:Press this key to reset the displayed number and count output status to the initial state. The "R" key functions as both a reset key and a confirmation key—after each parameter setting, press this key to confirm, so the device can operate with the newly set parameters.

Note: Quantity Value Coefficient Calculation
Assume the roller circumference is 0.2 meters, and 1 pulse signal is generated per revolution. Then:

$$\text{Quantity Value Coefficient} = \frac{\pi \times \text{Roller diameter}}{\text{Number of pulses per revolution of the roller}} = \frac{\text{Roller circumference}}{\text{Number of pulses per revolution of the roller}} = \frac{\mathbf{0.2}}{1} = 0.2$$

2.Preset Value Setting

Step 1: Turn on the power → Display → Count value at factory shipment

Step 2: Press the M key once → The lower row displays → Preset value at factory shipment → Press the ▶ and ▲ keys to modify to → The preset value required by the user, then press the R key to confirm.

3.Parameter Setting (No fifth-step setting for N and F modes; only applicable to C mode)

Step 1: Press and hold the M key for 4 seconds → The lower row displays → Quantity value coefficient at factory shipment → Press the ▶ and ▲ keys to modify to → The quantity value coefficient required by the user

Step 2: Press the M key again → The lower row displays → High/Low frequency setting → Press the ▲ key to display → R2---L indicates low-frequency counting (30 counts/second); R2---H indicates high-frequency counting (1000 counts/second).

Step 3: Press the M key again → The lower row displays → Up/Down counting setting → Press the ▲ key to display → R3---U indicates up counting (incremental counting); R3---d indicates down counting (decremental counting)

Step 4: Press the M key again → The lower row displays → Output mode setting → Press the ▲ key to display → R4---n indicates N mode; R4---C indicates C mode; R4---F indicates F mode

Step 5: Press the M key again → The lower row displays → Automatic reset time setting for C mode: R5-00.0s (setting range: 0.1s ~ 99.9s) → Press the ▶ and ▲ keys to modify to → The time required by the user.

Step 6: Press the R key again to save the modified data.

Note: Pressing the R key at any step can save the modified data.

Example: If the preset value is 1250.00, the quantity value coefficient is 0.250, the counting signal is high-frequency counting, the counting mode is up counting, the output modes are N mode and C mode respectively ,and the automaticreset time is 15.8 seconds, the display codes are as follows:

N mode	1250.00	0.250	R2---H	R3---U	R4---n		Finally, press the R key once to save the data
C mode	1250.00	0.250	R2---H	R3---U	R4---C	R5-15.8	Finally, press the R key once to save the data

VIII.Instructions for Use

1.When inputting contact signals, if false counting occurs due to poor contact or contact bounce, connect a 4.7 μF/50V electrolytic capacitor between the counting signal input terminals ⑧ and ⑨. Connect terminal ⑨ to the positive pole of the electrolytic capacitor, and terminal ⑧ to the negative pole.
2.Keep the signal input wires and reset control wires as short as possible. Avoid routing them in the same conduit as other power lines or power supply wires (to prevent interference). Do not input voltage to the reset terminal.
3.The display precision and counting range depend on the setting of the quantity value coefficient:
a) If the quantity value coefficient is set to 0.002, the precision is to the 3rd decimal place, and the counting range is 0.002 ~ 999.999;
b) If the quantity value coefficient is set to 0.2, the precision is to the 1st decimal place, and the counting range is 0.2 ~ 99999.9.

IX.Ordering Instructions

When placing an order, specify the following information:Product mode, Operating voltage, Quantity
Example:HHM1-E (new type)　AC220V　300 pieces

产品合格证

C-Lin

产品合格证

符合标准: GB/T 14048.5
检 验 员: 检01
出厂日期: 见产品或包装
本产品经检验合格,准予出厂。
C-Lin 欣灵电气股份有限公司

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
官网：www.c-lin.cn　邮箱：xl@xinling.com
技术咨询：400-8236-775

RECYCLABLE

国家高新技术企业 浙江省知名商号

C-Lin 欣灵

使用说明书
Products Instructions

HHM1-E (New Type)
Counting Relay　N/C/F Modes

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

29A034P0

I.Overview

The HHM1-E (new type) counting relay is suitable for use as a length-measuring component in control circuits with an AC frequency of 50/60Hz, a rated operating voltage of 380V and below, or a DC operating voltage of 24V. It connects or disconnects the circuit according to the preset value.

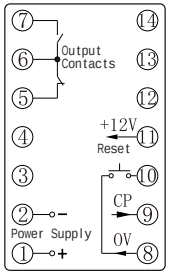
It adopts a single-chip microcomputer circuit, an EEPROM memory, photoelectric isolation for signal input, and a dual-row 6-digit LED digital display. It supports the setting of quantity value coefficients and has the advantages of a wide length-measuring range, multiple input working modes, forward/reverse counting, a power-off memory duration of up to 10 years, and stable and reliable counting performance.

This product meets the requirements of GB/T 14048.5.

II.Main Technical Data

1. Operating voltage (control power supply voltage)：AC380V, 220V, 110V, 36V, 24V at 50/60Hz; allowable voltage fluctuation range: (85%～100%) Ue；DC24V.
2. Counting range：1～999999 (quantity value coefficient: 0.001～9.999).
3. Signal input：a) Contact signal: Relay contacts, travel switches, etc.
b)Level signal*: Pulse level (H: DC4V～30V valid; L: 0～DC2V invalid).c)Sensor signal*: Photoelectric switches, proximity switches, Hall switches.
4. Counting frequency：a) Low-frequency counting: ≤30 counts/second, minimum signal pulse width ≥15ms.
b)High-frequency counting: ≤1000 counts/second, minimum signal pulse width ≥0.5ms, signal duty cycle = 50%.
5. Reset method：Button reset or short-circuit reset of terminals ⑧ and ⑩.
6. Counting method：Forward/reverse counting.
7. Power-off memory：10 years.
8. Output mode：N, C, F modes.
9. Contact capacity：3A AC250V (resistive).
10. Ue/Ie：Under usage category AC-15: rated operating voltage Ue = AC250V, rated operating current Ie = 3A.
11. Conventional heating current Ith：5A.
12. Rated insulation voltage Ui：400V.
13. Rated impulse withstand voltage Uimp：2.5KV.
14. Pollution degree：Level 3.
15. Protection class：Front panel IP20.
16. Ambient temperature：-5℃～+40℃.
17. Relative humidity：≤90%.
18. Altitude ：≤2000m.
19. Installation method：Panel-mounted.

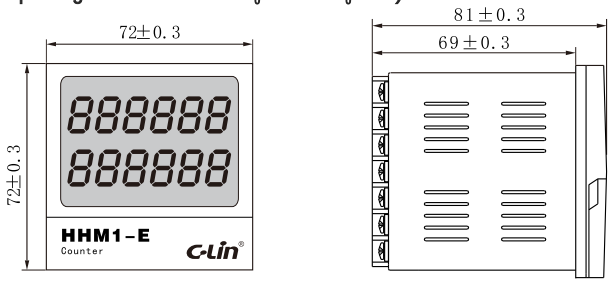
III.Wiring Diagram



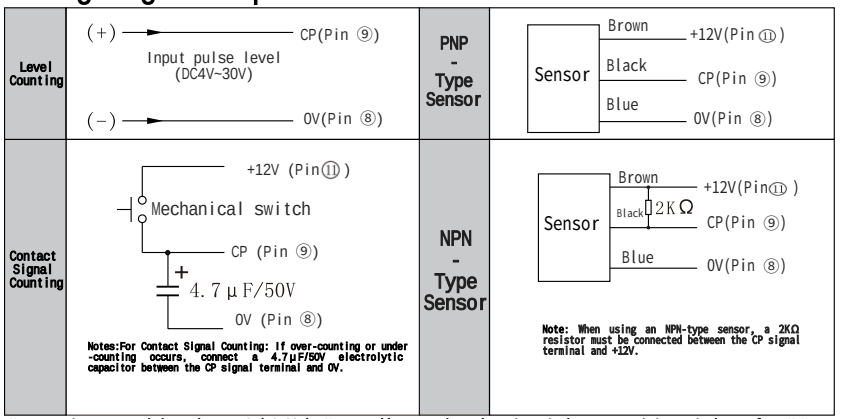
Note:① and ② are power input terminals (for DC, ① is the positive pole and ② is the negative pole).Terminals ⑤, ⑥, and ⑦ form a set of NO/NC transfer contacts: ⑤ and ⑥ are normally closed (NC) contacts; ⑥ and ⑦ are normally open (NO) contacts.⑧ is 0V (GND).⑨ is the counting signal input terminal.⑩ is the reset terminal . ⑪ is the DC12V 30mA (max) sensor auxiliary power output terminal.

IV.Outline and Installation Dimension Diagram

(Installation opening dimension: $67.5_{0}^{+0.5} \times 67.5_{0}^{+0.5}$mm)

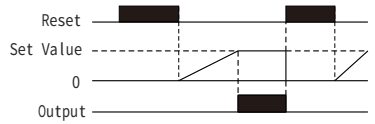
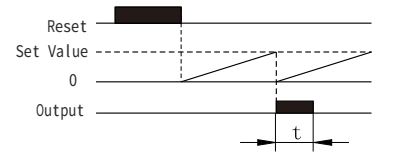
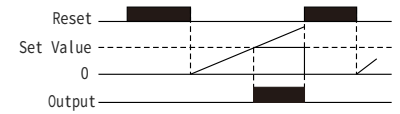


V.Counting Signal Input



Note: It is recommended to choose DC (10-30V) PNP normally open photoelectric switches or proximity switches. If an NPN type is used, please connect an external 2KΩ resistor between the CP signal terminal and +12V as shown in the above figure (each meter counter is randomly equipped with one 2KΩ resistor and one 4.7μF/50V electrolytic capacitor when leaving the factory).

VI.Output Mode Diagrams

	Working Timing Diagram	Description
N Mode		After reaching the set value, counting stops, the relay pulls in. Press the reset button to reset to zero and start counting again.
C Mode	 (t can be set from 0.1s to 99.9s)	After reaching the set value, the display automatically resets to zero and restarts counting. Meanwhile, the relay pulls in and releases after t seconds.
F Mode		After reaching the set value, counting continues, but the relay pulls in. Press the reset button to reset to zero and start counting again.

Note:Modes N and F require manual reset, while mode C supports automatic reset.