

# **ERSC-Series**

## **Non-Contact Secondary Short-circuit Controller**

# Operating manual



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# Non-Contact Secondary Short-circuit Controller

## 1. Instruction

In the speed control method of a wound-wire induction motor, a secondary resistance control method for controlling a slip (speed) by connecting a resistor from the outside of the secondary side (rotor) and a method for controlling both the primary voltage and the secondary side resistance of the motor are generally used. It is used.

In this control method, it is necessary to use a magnetic contactor to change the resistance value. When using the magnetic contactor, the frequency of open and close frequently occurs, and it takes a lot of time to repair or replace the contact point. And it makes many losses such as efficient maintenance of maintenance and lower productivity.

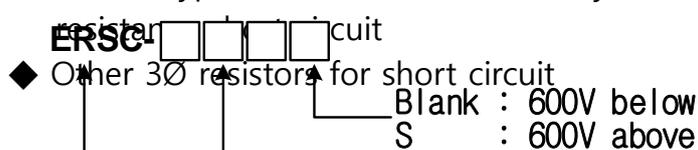
HANME TECHWIN Secondary Resistance Short-circuit Controller (hereinafter referred to as ERSC-Series) uses semiconductor devices instead of electromagnetic contactors to greatly improve facility management efficiency and productivity.

## 2. Features

- ◆ Operation status can be checked with LED
- ◆ Stable operating characteristic regardless of the variation of the primary voltage
- ◆ Prevent burn-out due to overheating of control element
- ◆ Efficient cooling fan control function
- ◆ Connection of forward and reverse parallel SCR by DELTA method
- ◆ Select controller as many steps as required

## 3. Application

- ◆ Wound type electric motor Secondary side (rotor) External



## 4. Denomination

Rated current (A)  
Secondary resistance controller

## 5. Product Type

### 5-1. 1 stage

| NO | Type     | Rated current[A] | CASE size(Type) | Remarks |
|----|----------|------------------|-----------------|---------|
| 1  | ERSC-050 | 50               | I               |         |
| 2  | ERSC-100 | 100              | I               |         |
| 3  | ERSC-125 | 125              | II              |         |
| 4  | ERSC-150 | 150              | II              |         |
| 5  | ERSC-200 | 200              | III             |         |
| 6  | ERSC-250 | 250              | III             |         |
| 7  | ERSC-300 | 300              | III             |         |
| 8  | ERSC-350 | 350              | III             |         |
| 9  | ERSC-400 | 400              | III             |         |
| 10 | ERSC-500 | 500              | IV              |         |
| 11 | ERSC-600 | 600              | IV              |         |
| 12 | ERSC-800 | 800              | IV              |         |

- ☞ When the secondary rated voltage is 600V or more, it is an order specification.
- ☞ ERSC-500 and above are custom specifications.
- ☞ The appearance and dimensions above may be altered for enhanced functionality.

### 5-2. 4 stages

- It is a product made of one unit with 4 stages which is the basic structure of secondary resistance control. PCB and internal configuration are the same.

| NO | Type        | Rated current[A] | CASE size(Type) | Remarks |
|----|-------------|------------------|-----------------|---------|
| 1  | ERSC-4050-4 | 50               | V               |         |
| 2  | ERSC-4100-4 | 100              | V               |         |
| 3  | ERSC-4125-4 | 125              | V               |         |
| 4  | ERSC-4150-4 | 150              | V               |         |

- ☞ When the secondary rated voltage is 600V or more, it is an order specification.
- ☞ ERSC-4150-4 and above are custom specifications.
- ☞ The appearance and dimensions above may be altered for enhanced functionality.

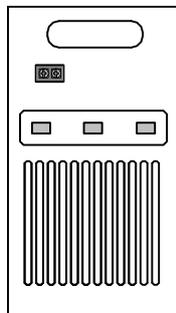
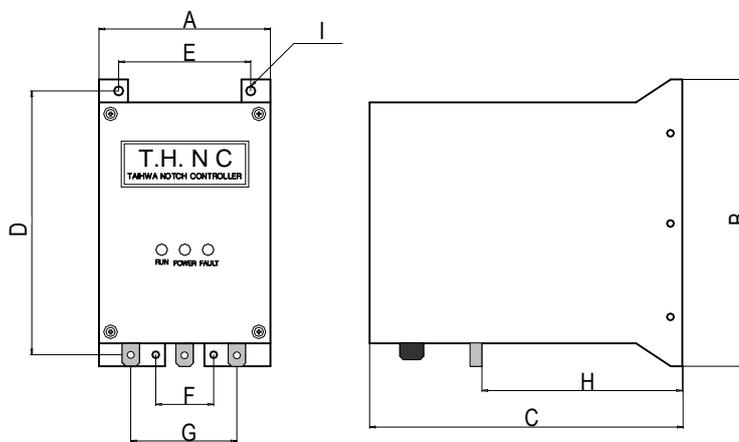
# Non-Contact Secondary Short-circuit Controller

## 6. Specification

| NO | Item                | Contents  |
|----|---------------------|---|
| 1  | Operating power     | AC 90V ~ AC 260V  |
| 2  | FAN power           | AC 220V / 110V or DC24V                                       |
| 3  | Ambient temperature | -20 ~ +85°C   |
| 4  | Location            | Indoors (corrosive gas, dust free)                            |
| 5  | Humidity            | 90% RH or less (no condensation)                              |
| 6  | Cooling system      | Natural cooling by heat sink or forced cooling by cooling fan |
| 7  | THERMOSTAT          | 85°C Normal Close   |

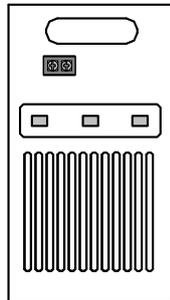
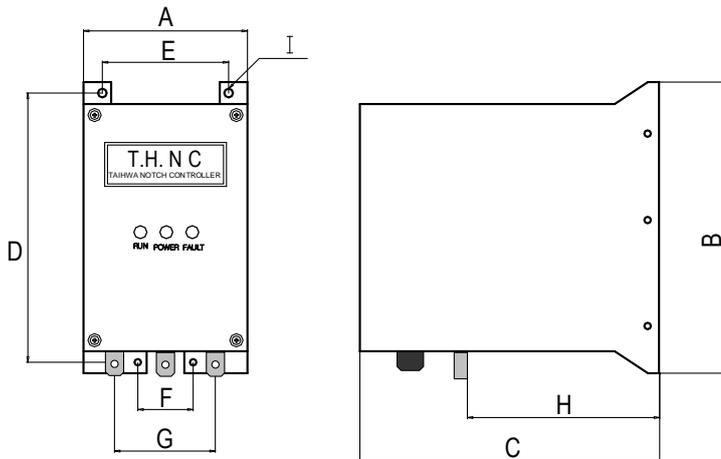
## 7. DIMENSION

### 7-1. CASE TYPE I



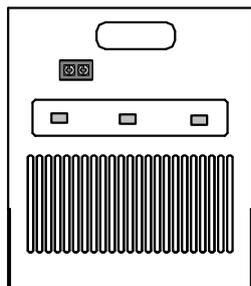
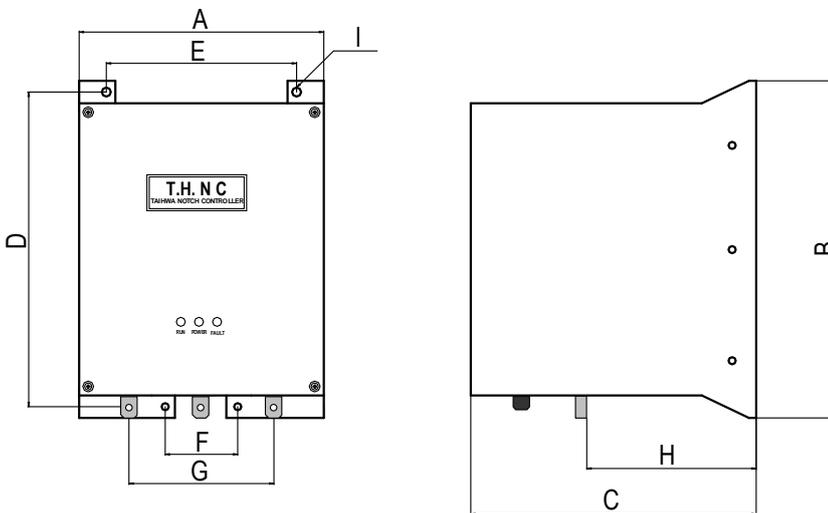
| Sign | Size(mm) |
|------|----------|
| A    | 148      |
| B    | 250      |
| C    | 270      |
| D    | 230      |
| E    | 114      |
| F    | 50       |
| G    | 90       |
| H    | 173      |
| I    | 4- Ø8    |

7-2. CASE TYPE II



| Sign | Size(mm) |
|------|----------|
| A    | 148      |
| B    | 265      |
| C    | 270      |
| D    | 245      |
| E    | 114      |
| F    | 50       |
| G    | 90       |
| H    | 173      |
| I    | 4-Ø8     |

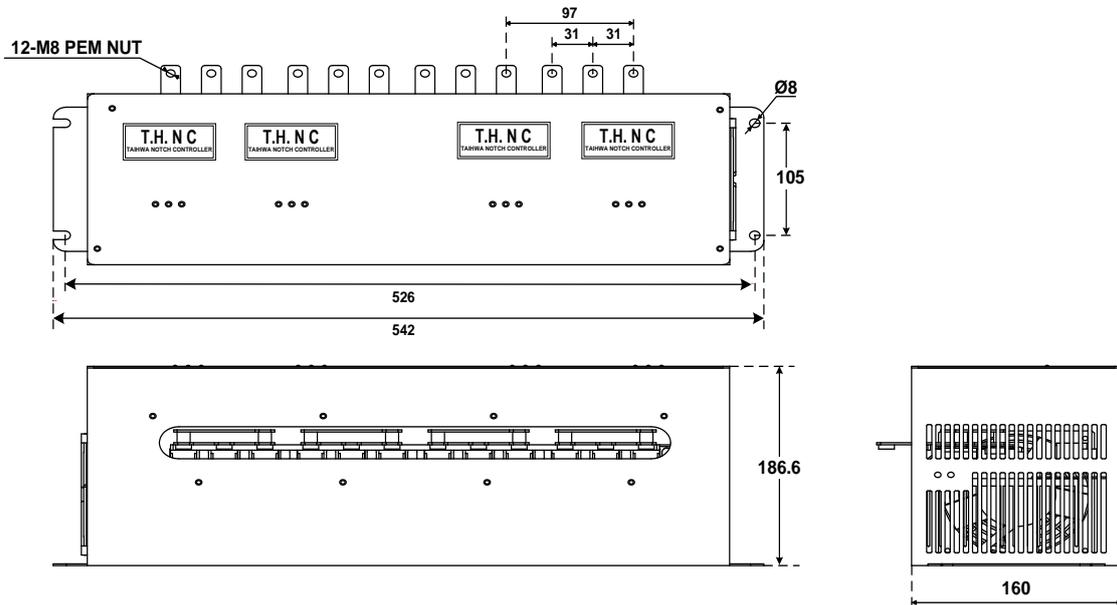
7-3. CASE TYPE III



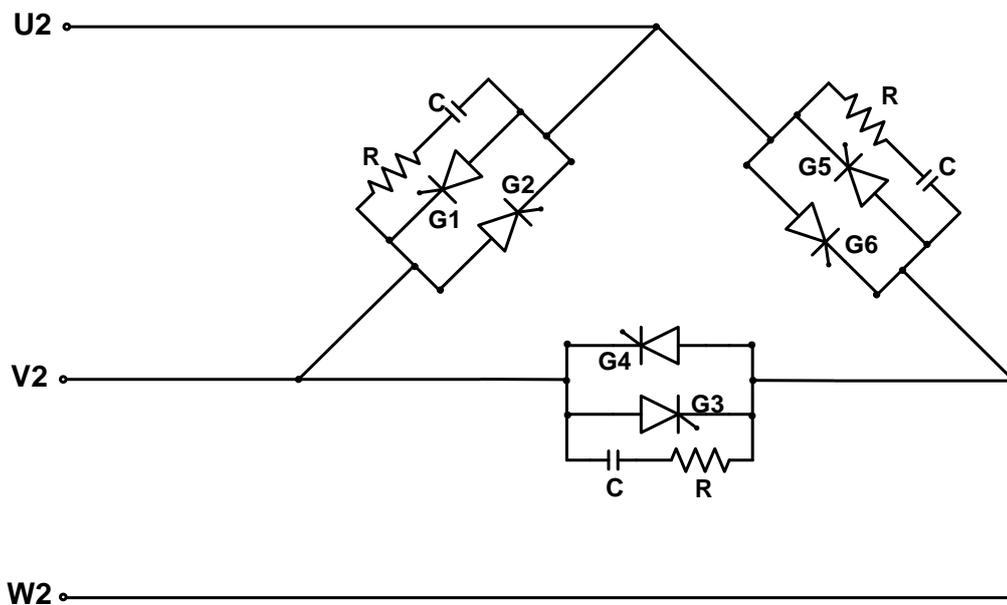
| Sign | Size(mm) |
|------|----------|
| A    | 270      |
| B    | 375      |
| C    | 315      |
| D    | 350      |
| E    | 200      |
| F    | 80       |
| G    | 160      |
| H    | 187      |
| I    | 4-Ø10    |

# Non-Contact Secondary Short-circuit Controller

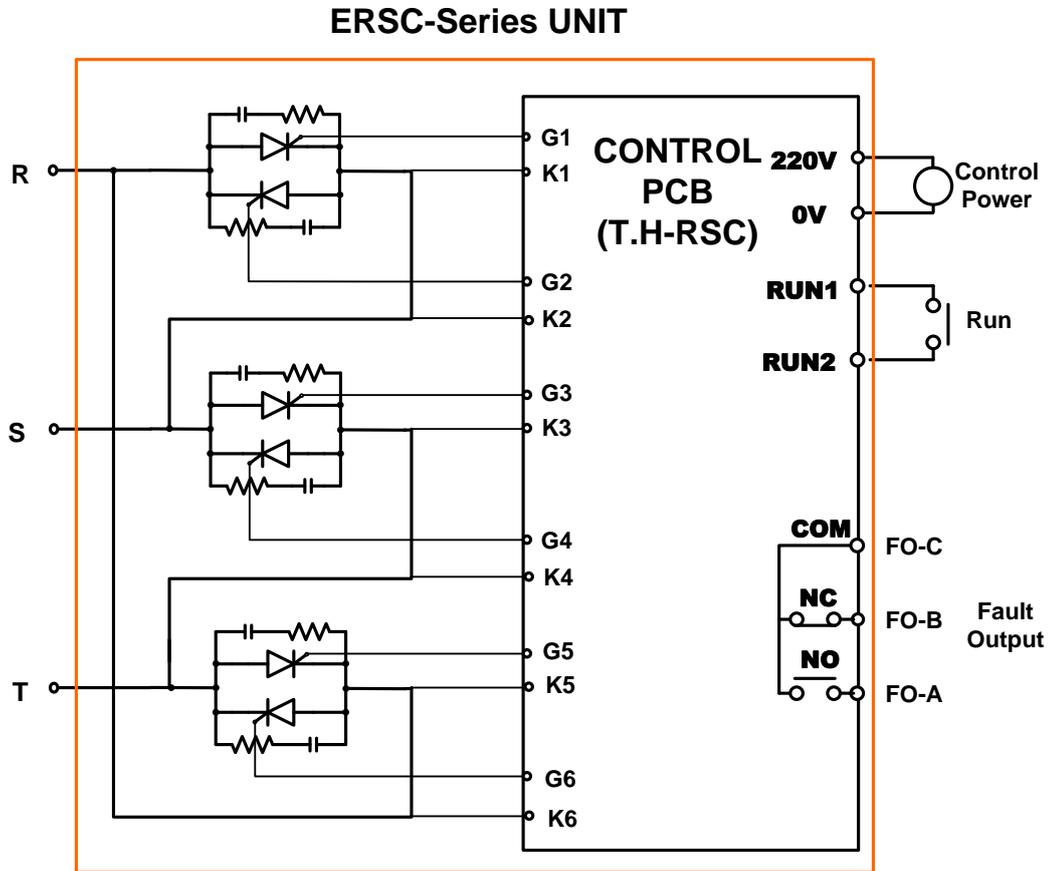
## 7-4. CASE TYPE V



## 8. Power circuit diagram

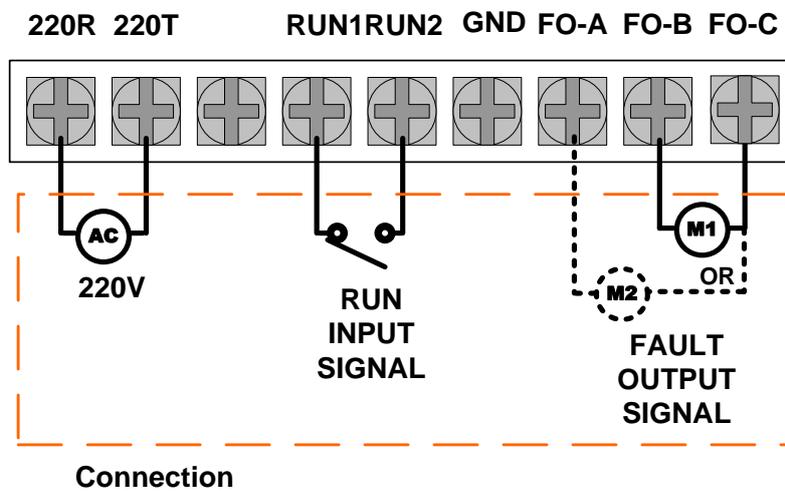


9. Internal connection diagram

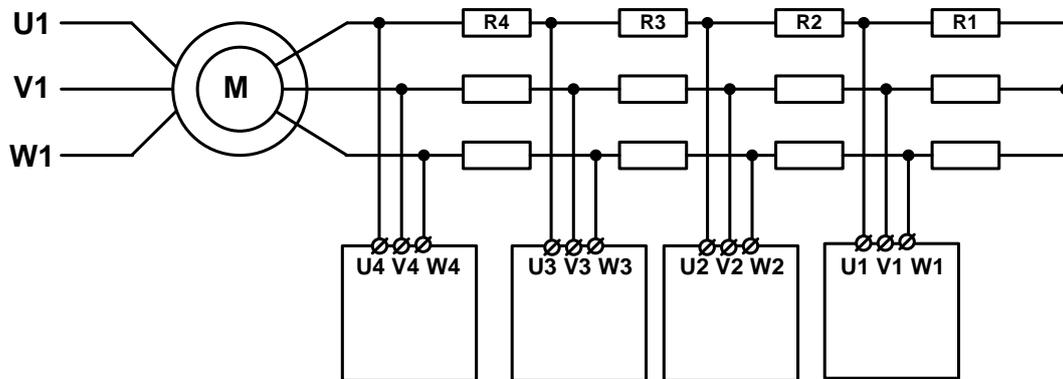


10. Wiring diagram

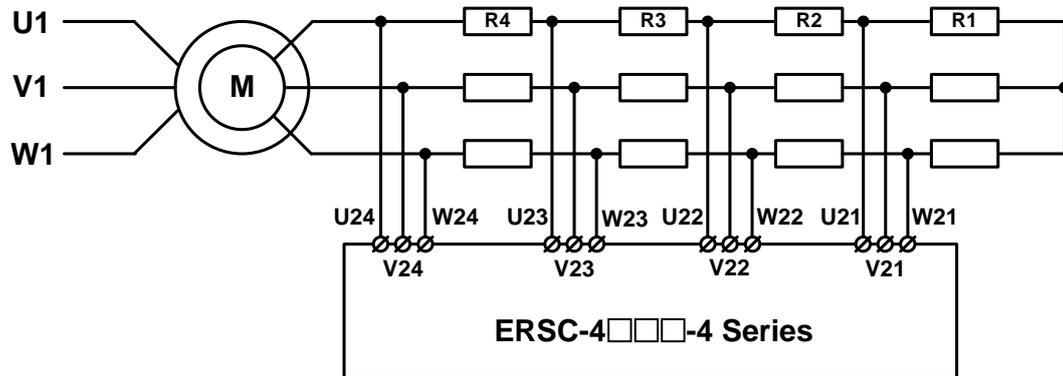
10-1. PCB Wiring diagram



10-2. Unit Wiring diagram



( STACK Step1)



( STACK Step4)

## 11. Caution for operation

- ◆ This product contains sensitive electronic components. Opening the lid of the product and touching the electronic components at will is dangerous and may cause a fatal malfunction.
- ◆ Be sure to turn off the power during maintenance and inspection.
- ◆ When checking the terminal block, check that the terminal is properly installed.
- ◆ Avoid moisture and organic matter in electronic equipment, and keep dust and other foreign matter from entering.
- ◆ Although this product is designed to withstand noise and surge in power supply, excessive noise, surge, etc. may cause abnormal operation. Please use stable power as much as possible.
- ◆ Avoid installation where vibration and impact are large.
- ◆ Avoid tightly closed places and places with excessive temperature rise.
- ◆ If any information not described in this manual is displayed, please contact our laboratory (031-498-9270).