easyCtrl

YC-RL.04.20C
4 CH 20A Relay Switch Module
(With Current And Voltage Detection)

Product Manual

Release : Feb 22, 2025
Version : V1.0

Firgue1.4 CH 20A Relay Switch Module
(With Current And VoltageDetection)
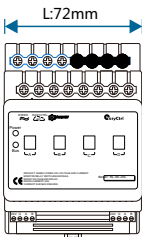

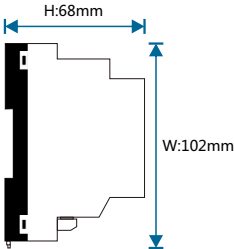L:72mm   H:68mm   W:102mm

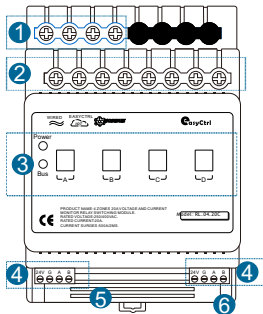Figure 2. Dimensional Drawing - Front View   Figure 3. Dimensional Drawing -Sideview

Figure 4. Product Information

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

Active Signal DC 24V Input，All 1-4 Channels Activated，
Passive Normally Open Input, NO and GND Shorted,
All 1-4 Channels Activated
(When Exiting Fire Mode, all 1-4 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

DIP switch settings

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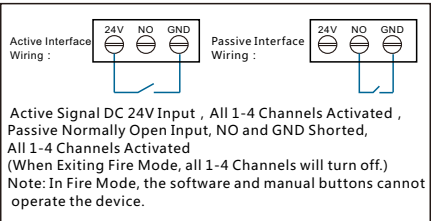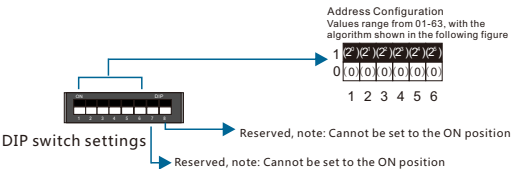
Figure 6. Address DIP Switch Table 1

Product Overview

The 4 CH 20A Relay Switch Module (With Current And Voltage Detection) (see Figure 1) serves as a system switch execution unit, typically installed in a distribution box. It features built-in 4-channel current detection, 4-channel voltage detection, 4-channel power detection, and 4-channel energy consumption detection. The module is equipped with 4 intelligent relays, each capable of independently controlling the switching of lighting fixtures up to 4400W, and includes forced cut-off and interlock functions. It detects the actual current usage of each circuit and, by comparing real-time current with normal current, accurately identifies any damage to the circuit's lighting fixtures. Additionally, it is equipped with single-phase AC voltage detection functionality.

Function Description

- Standard 35mm DIN rail installation: Occupies 4P module units.
- Built-in 4-Channel Current Detection, Voltage Detection, Power Detection, and Energy Consumption Detection.
- Provides 4 channels of 20A relay switching, each circuit can independently control the switching of 4400W devices.
- 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.
- Configures two sets of interlock modes to control two curtains.
- Real-time detection of current values for each circuit and single-phase AC voltage values.
- Returns the actual switch status of each circuit to the monitoring center immediately after executing scene commands.
- Equipped with mechanical strong cut off function, equipment networking failure or power off,the relay can also turn on and off.
- 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 20A.
- To protect the equipment and load, it is recommended to connect a 20A 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. Neutral Wiring Terminals: Use a one-in-one-out method; the hole diameter can accommodate 4 square mm wire.
2. Relay Output Wiring Terminals: Use a one-in-one-out method; the hole diameter can accommodate 4 square mm wire.
3. LED Indicators:
- Power : Power indicator light.
- Bus: Network indicator light; steady on indicates normal network connection, slow blinking indicates abnormal network connection.
- Function Keys: Forced Cut-off Switch (See Figure 13): A-D corresponds to channels 1-4. Use a small flathead screwdriver to toggle the switch up and down in the groove.
4. Bus Interface: 24V, G, A, B.
5. Setting Address:
- Step 1: (See Figure 8) Remove the latch cover; it requires some force to pull it out.
- Step 2: (See Figures 6-7) Refer to the address setting dip switch table to set the dip switch to the corresponding address.
- Step 3: After setting the address, remember to replace the latch cover.
6. Fire Interface:(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 4 CH 20A Relay Switch Module (With Current And Voltage Detection).
- 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.04.20C*1/User Manual*1/Certificate of Conformity*1

Figure 7. Address Dip Switch Table 2
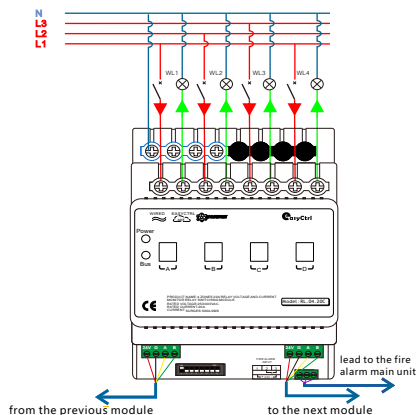
Figure 8. Product Wiring Diagram

from the previous module

to the next module

lead to the fire alarm main unit
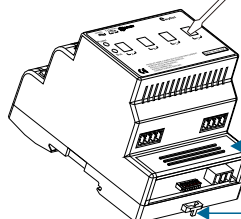

Figure 9

Figure 13
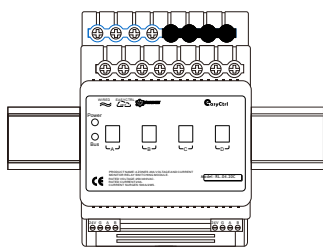
Figure 10
latch cover

Figure 11

clasp

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	≤3.2W
Rated Voltage	250/400VAC
Output Circuit	4-channel relay
Detection Content	4-Channel Current Detection, Voltage Detection, Power Detection, and Energy Consumption Detection
Rated Current	20A (single channel),Surge current capability: 500A/2ms (single channel)
Switching Cycles	no-load: 1,000,000 cycles , load: 30,000 cycles
Protection	circuit breaker for each circuit

External Environment

Operating Temperature	0˚C~45˚C
Operating Relative Humidity	20%~93%
Storage Temperature	-40˚C~55˚C
Storage Relative Humidity	10%~93%

Product Specifications

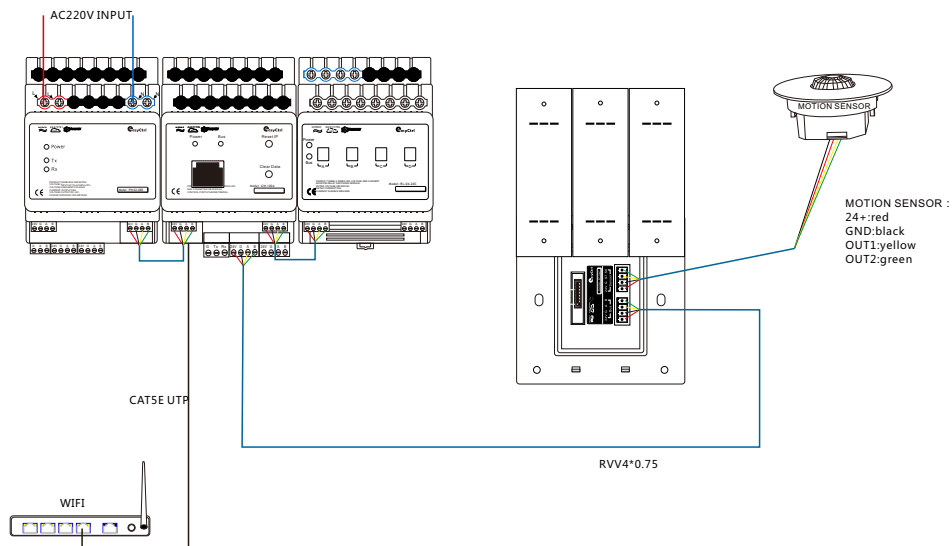|	
Dimensions (L*W*H)	72 mm*102 mm*68 mm
Net Weight	≤339 g/pcs
Enclosure Material	flame retardantPP
Installation Method	standard 35mm DIN rail mounting **(see Figure 9-12)**
Protection Level	IP20

System Diagram

Notebook

Mobile terminal (IOS/Android)

AC220V INPUT

MOTION SENSOR

MOTION SENSOR :
24+:red
GND:black
OUT1:yellow
OUT2:green

CAT5E UTP

RVV4*0.75

WIFI

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