

I. Overview

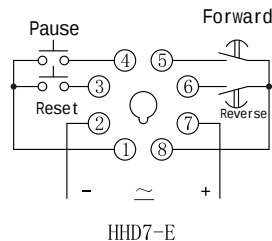
The HHD7-E Forward and Reverse Controller (hereinafter referred to as the Controller) is used as a time-delay component in control circuits with AC 50Hz, operating voltage of 380V or below, or DC voltage of 24V. The Controller features high time-delay precision, wide time-delay range, and low power consumption. Its overall dimensions comply with DIN standards (48mm × 48mm), and it can be widely applied in various automatic control circuits for forward operation, reverse operation, and stop. This Controller meets the relevant requirements of GB/T 14048.5.

II. Main Technical Parameters

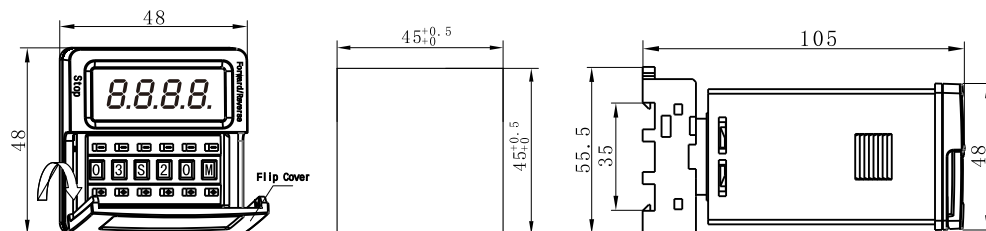
1. Operating Power Supply (Control Power Supply Voltage): AC380V, AC220V, AC36V, AC24V (50Hz), DC24V; allowable voltage fluctuation range: (85%~110%) U_e;
2. Time-Delay Range: Time-delay time and time unit are set via dip switch, ranging from 0.1s to 990h;
3. Operating Mode: 1) Cycle mode: Stop → Forward → Stop → Reverse → Stop...; 2) Forward-first mode: Forward → Stop → Reverse → Stop...;
4. Contact Capacity: 3A AC250V (resistive load, usage category AC-15);
5. Ambient Temperature: -5℃ ~ 40℃;
6. Pollution Degree: 3;
7. Altitude: ≤2000m;
8. Humidity: When the maximum temperature at the installation site is 40℃, the relative air humidity shall not exceed 50%. Higher relative humidity is allowed at lower temperatures (e.g., 90% at 20℃). Special measures shall be taken for condensation occasionally caused by temperature changes;
9. Mounting Method: Panel mounting, device mounting, and rail mounting;
10. Rated Heating Current (I_{th}): 5A;
11. Rated Insulation Voltage (U_i): 250V;
12. Rated Impulse Withstand Voltage (U_{imp}): 4kV.

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III. Wiring Diagram



IV. Outline and Mounting Hole Dimension Diagram (mm)



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V. Operating Instructions

1. Use your thumb and index finger to hold the concave parts on the left and right sides of the cover plate, then flip it outward as shown in Figure 1.

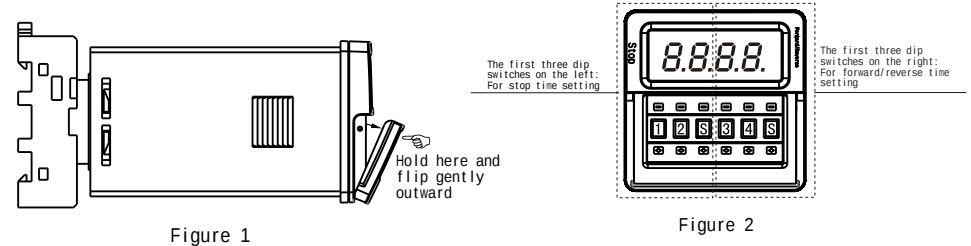
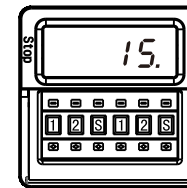
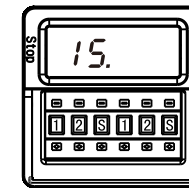


Figure 1

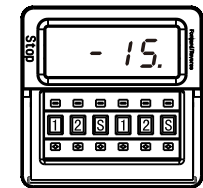
Figure 2



Forward 15s



Stop 15s



Reverse 15s

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2. Preset Times Before Power-On: Preset the stop time, forward time, and reverse time (as shown in Figure 2) before powering on. After the power is turned on, the working process is: Stop Time → Forward Time → Stop Time → Reverse Time, and it cycles repeatedly in this way.
3. During the product's forward/reverse rotation time, the stop time can be set; during the product's stop time control, the forward/reverse rotation time can be set.
For example: The control sequence required for a motor is: Forward rotation (15s) → Stop (15s) → Reverse rotation (15s) → Stop (15s) → Forward rotation (15s). When the product needs to start the motor for forward rotation first, we can set the stop time to 00 first, then set the product's control stop time to 15s during the product's forward rotation process.
4. Reset function: At any time, connect the reset terminal, and the relay will return to its initial state.
5. Pause function: Connect the pause terminal during the timing process, and the timing will stop while displaying the current time; timing will resume after the terminal is disconnected.
6. In a strong electric field environment, if the connecting wires for reset and pause are long, please use shielded wires.
7. Do not input power to the reset and pause terminals (to avoid damaging the product), and do not set the stop time and forward/reverse rotation time to 0 at the same time.

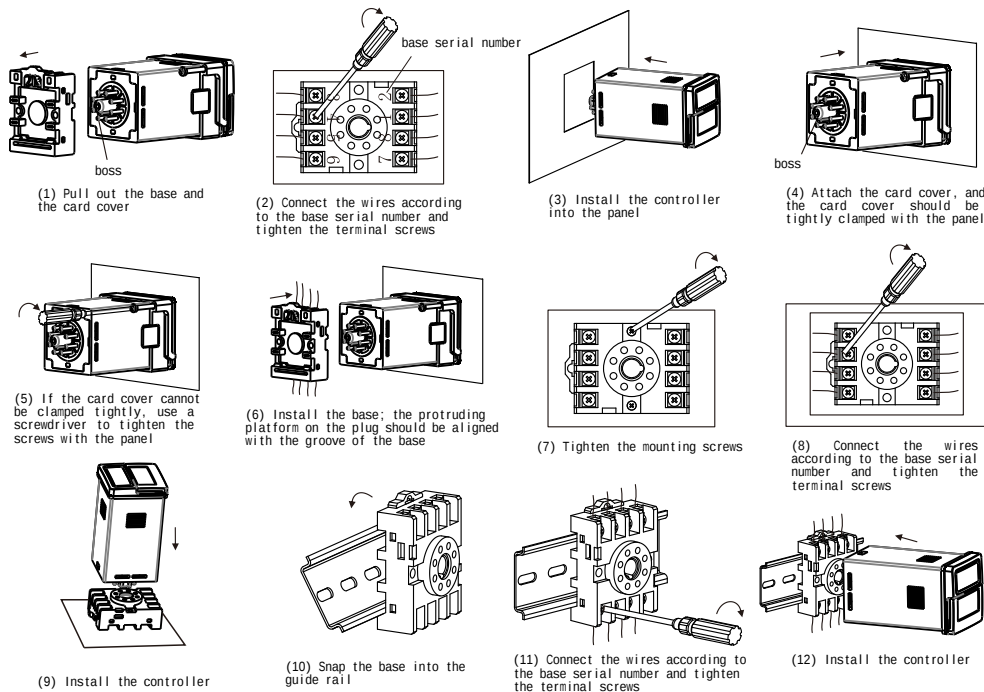
VI. Installation and Disassembly Methods

Panel-mounted installation sequence: (1) → (2) → (3) → (4) → (5) → (6)

Device-mounted installation sequence: (1) → (7) → (8) → (9)

Rail-mounted installation sequence: (1) → (10) → (11) → (12)

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Function of the forward-reverse controller in the diagram:
When the start button ST is pressed, KM3 energizes and latches, and the controller is energized (the motor does not start at this time). After the preset stop time of the controller elapses, KM1 energizes and the motor starts forward; after the set forward operation time ends, KM1 de-energizes and the motor stops; after the set stop time elapses, KM2 energizes and the motor starts in reverse; after the set reverse operation time ends, KM1 de-energizes and the motor stops; after the set stop time elapses, KM1 energizes and the motor starts forward... and this cycle repeats.

When the stop button STP is pressed, the controller de-energizes, KM1, KM2, and KM3 all de-energize, and the motor stops operating.

Note 1: The voltage of the controller in the diagram is AC380V.

Note 2: KM1, KM2, and KM3 are AC contactors, and their coil rated voltage is AC380V.

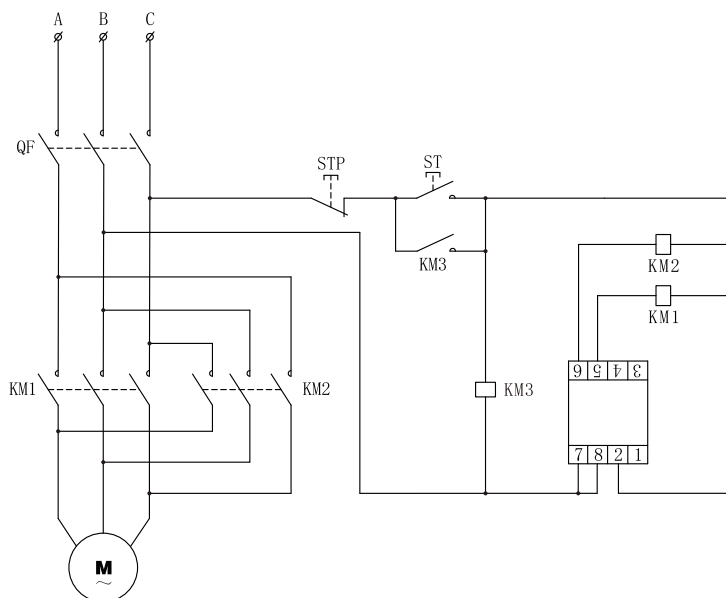
VIII.Ordering Instructions

You need to specify the product model, working mode (refer to Main Technical Parameters: Point 3), working voltage, and quantity. If there are special requirements, they should be additionally noted.

Example: HHD7-E (forward rotation first), AC380V, 100 units

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VII.Application Circuit Example



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使用说明书
Products Instructions

HHD7-E
Forward-Reverse Controller

Thank you very much for using C-Lin brand controller.
Please read the user manual before using the product!

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