



RL.12.16A  
12 CH 16A Relay Switch Module

Product Manual  
Release: September 22, 2023  
Version: V1.4



Figure 1. 12 CH 16A Relay Switch Module

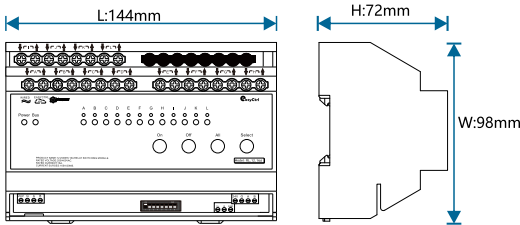


Figure 2. Dimensional Drawing - Front View      Figure 3. Dimensional Drawing - Sideview

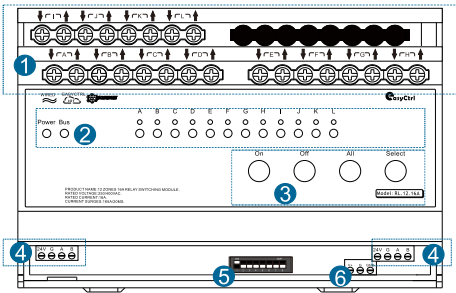


Figure 4. Product Information

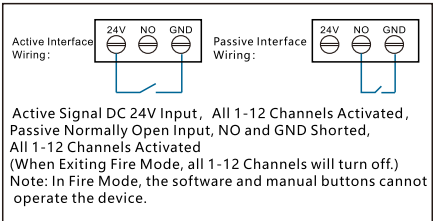


Figure 5. Fire Interface Description

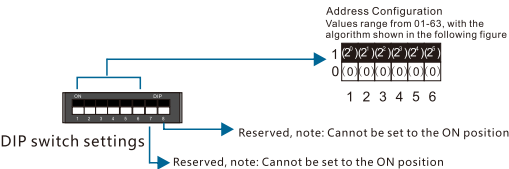


Figure 6. Address DIP Switch Table 1

## Product Overview

The 12 CH 16A Relay Switch Module (see Figure 1) serves as a system switch execution unit, typically installed in a distribution box. It can control the switching of lights, the on/off state of devices, the on/off state of passive dry contacts, the opening and closing of strong or weak current curtains, the hot/cold valve of water-cooled air conditioning, and the switching between high/medium/low fan speeds.

## Function Description

- Standard 35mm DIN rail installation: Occupies 8P module units.
- Equipped with Tyco dual-contact relays, providing 12-channel 16A relay switching.
- Each circuit can independently control devices up to 3520W.
- Supports setting the initial power-on state for each circuit (on, off, or previous power state).
- Features sequential delay startup for multiple circuits to prevent power grid surges from simultaneous startup.
- Includes two interlock modes for controlling six sets of curtains.
- Includes three interlock mode for controlling the low, medium, and high-speed settings of three central air conditioners.
- Returns the actual switch status of each circuit to the monitoring center immediately after executing scene commands.
- Equipped with manual buttons, circuit, and operation status indicators for convenient local maintenance.
- Includes a fire protection interface with one normally open passive and one active 24V connection.
- Supports online firmware updates and Bus network disconnection alarm function.
- Supports RS485/YC-BUS communication.

## Precautions

- Use CAT5E or RVV4\*0.75 four-core wire for bus wiring.
- After installation, check all connections to ensure they are correctly connected.
- The current for each output circuit must not exceed 16A.
- To protect the equipment and load, it is recommended to connect a 16A circuit breaker for each circuit.

## Product Information

Product Dimensions: See Figures 2 and 3

Product Wiring: See Figure 8

Product Information: See Figure 4

1. Relay Output Wiring Terminals: Use a one-in-one-out method; the hole diameter can accommodate 4 square mm wire.
2. LED Indicators:
  - Power: Power indicator light.
  - Bus: Network indicator light; steady on indicates normal network connection, slow blinking indicates abnormal network connection.
  - Small Round Light: Circuit selection indicator light.
  - Large Round Light: Relay status indicator light; lit indicates the relay is engaged, off indicates the relay is disconnected.
3. Function Keys:
  - On: Short press to turn on the relay.
  - Off: Short press to turn off the relay.
  - All: Select all relays.
  - Select: Select a single relay.
4. Bus Interface: 24V, G, A, B.
5. Setting Address:
  - (See Figures 6-7) Refer to the address setting dip switch table to set the dip switch to the corresponding address.
6. Fire Interface:
  - Fire Center: Provides a normally closed signal to engage all 12 circuits; provides a normally open signal to disconnect all 12 circuits, with priority over software and manual control (see Figure 5).

## Product Installation

See Figures 9-12

- Step 1. Secure the 35mm rail with screws.
- Step 2. Remove the snap-on cover from the 12 CH 16A Relay Switch Module.
- Step 3. Press the entire module onto the rail and slide it until it is in the correct position, then snap the cover into place.

## Safety Warning

- Each relay circuit requires a suitable circuit breaker or fuse.
- Tightening torque should not exceed 0.4 Nm.
- Input power wire: Max 4mm<sup>2</sup>; Load wire: Max 1mm<sup>2</sup>.
- Installation location: Distribution box.
- Do not connect the YC-BUS interface incorrectly, as it may damage the equipment.
- The YC-BUS interface must not be connected to AC power; otherwise, it will damage all devices on the bus.
- Ensure a good ventilation environment.
- Do not expose to rain, contact with other liquids, or corrosive gases.

## Packing List

- RL.12.16A\*1/User Manual\*1/Certificate of Conformity\*1

| 1 2 3 4 5 6 7 8 |      |      |      |      |      |      |      | ON OFF |  |
|-----------------|------|------|------|------|------|------|------|--------|--|
| ID01            | ID02 | ID03 | ID04 | ID05 | ID06 | ID07 | ID08 |        |  |
| ID09            | ID10 | ID11 | ID12 | ID13 | ID14 | ID15 | ID16 |        |  |
| ID17            | ID18 | ID19 | ID20 | ID21 | ID22 | ID23 | ID24 |        |  |
| ID25            | ID26 | ID27 | ID28 | ID29 | ID30 | ID31 | ID32 |        |  |
| ID33            | ID34 | ID35 | ID36 | ID37 | ID38 | ID39 | ID40 |        |  |
| ID41            | ID42 | ID43 | ID44 | ID45 | ID46 | ID47 | ID48 |        |  |
| ID49            | ID50 | ID51 | ID52 | ID53 | ID54 | ID55 | ID56 |        |  |
| ID57            | ID58 | ID59 | ID60 | ID61 | ID62 | ID63 |      |        |  |

Figure 7. Address Dip Switch Table 2

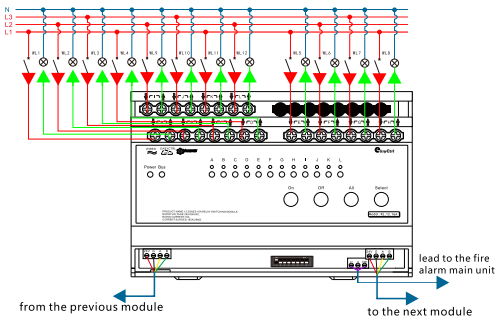


Figure 8. Product Wiring Diagram



Figure 9

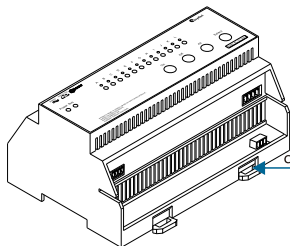


Figure 10

Figure 11

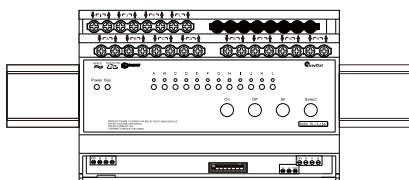


Figure 12

Figure 9-12.installation drawing

## Technical support

Service Hotline: 86-18029750069

working hours: 9:00-12:00,13:00-18:00,From Monday to Friday)

Email:ceshi@easyctrlg.com

website: http://www.easyctrlg.com



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This manual may be changed or updated without prior notice.

## Technical Parameters

### Basic Parameters

|                           |                                                                           |
|---------------------------|---------------------------------------------------------------------------|
| Operating Voltage         | 24VDC±10%                                                                 |
| Maximum Power Consumption | ≤2.9W                                                                     |
| Rated Voltage             | 250/400VAC                                                                |
| Output Circuit            | 12-channel relay                                                          |
| Relay                     | Tyco double-contact relay                                                 |
| Rated Current             | 16A (single channel),Surge current capability: 165A/20ms (single channel) |
| Switching Cycles          | no-load: 5,000,000 cycles, load: 3,000,000 cycles                         |
| Protection                | circuit breaker for each circuit                                          |

### External Environment

|                             |          |
|-----------------------------|----------|
| Operating Temperature       | -5℃~45℃  |
| Operating Relative Humidity | ≤90%     |
| Storage Temperature         | -20℃~60℃ |
| Storage Relative Humidity   | ≤93%     |

### Product Specifications

|                     |                                                      |
|---------------------|------------------------------------------------------|
| Dimensions (L*W*H)  | 144 mm*98 mm*72 mm                                   |
| Net Weight          | ≤525 g/pcs                                           |
| Enclosure Material  | flame retardantPP                                    |
| Installation Method | standard 35mm DIN rail mounting<br>(see Figure 9-12) |
| Protection Level    | IP20                                                 |

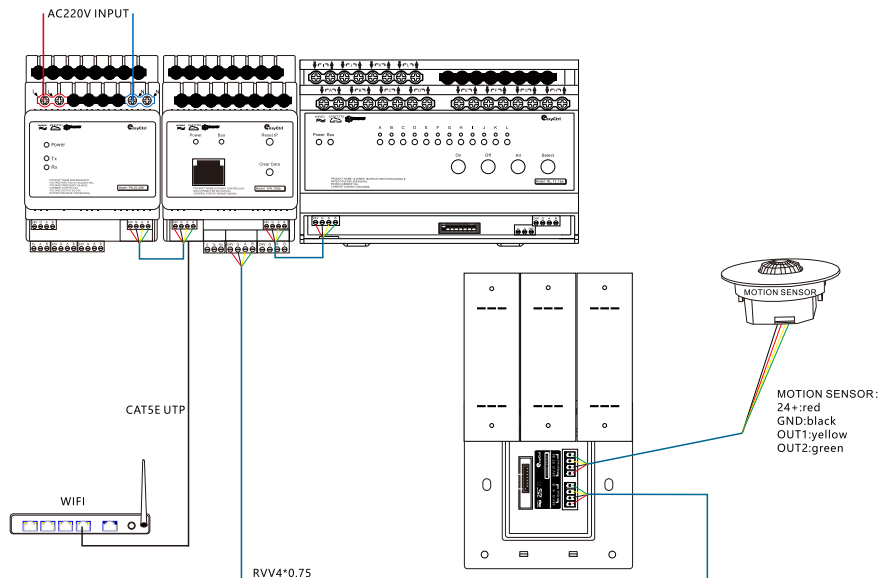
### System Diagram



Notebook



Mobile terminal  
(IOS/Android)



## Bus Specification

| Bus interface | 4-core wire: RVV4*0.75 | UTP: CAT5/CAT5E          |
|---------------|------------------------|--------------------------|
| 24V           | RED                    | BROWN WHITE/BROWN        |
| GND           | BLACK                  | BLUE WHITE/BLUE          |
| A             | YELLOW                 | ORANGE WHITE/GREEN WHITE |
| B             | GREEN                  | ORANGE/GREEN             |