easyCtrl®

YC-RL.12.16A
12 CH 16A Relay Switch Module

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

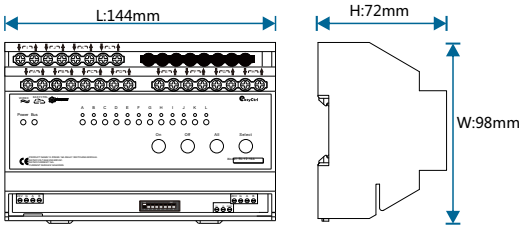Figure 1. 12 CH 16A Relay Switch Module

L:144mm   H:72mm   W:98mm

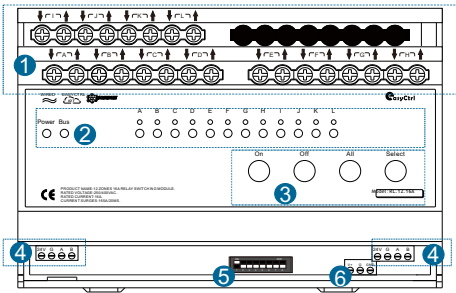Figure 2. Dimensional Drawing - Front View   Figure 3. Dimensional Drawing -Sideview

Figure 4. Product Information

Active Interface Wiring :   24V NO GND   Passive Interface Wiring :   24V NO GND

Active Signal DC 24V Input，All 1-12 Channels Activated，
Passive Normally Open Input, NO and GND Shorted,
All 1-12 Channels Activated
(When Exiting Fire Mode, all 1-12 Channels will turn off.)
Note: In Fire Mode, the software and manual buttons cannot operate the device.

Figure 5. Fire Interface Description

Address Configuration
Values range from 01-63, with the algorithm shown in the following figure

$1 (2^0)(2^1)(2^2)(2^3)(2^4)(2^5)$
$0\ 0\ 0\ 0\ 0\ 0$
$1\ 2\ 3\ 4\ 5\ 6$

DIP switch settings

Reserved, note: Cannot be set to the ON position
Reserved, note: Cannot be set to the ON position
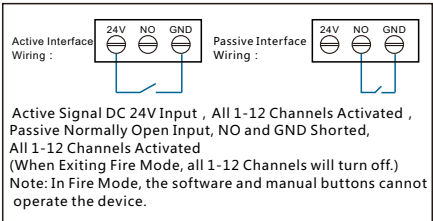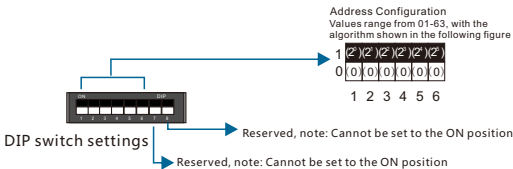
Figure 6. Address DIP Switch Table 1

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 ⚠ WARNING

- Each relay circuit requires a suitable circuit breaker or fuse.
- Tightening torque should not exceed 0.4 Nm.
- Input power wire: Max 4mm²; Load wire: Max 1mm².
- 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

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

Figure 7. Address Dip Switch Table 2

lead to the fire alarm main unit

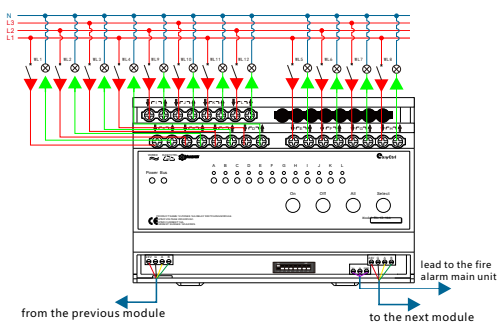from the previous module

to the next module

Figure 8. Product Wiring Diagram

Figure 9

Figure 10

clasp
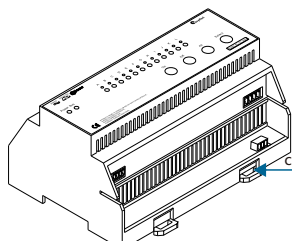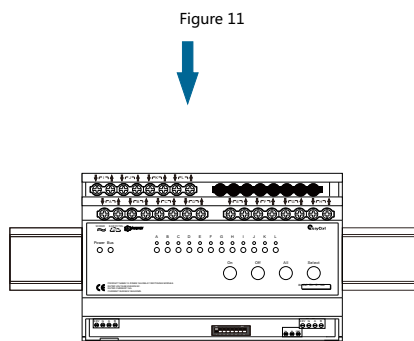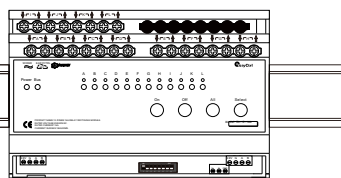
Figure 11

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@easyctrlgz.com

website: http://www.easyctrlgz.com

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˚C~45˚C
Operating Relative Humidity	≤90%
Storage Temperature	-20℃~60℃
Storage Relative Humidity	≤93%

Product Specifications

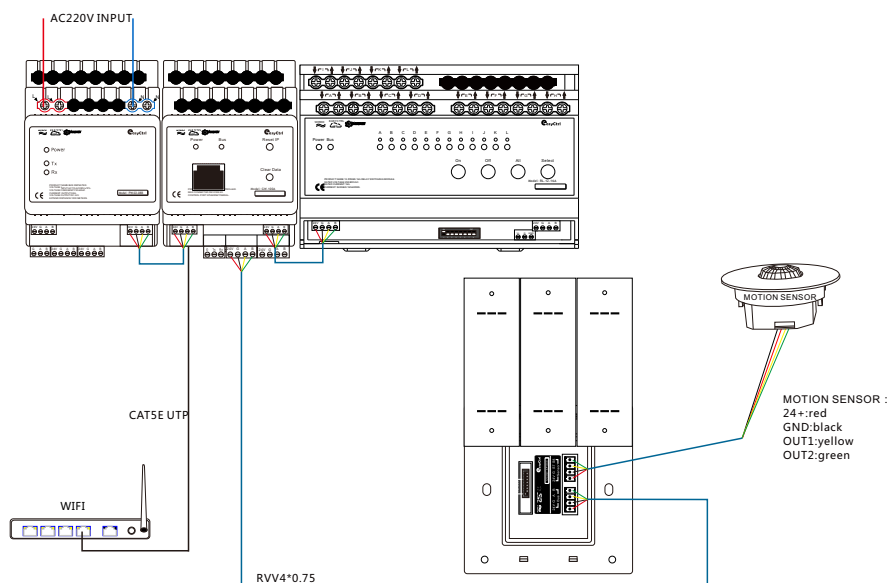|	
Dimensions (L*W*H)	144 mm*98 mm*72 mm
Net Weight	≤525 g/pcs
Enclosure Material	flame retardantPP
Installation Method	standard 35mm DIN rail mounting **(see Figure 9-12)**
Protection Level	IP20

System Diagram

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