10-Channel Rail-Type Automation Relay Module

Generic Technical Datasheet & Product Specifications

Product Overview

This brand-agnostic technical document outlines the specifications and functionality for the 10-channel rail-type automation relay control module. Designed for seamless building integration, this hardware enables the centralized management of lighting, motorized window treatments, and pulsed low-voltage triggers via external system controllers.

Technical Specifications

Feature	Specification
Product Type	10-Channel Smart Automation Relay Module
Input Operating Voltage	12V DC
Current Consumption	500mA
Output Channels	10 independent relays (includes 2 built-in NC contacts)
Mounting Type	Standard DIN Rail Mounting (Width: 6 standard fuse slots)
Expandability	Cascade up to 8 modules (max 80 outputs total) per single bus line
Control Interface	Dedicated Inter-device Communication Protocol

Configurable Operating Modes

The module supports hybrid or uniform channel allocation to control varied hardware topologies simultaneously:

- **Lighting / Appliance Control (On/Off Mode):** Up to 10 independent channels for standard binary lighting fixtures or basic appliance power lines.
- **Motorized Blinds & Shutter Control (Blinds Mode):** Up to 5 independent bidirectional motor drives. This mode pairs 2 adjacent relays per motor to mechanical interlock open/close commands.
- **Electronic Lock & Gateway Control (Pulse Mode):** Provides up to 2 specific pulse output channels customized for low-voltage digital I/O triggers or timed electronic strike plates.

System Requirements & Installation Constraints

- **Central Controller:** Must be linked to a master touchscreen or central head-end device that supports the native inter-device bus architecture.
- **Power Infrastructure:** Requires a regulated, clean 12V DC auxiliary external power supply.
- **Addressing Setup:** Hardwired dip-switches or software addressing states must be assigned unique identifiers when cascading multiple units on the network line.