I.Overview

The HHS5P Improved Series Time Relays (hereinafter referred to as "the relays") are designed as time - delay components for control circuits. They are applicable to AC circuits with a frequency of 50Hz and an operating voltage of 380V or below, as well as DC circuits with an operating voltage of 24V, for connecting or disconnecting circuits at a preset time.This relay adopts a digital DIP switch setting, fully replacing the ST3P, AH2, and AH3 series. Meanwhile, it overcomes the defect of non - linear adjustment of potentiometers in the ST3P, AH2, and AH3 series. It can be widely used for time - delay control in automatic control circuits.
This series of relays complies with the relevant requirements of GB/T 14048.5.

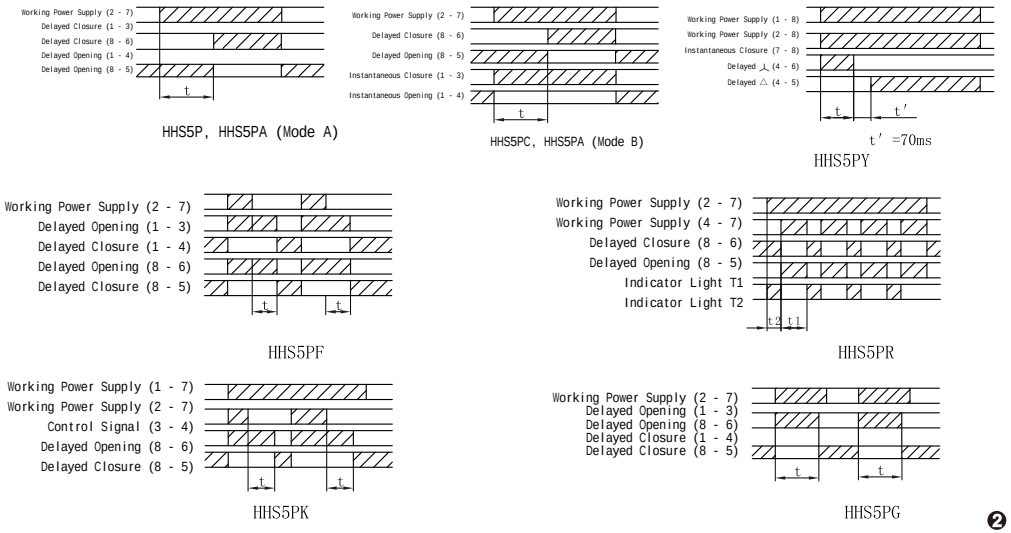
II. Main Technical Data

Item	HHS5PA	HHS5PK	HHS5PY	HHS5PR	HHS5P	HHS5PC	HHS5PG	HHS5PF
Operating Mode	Power-on Delay	Signal Off Delay	Star-delta Start Delay	Reciprocating Cycle Delay	Power-on Delay	Power-on Delay with Instantaneous Contact	Release Delay	Power-off Delay
Delay Range	0.1s～9.9s、1s～99s、0.1m～9.9m、1m～99m、0.1h～9.9h、1h～99h 6 adjustable delay specifications in total				0.01s～0.99s、0.01s～9.99s		0.1s～9.9s、0.1s～99.9s、1s～99s、1s～999s、10s～990s、0.1m～9.9m、1m～99m、0.1h～9.9h、1h～99h	0.1s～9.9s、1s～99s、1s～199s
Setting Method	Set by 2-digit digital DIP switches and 1-digit time base DIP switch				Set by 2-digit/3-digit digital DIP switches			
Repeat Error	When the delay range is greater than 1s, Er≤1%; When the delay range is less than 1s, Dr≤50ms							When the delay range is greater than 1s, Er≤5%; When the delay range is less than 1s, Dr≤100ms
Contact Quantity	A. 2 Delayed Conversions; B. 1 Delayed Conversion, 1 Instantaneous Conversion	1 Delayed Conversion	Delay Star-delta Conversion, 1 Instantaneous Normally Open	1 Delayed Conversion	2 Delayed Conversions	1 Delayed Conversion, 1 Instantaneous Conversion	2 Delayed Conversions	
Contact Capacity	3A AC250V (Resistive)							
Working Power Supply (Control Power Supply Voltage)	AC24V、AC36V、AC110V、AC220V、AC380V 50Hz，DC24V Allowable Fluctuation Range (85%～110%)Ue							
Ambient Temperature	-5℃～40℃							
Altitude	≤2000m							
Humidity	When the maximum temperature at the installation site is 40℃, the relative humidity of the air ≤50%. A higher relative humidity is allowed at lower temperatures, for example, up to 90% at 20℃. Special measures should be taken for condensation occasionally caused by temperature changes							
Pollution Degree	Grade 3							
Installation Method	Can be installed in the form of device, panel and 35mm guide rail by matching with different sockets and accessories							
Ue/Ie	For each rated working voltage Ue/rated working current Ie in the use category: AC-15 Ue: AC250V, Ie: 3A							

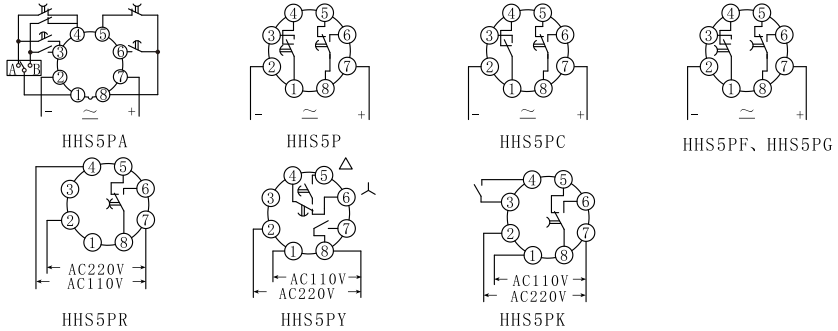
Continued Table

Conventional Heating Current Ith	5A
Rated Insulation Voltage Ui	400V
Rated Impulse Withstand Voltage Uimp	2.5KV

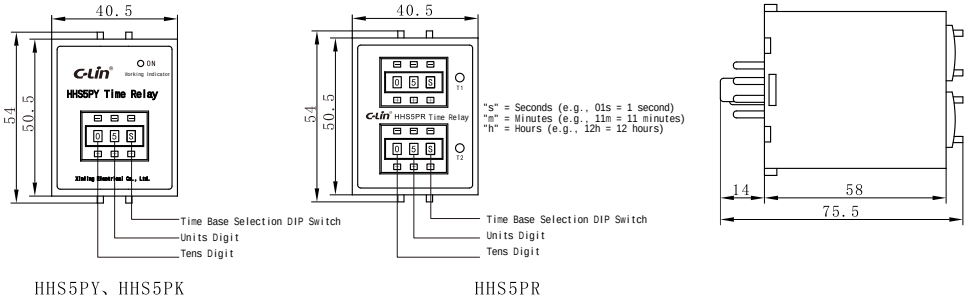
III.Working Sequence Diagrams

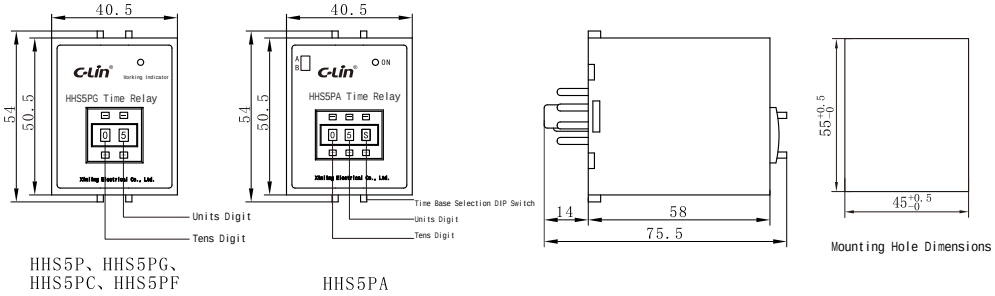


IV.Wiring Diagrams



V.Outline Dimension Drawings (mm)





VI.Instructions for Use

1.Follow the wiring diagram on the relay housing label and refer to the circuit examples in Section 8 to connect the product to the control circuit.
2.Adjust the DIP switches to preset the delay time, connect the power supply, and the relay will operate according to the corresponding working sequence in Section 3.
3.The power - on time of HHS5PF should be ≥ 2s.
4.The signal control terminals (3, 4) of HHS5PK should be closed for more than 50ms. From the moment the control terminals (3, 4) are disconnected, the relay starts to delay. When the delay reaches the preset time, the relay is released. Do not input voltage or ground at the control terminals. Meanwhile, avoid routing together with power lines to prevent product damage.
5.Modes A and B of HHS5PA can be selected by adjusting the toggle switches on the panel. The delay time and modes A and B should be set before the product is powered on.
6.The star - delta conversion delay time of HHS5PY is 70ms.

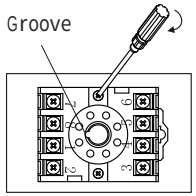
VII.Installation Methods

Note: The power supply of the main circuit must be cut off before installation or disassembly.

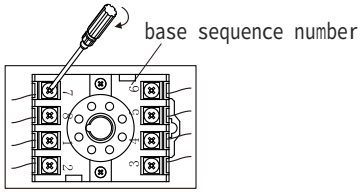
1.Device - type Installation Sequence: (1) → (2) → (3)

2.Rail - type Installation Sequence: (4) → (5) → (6)

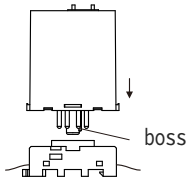
3.Panel - type Installation Sequence: (7) → (8) → (9) → (10)



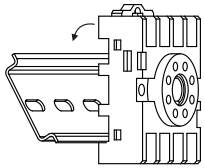
(1) Device - type Installation: Tighten the mounting screws



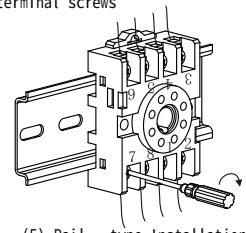
(2) Device - type Installation: Connect wires according to the base numbering and tighten the terminal screws



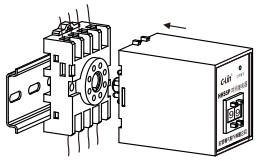
(3) Device - type Installation: Install the base; the convex boss on the upper plug should align with the recess of the base



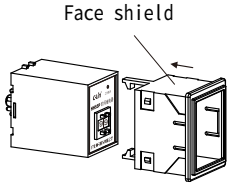
(4) Rail - type Installation: Snap the base into the guide rail



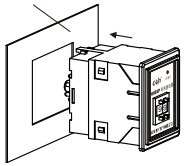
(5) Rail - type Installation: Connect wires according to the base numbering and tighten the terminal screws



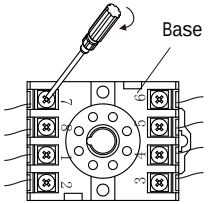
(6) Rail - type Installation: Install the relay; the convex boss on the upper plug should align with the recess of the base



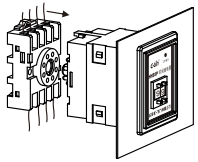
(7) Panel - type Installation: Put on the face shield.



(8) Panel - type Installation: Insert the relay into the panel.



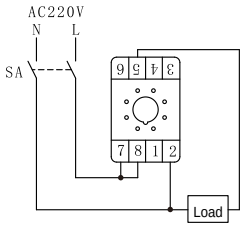
(9) Panel - type Installation: Connect the wires according to the base numbering sequence and tighten the terminal screws.



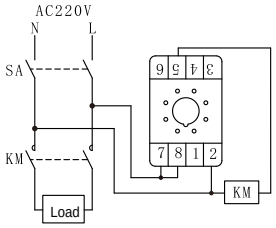
(10) Panel - type Installation: Install the base; the convex boss on the upper plug should align with the recess of the base.

VIII.Application Circuit Examples (Taking HHS5P as an Example)

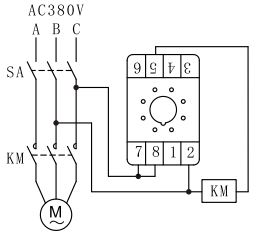
Example 1:



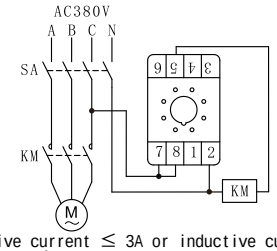
Example 2:



Example 3:



Example 4:



1.Single - phase Loads:For single - phase loads:If the load's resistive current ≤ 3A or inductive current ≤ 0.5A, the relay controls directly. Refer to Example 1 for wiring.If the load's resistive current > 3A or inductive current > 0.5A, the relay expands capacity via an AC contactor. Refer to Example 2 for wiring.
For three - phase loads:When the power supply for the AC contactor and relay is AC380V, refer to Example 3 for wiring.When the power supply is AC220V, refer to Example 4 for wiring.
2.Function of the Example Relay:When power is connected, the load or KM (AC contactor) is energized. When the delay reaches the preset value, the load or KM (AC contactor) loses power or disconnects.
Notes:1.The load can be a street lamp or bulb, which can be directly connected to the two wires at the street lamp or bulb terminal (as shown in Example 1).
2.KM refers to the coil of the AC contactor; terminals A1 and A2 can be wired as per Example 2, Example 3, and Example 4.
3.In Example 3, the working power supply for both the time relay and KM is AC380V. Pay attention to the voltage rating of the selected product.

IX.Ordering Information

Specify the product model, voltage rating, and quantity. For special requirements, additional notes must be provided.
Example: HHS5PA AC220V, 100 pieces.

产品合格证

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。

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使用说明书
Products Instructions

HHS5P Improved Series
Time Relay

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

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