I. Overview

HHS5 (ST3P) series time relays (hereinafter referred to as relays) are suitable for use as time - delay elements in control circuits with an alternating current of 50Hz, a working voltage of 380V or below, or a direct - current working voltage of 24V, to connect or disconnect the circuit according to the preset time.This series of relays has the advantages of small size, light weight, high precision, wide delay range, good performance, long service life, etc., and can be widely applied in automatic control circuits for time - delay control. This series of relays can be interchangeable with JSZ3 series relays.
This series of relays complies with the relevant requirements of GB/T 14048.5.

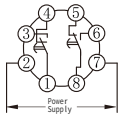
II. Main Technical Data

Model	HHS5-□ (ST3PA-□)	HHS5G-□ (ST3PG-□)	HHS5C-□ (ST3PC-□)	HHS5F (ST3PF)	HHS5F1 (ST3PFT1)	HHS5F2 (ST3PFT2)	HHS5F3 (ST3PFT3)	HHS5R (ST3PR)
Action Form	Power - on delay	Release Delay	Power - on Delay with Instantaneous Contact	Power - off Delay				Reciprocating Cycle Delay
Delay Range	A: 0.05s～0.5s/5s/30s/3m B: 0.1s～1s/10s/60s/6m C: 0.5s～5s/50s/5m/30m D: 1s～10s/100s/10m/60m E: 5s～60s/10m/60m/6h F: 0.25m～2m/20m/2h/12h G: 0.5m～4m/40m/4h/24h			0.1s～1s; 0.2s～2s 0.5s～5s; 1s～10s 2.5s～30s; 5s～60s 10s～120s; 15s～180s			60s～600s; 180s～1800s; 360s～3600s	0.5s～6s/60s 1s～10s/10m 2.5s～30s/30m 5s～60s/60m
Setting Method	Potentiometer							
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				When the delay range is greater than 1s, Er≤1%; When the delay range is less than 1s, Dr≤50ms
Number of Contacts	2 - change - over on delay		1 - Change - over on Delay ;1 - Change - over Instantaneously	1 - Change - over on Delay	2 - change - over on delay	1 - Change - over on Delay,1 - Change - over Instantaneously	1 - Change - over on Delay	
Contact Capacity	3A AC250V (Resistive)							
Working Power Supply (Control Power Supply Voltage)	AC24V, AC36V, AC110V, AC220V, AC380V 50Hz;DC24V, DC110V, DC220V; allowable voltage fluctuation range (85%～110%)Ue							AC110V、AC220V 50Hz; DC24V, (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%. At lower temperatures, a higher relative humidity is allowed, for example, at 20℃, it can reach 90%. Special measures should be taken for occasional condensation due to temperature changes.							
Pollution Degree	Level 3							
Installation Method	With different sockets and accessories, it can achieve device - type, panel - type and 35mm rail installation							

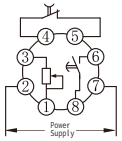
Continued Table

Rated Heating Current Ith	5A
Rated Insulation Voltage Ui	400V
Rated Impulse Withstand Voltage Uimp	2.5KV
Ue/Ie	Under the use category, each rated operating voltage Ue / rated operating current Ie: AC - 15 Ue: AC250V, Ie: 3A

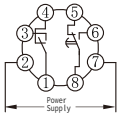
III. Wiring Diagram



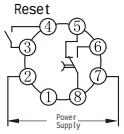
HHS5(ST3PA)



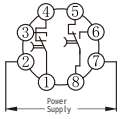
HHS5 - Y (ST3P - Y)
External Potentiometer



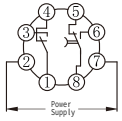
HHS5C(ST3PC)



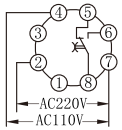
HHS5F(ST3PF)
HHS5F3(ST3PFT3)



HHS5F1(ST3PFT1)
HHS5G(ST3PG)

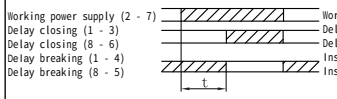


HHS5F2(ST3PFT2)

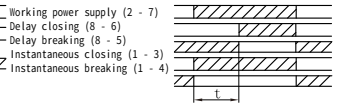


HHS5R(ST3PR)

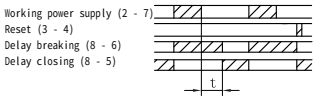
IV. Working Time Sequence Diagram



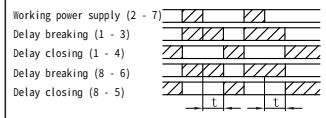
HHS5(ST3PA)



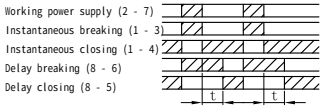
HHS5C(ST3PC)



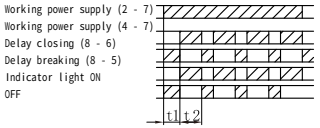
HHS5F(ST3PF)、HHS5F3(ST3PFT3)



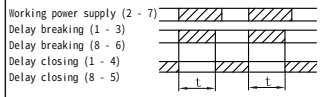
HHS5F1(ST3PFT1)



HHS5F2(ST3PFT2)

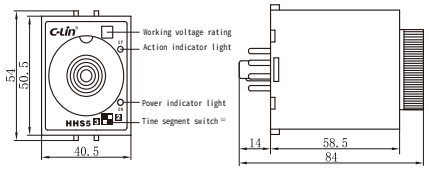


HHS5R(ST3PR)

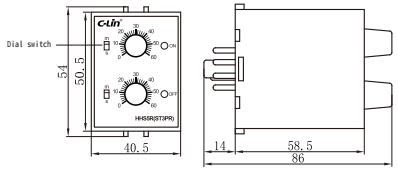


HHS5G(ST3PG)

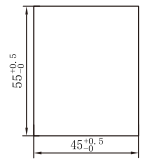
V. Overall and Cutout Dimensions (mm)



HHS5(ST3PA), HHS5C(ST3PC), HHS5G(ST3PG),
HHS5F(ST3PF),HHS5F1(ST3PFT1),
HHS5F2(ST3PFT2), HHS5F3(ST3PFT3)



HHS5R(ST3PR)



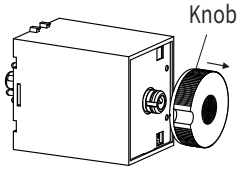
Cutout Dimensions

Note [1]: The time - segment switch is only applicable to HHS5(ST3PA), HHS5C(ST3PC), HHS5G(ST3PG).

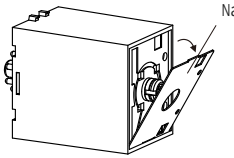
VI. Instructions for Use

1、According to the wiring diagram on the relay cover label, refer to the circuit examples in Article 9 to incorporate the product into the control circuit.
2.Adjust the potentiometer, preset the delay time, power on, and the relay starts to operate according to the corresponding working time sequence in Article 4.
3.HHS5 (ST3PA), HHS5C (ST3PC), HHS5G (ST3PG) series products all have four - range time selection (see the delay range table), and the setting method is in Article 7.
4.Since the product setting time is set by a potentiometer, and the potentiometers are all non - linear, users should select the delay specification in the range from 2/3 of the nominal value to the maximum value. Avoid using a large delay specification to set a small delay time, which may cause a large time deviation.
Note 1: The power - on time of HHS5F (ST3PF), HHS5F1 (ST3PFT1), HHS5F2 (ST3PFT2), HHS5F3 (ST3PFT3) should not be less than 2s.
Note 2: If the reset control terminals (3, 4) of HHS5F (ST3PF) are connected during the power - off delay process, the relay releases and returns to the initial state. Do not apply voltage or ground the reset terminal to avoid damaging the product.

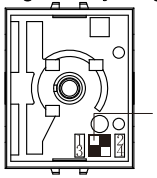
VII. Delay Range Selection and Time Period Setting (taking HHS5 - B, selecting a delay range of 10s as an example)



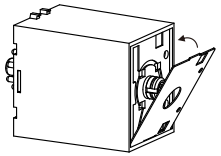
(1) Pull out the transparent knob.



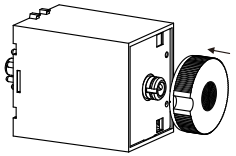
(2) Remove two nameplates.



(3) According to the time period setting in the pad - print diagram of the cover, set the time period switch to the corresponding position (1, 4).



(4) Install the nameplate, and install the side with the maximum scale of 10s on the visible side.

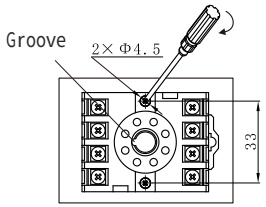


(5) Put on the transparent knob, then turn the knob to the required time, and align the red line with the scale value.

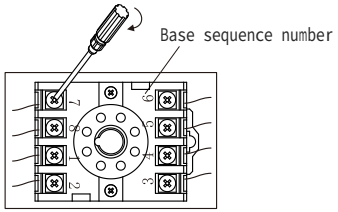
Ⅷ. Installation Methods

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

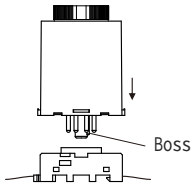
1.Device - type installation: (1) → (2) → (3)
2.Rail - type installation: (4) → (5) → (6)
3.Panel - type installation: (7) → (8) → (9) → (10)



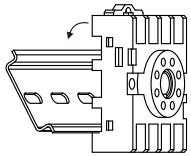
(1) Device - type installation: Tighten the installation screw.



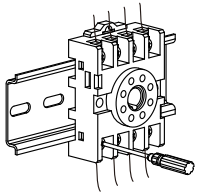
(2) Device - type installation: Connect the wire according to the base sequence number and tighten the terminal screw.



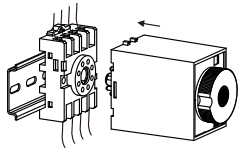
(3) Device - type installation: Install the relay, and the protruding platform on the plug should align with the groove of the base.



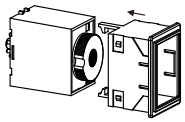
(4) Rail - type installation: Snap the base into the rail.



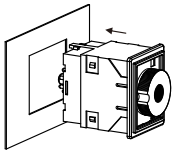
(5) Rail - type installation: Connect the wire and tighten the terminal screw.



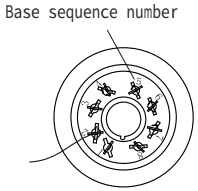
(6) Rail - type installation: Install the relay, and the protruding platform on the plug should align with the groove of the base.



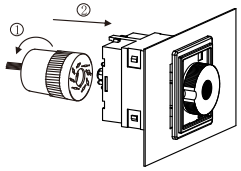
(7) Panel - type installation: Put on the cover.



(8) Panel - type installation: Install the relay into the panel.



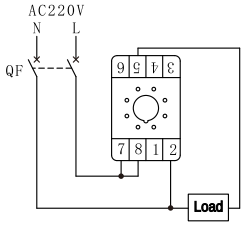
(9) Panel - type installation: Pass the wire through the back cover of the lamp holder base, solder the wire according to the base sequence number. The soldering time should not be too long, and each terminal needs to be put on an insulating bushing.



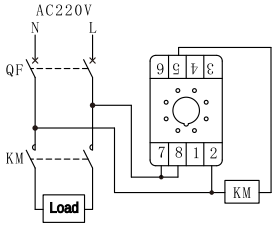
(10) Panel - type installation: Tighten the back cover of the lamp holder base on the lamp holder base, then install the base. The boss on the plug should align with the groove of the base.

IX. Application circuit examples (taking HHS5 - B as an example)

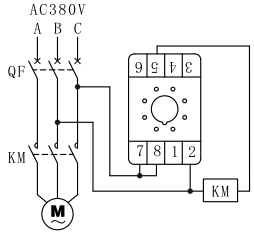
Example 1:



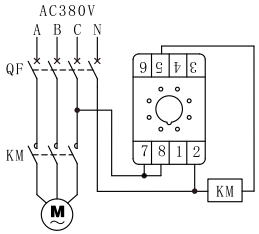
Example 2:



Example 3:



Example 4:



1.For single - phase loads, if the resistive current of the load ≤ 3A or the inductive current ≤ 0.5A, the relay controls directly, and the wiring refers to Example 1; if the resistive current of the load > 3A or the inductive current > 0.5A, the relay expands the capacity through an AC contactor, and the wiring refers to Example 2; for three - phase loads, when the power supply of the AC contactor and the relay is AC380V, the wiring refers to Example 3; when the power supply of the AC contactor and the relay is AC220V, the wiring refers to Example 4.
2.The function of the relay in the example is: when the power is connected, the load or KM (AC contactor) is energized, and after a delay to the preset value, the load or KM (AC contactor) is de - energized.
Note 1: The load can be a street lamp or a bulb, which can be directly connected to the two wires at the port of the street lamp or bulb (as shown in Example 1).
Note 2: KM is the coil of the AC contactor, and the two ends A1 and A2 can be connected according to Example 2, Example 3, and Example 4.
Note 3: The working power supply of the time relay and KM in Example 3 is AC380V, and attention should be paid to the voltage rating of the selected product.

X. Ordering Instructions

It is necessary to specify the product model, voltage rating, quantity, and when there are special requirements, they should be otherwise specified.
For example: HHS5 - B AC220V, 100 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 XINLING ELECTRIC CO.,LTD

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: 0577-6273 5555 传真: 0577-6272 2963
官网: www.c-lin.cn E-mail: 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

HHS5 (ST3P)Series
Time Relay

We greatly appreciate your use of C-Lin brand time relay.Please read the instruction manual before using the product!

01A016Q0