YJHQJNLE XPSAC5121

YJHQJNLE XPS-AC XPSAC5121 Safety Relay Module User Manual

Model: XPSAC5121

1. Introduction

This user manual provides essential information for the safe and effective installation, operation, and maintenance of the YJHQJNLE XPS-AC XPSAC5121 Safety Relay Module. Please read this manual thoroughly before using the product and retain it for future reference. This device is designed to enhance safety in industrial applications by monitoring critical safety functions.

2. Product Features

- **High safety:** Automatic shutdown in case of failure; includes self-diagnosis of faults.
- **Fast and accurate response:** Real-time monitoring of abnormal currents/voltages; precise tripping; anti-damage of the device.
- **Flexible configuration:** Adaptation to multiple voltages/currents; modular combination of functions; to meet the needs of various scenarios.
- **Easy integration and maintenance:** Standardized plug and play interface; automatic fault indication.
- **Forced guided mechanism:** To ensure that contact failure continues to maintain a safe state; to eliminate potential hazards.

3. Safety Information

Important Safety Instructions:

- Always disconnect power before installation, maintenance, or troubleshooting.
- Installation and wiring must be performed by qualified personnel in accordance with all local and national electrical codes.
- Do not operate the device if it appears damaged or malfunctioning.
- Ensure proper grounding to prevent electrical shock.
- This safety relay is designed for specific safety functions. Do not use it for purposes other than those specified in this manual.

4. Product Overview and Components

The YJHQJNLE XPS-AC XPSAC5121 Safety Relay Module is a compact device designed for reliable safety monitoring. Below is an illustration of the module with its key components and terminal markings.

Figure 1: Front view of the XPS-AC XPSAC5121 Safety Relay Module. The red casing features clearly labeled terminals for power input (A1/A2), safety outputs (K1, K2, 13, 14, 23, 24, 33, 34), and auxiliary outputs (Y43, Y44). Status indicator LEDs for "Fuse" and "K1/K2" are visible on the front panel.

Key Terminal Markings:

- **A1/A2:** Power supply input terminals.
- **Fuse:** Indicator for fuse status.
- **K1/K2:** Indicators for internal relay contact status.
- **13, 14, 23, 24, 33, 34:**Safety output contacts.
- **Y43, Y44:** Auxiliary output contacts.

5. Installation

Follow these general steps for installing the XPS-AC XPSAC5121 Safety Relay Module:

1. **Mounting:** Securely mount the module on a DIN rail within an appropriate enclosure, ensuring adequate ventilation.
2. **Wiring Power:** Connect the main power supply to terminals A1 and A2 according to the specified voltage requirements.
3. **Wiring Safety Inputs:** Connect safety devices (e.g., emergency stop buttons, safety gates) to the designated input terminals as per your safety circuit design.
4. **Wiring Safety Outputs:** Connect the safety output contacts (13-14, 23-24, 33-34) to the controlled machinery or safety contactors.
5. **Wiring Auxiliary Outputs:** If required, connect auxiliary outputs (Y43-Y44) for signaling or non-safety related functions.
6. **Verification:** Double-check all wiring connections for correctness and tightness before applying power.

Refer to the detailed wiring diagrams provided with the product packaging for specific connection configurations.

6. Operating Instructions

Once installed and wired correctly, operate the safety relay as follows:

1. **Power On:** Apply power to the module. The "Fuse" LED should illuminate, indicating power is supplied.
2. **Initial State:** With all safety inputs closed (e.g., E-stop released, safety gates closed), the module should be ready to activate its safety outputs.
3. **Activation:** If the safety circuit is complete and no faults are detected, the "K1/K2" LEDs will illuminate, and the safety output contacts will close, allowing power to the controlled equipment.
4. **Safety Function:** When a safety input is opened (e.g., E-stop pressed), the "K1/K2" LEDs will extinguish, and the safety output contacts will open, immediately stopping the controlled equipment.
5. **Reset:** After a safety function has been activated, the system typically requires a manual reset once the safety input condition is restored. Refer to your system's specific reset procedure.

Monitor the status LEDs for operational feedback and fault indications.

7. Maintenance

Regular maintenance ensures the longevity and reliable operation of your safety relay module:

- **Visual Inspection:** Periodically inspect the module for any signs of physical damage, loose connections, or discoloration.
- **Cleaning:** Keep the module clean and free from dust and debris. Use a soft, dry cloth for cleaning. Do not use abrasive cleaners or solvents.
- **Functional Testing:** Regularly test the safety function of the system by activating emergency stops and opening safety gates to ensure the relay responds correctly.
- **Environmental Conditions:** Ensure the operating environment remains within the specified temperature and humidity ranges.

8. Troubleshooting

If the safety relay module is not functioning as expected, consider the following common issues:

Problem	Possible Cause	Solution

Problem	Possible Cause	Solution
"Fuse" LED is off	No power supply or internal fuse blown.	Check power connections to A1/A2. Verify power source. If fuse is internal, contact support.
"K1/K2" LEDs are off, but safety inputs are closed	Fault in safety input circuit or module fault.	Check continuity of safety input devices and wiring. Ensure all safety conditions are met. Perform a system reset.
Module does not reset	Safety input condition not cleared or reset button malfunction.	Verify all safety inputs are restored to their safe state. Check the reset circuit.

If problems persist after following these steps, contact qualified technical support.

9. Specifications

Attribute	Value
Model Number	XPSAC5121
Brand	YJHQJNLE
Package Dimensions	0.39 x 0.39 x 0.39 inches
Item Weight	4.41 Pounds
Manufacturer	YJHQJNLE
First Available Date	May 14, 2025

10. Warranty and Support

The YJHQJNLE XPS-AC XPSAC5121 Safety Relay Module is covered by the manufacturer's standard warranty. For specific warranty terms and conditions, please refer to the documentation included with your purchase or contact YJHQJNLE customer support.
For technical assistance, troubleshooting beyond this manual, or to inquire about replacement parts, please contact your authorized YJHQJNLE distributor or visit the official YJHQJNLE website for support contact information.