Intermediate relay module with optocoupler



Overview

Relay Modules and Optocoupler Modules | WAGOOur relays offer up to four changeover contacts – perfect for dry circuits, lamp loads, and everything in betwe.

Key Takeaways

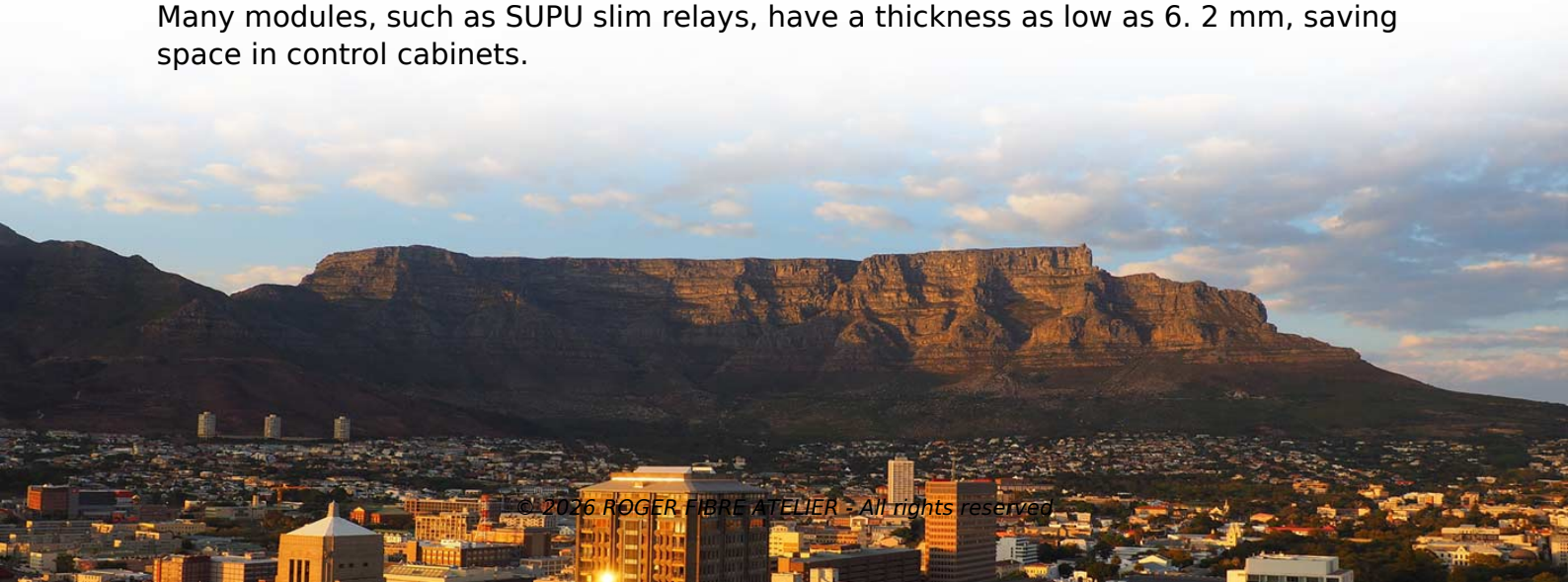
Intermediate relay modules with optocouplers provide reliable signal isolation and switching for industrial and automation applications.

Overview

Intermediate relay modules with optocouplers combine a relay (electromechanical or solid-state) with an optocoupler to achieve electrical isolation between the control signal and the load. This design protects sensitive control circuits from voltage spikes, noise, and high currents while enabling safe switching of AC or DC loads.

Key Features

Signal Isolation: The optocoupler separates the input control signal from the relay coil, preventing interference and protecting low-voltage electronics. Compact Design: Many modules, such as SUPU slim relays, have a thickness as low as 6. 2 mm, saving space in control cabinets.



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Versatile Input/

Output: Modules support various input voltages (5VDC, 24VDC, 230VAC) and output currents (0. 1A to 16A depending on relay type),. DIN-Rail Mounting: Most modules are designed for DIN-rail installation, allowing easy integration into industrial control panels and secure wiring.

Pluggable and Replaceable: Some modules, like WAGO 859 Series, are pluggable, enabling quick replacement without disconnecting wiring. Safety Options: Force-guided contacts and optional finger protection are available for safety-critical applications.

Applications

Industrial automation and process controlSignal conversion and interface in control cabinetsSwitching of actuators, lamps, and small motorsBuilding automation and lighting controlRail systems, shipbuilding, and power engineering Wiring and Usage TipsDirect Connection: A relay can be driven directly from the optocoupler output if the relay coil resistance is above 300 ohms to prevent overcurrent through the optocoupler. Transistor Driver: For lower-resistance coils or higher currents, use an NPN or PNP transistor between the optocoupler and relay coil to safely drive the load. Current Ratings: Ensure the relay and optocoupler combination matches the load requirements; typical optocouplers handle up to 50 mA, while relays can switch higher currents depending on the model.

Connection Technology: Modules may use push-spring or screw terminals for secure and fast wiring. Selecting a ModuleWhen choosing an intermediate relay module with an optocoupler, consider: Input voltage compatibility with your control systemLoad current and voltage requirementsSpace constraints in the control cabinetMounting type (DIN-rail or PCB)Safety features such as force-guided contacts or finger protectionIntegration with other modules like interface or signal conversion units These modules provide a reliable, compact, and safe solution for isolating control signals while switching various loads in industrial and automation systems.

Article Content

Relay Modules and Optocoupler Modules | WAGO

Our relays offer up to four changeover contacts – perfect for dry circuits, lamp loads, and everything in between. Designed for easy maintenance, they enable quick

Intermediate Relays | Reliable Electrical Control

SUPU intermediate relays include compact, slim, standard, PCB welding type, optocoupler relay and other product series. Among them, the slim intermediate

How to Connect a Relay through an Opto-Coupler

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The following concepts show how a relay driver can be configured with an optocoupler using transistors. As shown in the following circuit diagrams, the relay driver may consist a NPN transistor or a PNP

Relay module with optocoupler

Find your relay module with optocoupler easily amongst the 3 products from the leading brands (WAGO, Ahlborn, ...) on DirectIndustry, the industry specialist for

Relays and solid-state relays

Choose from our wide range of solid-state relays and electromechanical relays, available as plug-in versions or as complete modules. Coupling relays, force

WAGO Relay and Optocoupler Modules:

Learn all about the extensive scope of applications for our relays and optocouplers that are accompanied by detailed illustrations. These include the use of manually

Relay module with optocoupler

Relay Modules with a Miniature Switching Relay and Optocoupler Modules (859 Series) WAGO''s 859 Series Relay Modules with a Miniature Switching Relay

Pluggable interface relays and optocouplers CR-S

Pluggable interface relays and optocouplers are used for electrical isolation, amplification and signal matching between the electronic controlling, e.g. PLC (programmable logic controller), PC or field

16-channel relay module 12V with optocoupler low-level trigger ...

Thanks to an additional transistor, the module can be switched with most microcontrollers with little current. The relays used are generously

2 Channel Relay Module with Isolated Optocoupler

This relay module is designed for switching loads using a 12V DC control signal. It features two independent relay channels with optocoupler isolation for signal separation.

Relays – QuartzComponents

Relays are important part of any electrical and electronic circuits. We use relays in control applications, switching applications, circuit protection applications and

Industrial isolated 8-Channel ESP32-S3 WiFi Relay Module RS485

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ESP32-S3-ETH-8DI-8RO is an industrial-grade 8-channel WiFi network relay based on ESP32-S3 main controller and supports WiFi, Bluetooth, RS485, network port and other peripheral interfaces. It has

ESP32 Smart Relay for Home Assistant (ESPHome)

Build a Shelly-style ESP32 smart relay for Home Assistant using ESPHome. Safe wiring, relay module tips, GPIO choices, YAML, and reliability fixes.

Interface relays and optocouplers

The interface relays and optocouplers are widely used in various industrial applications like linking the electronic controlling to the sensor / actuator level.

GM INTERNATIONAL D1093S RELAY OUTPUT MODULE WITH

Bulk order GM INTERNATIONAL D1093S RELAY OUTPUT MODULE WITH LINE AND LOAD DIAGNOSTICS (SIL 3, 24 VDC) from VOLTEDGE TRADE. MOQ 1 Unit.

BOKYAN Industrial Grade GPIO Relay Module ABS Rail Enclosure

Key item features Superior Industrial Performance: This BOKYAN GPIO relay module is built with premium ABS material and features a reliable rail enclosure, ensuring long-lasting durability and

How to Use Relay with optocoupler: Examples, Pinouts,

Learn how to use the Relay with optocoupler with detailed documentation, including pinouts, usage guides, and example projects. Perfect for students, hobbyists,

How to Design Relay Module using Optocoupler || Relay Module Circuit

"In this video, you''ll learn how to design a relay module using an optocoupler, perfect for isolating control circuits from high-power loads. We''ll guide you through the complete circuit diagram ...

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