

4-Channel Curtain Relay Module

一、概述 (Overview)

HOTEKEY-4 路窗帘继电器模块是 HOTEKEY 公司开发研制的一种智能化继电器，是智能控制系统的功率输出模块，有 4 个输出回路。可设置场景部分，模块采用 485 总线通讯方式，功能齐全，适用于智能化控制领域。

HOTEKEY 4-Channel Curtain Relay Module Technical Overview

The HOTEKEY 4-Channel Curtain Relay Module is an intelligent relay device developed by HOTEKEY, designed as a power output module for smart control systems. Featuring **4 independent output circuits**, it enables precise control of curtain motors or other low-voltage loads. Key characteristics include:

- 1. Scene Configuration:** Supports customizable automation scenarios (e.g., timed opening/closing, group synchronization).
- 2. RS-485 Bus Communication:** Ensures reliable integration with smart home/industrial control networks via Modbus RTU protocol.
- 3. Multi-Protocol Compatibility:** Adaptable to centralized control platforms and IoT ecosystems.

With robust power handling (up to 10A per channel) and compact DIN-rail mounting design, this module delivers comprehensive functionality for smart curtain systems, hotel automation, and building management applications, ensuring seamless interoperability in modern intelligent control environments.

二、功能特点 (Features)

- 一键更换模块，自动恢复模块数据和状态
- 可设置为最多 24 个模式的组成部分
- 每个回路具有高限值、低限值、保护延时、启动延时
- 回路互锁
- 设备可设置记忆保存功能，以记忆最近的回路状态
- 继电器为磁保持类型，持久省电
- 采用 485 总线方式通讯
- 标准 35mm 导轨式安装结构
- One-touch module replacement with automatic data and status recovery

- Configurable as part of up to 24 modes
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- Each circuit features high/low limits, protection delay, and start-up delay
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- Circuit interlocking
- Power-down memory function to retain the latest circuit status
- Magnetic latching relays for persistent power saving
- Communication via RS485 bus
- Standard 35mm DIN rail mounting structure

三、主要技术参数 (The main technical parameters)

- 工作电压: DC12V
 - 静态输入电流: 12mA@DC12V
 - 动态输入电流: 40mA@DC 12V
 - 输出回路: 4 路
 - 每回路最大输出电流: 16A
 - 继电器有效寿命: 大于 60000 次
 - 环境条件:
 - 工作温度 0°C~45°C
 - 工作相对湿度 20%~90%
 - 储存温度 -40°C~+55°C
 - 储存相对湿度 10%~93%
 - 外形尺寸: 72mm×88mm×66mm
 - Working voltage: DC12V
 - Static input current: 12mA@DC 12V
 - Dynamic input current: 40mA@DC 12V
 - Output circuit: 4 way
 - Maximum output current per loop: 16A
 - Relay effective life: more than 60,000 times
- Environmental conditions: Working temperature 0 ° C ~ 45 °
C Working relative humidity 20%~90%
Storage temperature -40 ° C ~ +55 °
C Store relative humidity 10%~93%

- Dimensions: 72mm × 88mm × 66mm

四、外观说明及连接示意图 (Appearance description and connection diagram)



- ① 1~4 为 4 个继电器回路输出端
- ② DC12V、A、B、GND 为 485 总线接线端。
- ③ 直通开关：

继电器自带物理直通开关。

- ④ 模块指示灯：

模块正常工作时，为稳定的 1 秒闪烁，当使能了记忆功能时，模块记忆状态，指示灯快闪 3 秒，模块出厂和检测状态过程中，指示灯保持常亮。

- ⑤ 复位和出厂按键

单按该按键超过 1 秒时，识别为复位操作，执行模块复位功能，长按该按键超过 5 秒时，识别为出厂功能，模块出厂会清掉所有数据，数据清空后会主动向交换机申请恢复数据和状态，该功能用于一键更换非正常工作的模块，或恢复模块数据

- ② 1~4 are 4 relay loop outputs
- ② DC12V, A, B, GND are 485 bus terminals.
- ③ straight-through switch:

The relay comes with a physical through switch.

- ④ module indicator:

When the module works normally, it is a stable 1 second flashing. When the memory function is enabled, the module remembers the status and the indicator flashes for 3 seconds. During the module factory and detection status, the indicator light remains on.

⑤ reset and factory button

When the button is pressed for more than 1 second, it is recognized as the reset operation, and the module reset function is executed. When the button is pressed for more than 5 seconds, it is recognized as the factory function. The module will clear all the data after the factory shipment, and the data will be automatically applied to the switch after the data is cleared. Data and status, this function is used to replace a module that is not working properly, or to recover module data

五、主要设置说明 (Main setup instructions)

该模块接入 485 总线，打开“系统设置软件”，搜索并设置该模块。

• 本机通讯地址

本机通讯地址由模块搜索功能自动分配。

• 区域

区域是对本模块 4 个回路的划分，一个区可含回路数最多 4 个，一个回路只能分配给一个区，最多可设置 4 个独立区域。

点击“分区”对 4 个回路分区。

• 回路

对 4 个回路参数的设置，包括回路备注、负载类型、低限、高限、最大水平等设置。

“负载测试”对回路状态测试。

• 模式

综合设置系统使用模式，如离家模式、回家模式、全开/全关模式等等

• 记忆

可对 4 个回路单独设置是否使能记忆功能，使能记忆以后，当回路状态发生改变 30 秒后，对回路状态进行记忆。

• 紧急直通控制功能

使用工具拨动继电器自带物理开关，实现对回路的通断。

安装连接

• 安装条件

安装位置要通风良好，注意防潮、防震、防尘。

• 接线规格

本模块电源输入端连接线： 2.5mm²铜导线。

本模块负载输出端连接线： 2.5mm²铜导线。

485 总线连接线： 采用超五类线。

The module is connected to the 485 bus, open the "system setup software", search and set the module.

● Local communication address

The local communication address is automatically assigned by the module search function.

● area

The area is divided into four loops of this module. One zone can contain up to four loops, one loop can only be assigned to one zone, and up to four independent zones can be set. Click on "Partition" to partition the 4 loops.

● Loop

Set the 4 loop parameters, including loop remarks, load type, low limit, high limit, maximum level, etc. "Load Test" tests the loop status.

● mode

Comprehensively set system usage modes, such as home mode, home mode, full on / full off mode, etc.

● Memory

It is possible to individually set whether or not the memory function is enabled for the four circuits. After the memory is enabled, the circuit state is memorized after the circuit state changes for 30 seconds.

● Emergency through control function

Use the tool to toggle the relay with its own physical switch to achieve the continuity of the circuit.

Installation connection

● Installation conditions

The installation location should be well ventilated, pay attention to moisture, shock and dust.

● Wiring specification

Power input terminal of this module: 2.5mm² copper wire.

The load output terminal of this module is connected: 2.5mm² copper wire.

485 bus connection line: using super five types of lines.

六、安全使用与维护保养 (Safe use and maintenance;)

1. 使用前仔细阅读所有说明。
2. 勿靠近干扰设备。
3. 要建立良好通风散热环境。
4. 在使用过程中，注意防潮、防震、防尘。
5. 严禁雨淋、接触其它液体或腐蚀性气体。
6. 定期除尘，不能用酒精、汽油等挥发性液体擦拭。
7. 如受潮或被液体侵袭，应及时进行干燥处理。
8. 定期检查线路的受损和老化程度，应及时更换不合格线路。
9. 机器出现故障时，请与专业维修人员或本公司联系。



警告

本模块电源 AC220V~240V 接入须通过合适的断路器 ($\geq 10A$)。

接线要符合要求。

1. Read all instructions carefully before use.
2. Do not get close to the interference device.
3. To establish a good ventilation and heat dissipation environment.
4. During use, pay attention to moisture, shock and dust.
5. Do not expose to rain or other liquids or corrosive gases.
6. Regular dust removal, can not be wiped with volatile liquids such as alcohol and gasoline.
7. If it is wet or invaded by liquid, it should be dried in time.
8. Regularly check the damage and aging of the line, and replace the unqualified line in time.
9. When the machine malfunctions, please contact a professional service person or the company.

The AC220V~240V power supply of this module must pass the appropriate circuit breaker ($\geq 10A$). Wiring should meet the requirements.

七、Contacts

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