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CHUNYE XPSAC5121

CHUNYE Safety Relay XPS-AC Safety Module XPSAC5121 User Manual

1. Introduction

This manual provides essential information for the safe and efficient use of the CHUNYE Safety Relay XPS-AC Safety Module XPSAC5121. Please read this manual thoroughly before installation, operation, or maintenance to ensure proper functionality and to prevent potential hazards. Keep this manual for future reference.

2. Safety Information

Always adhere to local and national electrical safety codes and regulations. Installation, wiring, and maintenance should only be performed by qualified personnel. Disconnect all power before working on the device to prevent electric shock.

- **Hazardous Voltage:** This device operates with hazardous voltages. Improper handling can result in severe injury or death.
- **Proper Grounding:** Ensure the system is properly grounded according to electrical standards.
- **Emergency Stop:** Integrate this safety module into an emergency stop circuit as part of a comprehensive safety system.
- **Environmental Conditions:** Do not expose the module to moisture, extreme temperatures, or corrosive environments.

3. Product Overview

The CHUNYE XPS-AC Safety Module XPSAC5121 is a safety relay designed for monitoring safety functions in industrial applications. It features a compact design, multiple input/output types, and a multi-channel configuration for high reliability.

3.1 Key Features

- Fast Response: Responds quickly to hazardous conditions.
- Compact Design: Occupies minimal space in control panels.
- Multiple Input and Output Types: Supports various interfaces for strong compatibility.

- Multi-Channel Design: Supports dual or multi-channel configurations for enhanced safety.
- High Reliability: Utilizes redundancy design to ensure continued operation and reduce malfunction risk.

3.2 Components and Indicators



Figure 1: Front View of XPSAC5121 Safety Module. This image shows the front panel of the safety relay, highlighting the terminal connections (A1, A2, K1, K2, 13, 14, 23, 24, 33, 34, Y1, Y2) and the status indicator LEDs for A1/A2 Fuse and K1/K2.



Figure 2: Side View with Technical Label. This image displays the side of the safety module, featuring the product label with detailed technical specifications, certifications (UL, CE, EAC), and manufacturing information.

4. Setup and Installation

4.1 Mounting Instructions

The XPSAC5121 module is designed for DIN rail mounting. Ensure the mounting surface is stable and free from vibrations. Allow adequate space around the module for ventilation and wiring access.

1. Align the module with the DIN rail.
2. Press firmly until it clicks into place.
3. Verify that the module is securely fastened to the DIN rail.

4.2 Wiring

Refer to the wiring diagram provided with your specific application documentation. Ensure all connections are secure and correctly terminated. Use appropriate wire gauges for the current ratings.

- **Power Supply (A1, A2):** Connect the control voltage to terminals A1 and A2.
- **Inputs (Y1, Y2):** Connect safety inputs (e.g., emergency stop buttons, safety gates) to Y1 and Y2.
- **Outputs (13-14, 23-24, 33-34):** These are the safety output contacts. Connect them to the control circuit of the

machinery to be stopped.

- **Auxiliary Outputs (K1, K2):** These are typically used for status indication or non-safety related functions.

5. Operation

5.1 Powering On

Once wired correctly, apply power to the A1 and A2 terminals. The module will perform an internal self-test.

5.2 Status Indicators

- **A1/A2 Fuse LED:** Indicates the status of the power supply and internal fuse. A green light typically signifies normal operation.
- **K1/K2 LED:** Indicates the status of the safety outputs. A green light typically signifies that the safety outputs are energized (closed).

5.3 Functionality

The safety module monitors the connected safety devices. When all safety inputs are closed (e.g., emergency stop button released, safety gate closed), the safety outputs (13-14, 23-24, 33-34) will close, allowing the machine to operate. If any safety input opens, the module will de-energize the safety outputs, bringing the machine to a safe stop.

6. Maintenance

6.1 Cleaning

Keep the module clean and free from dust and debris. Use a soft, dry cloth for cleaning. Do not use solvents or abrasive cleaners.

6.2 Inspection

Periodically inspect the module and its wiring for any signs of damage, loose connections, or overheating. Ensure all indicator LEDs are functioning correctly. Perform functional tests of the safety circuit as required by safety standards.

7. Troubleshooting

This section provides guidance for common issues. For complex problems, contact qualified technical support.

Problem	Possible Cause	Solution
Module not powering on	No power to A1/A2; Blown internal fuse	Check power supply connections; Inspect A1/A2 Fuse LED (if off, check power).
Safety outputs not closing (K1/K2 LED off)	Safety input open (Y1/Y2); Wiring error; Internal fault	Check all safety inputs (e.g., E-stop, safety gate); Verify wiring; Consult technical support if fault persists.
Unexpected machine stop	Safety input triggered; Fault in safety circuit	Identify which safety input was triggered; Inspect safety devices and wiring.

8. Technical Specifications

The following specifications are based on the product label and general information.

Parameter	Value
Model Number	XPSAC5121
Input Voltage (AC)	24V AC +10%/-20%
Input Voltage (DC)	24V DC ±20%
AC15-C300 Rating	Ue = 230V AC / Ie = 0.75A
DC13 Rating	Ue = 24V DC / Ie = 2A
Response Time	≤ 100ms
Total Thermal Current (Σ Ith)	≤ 10.5A
Operating Temperature (Tamb)	65°C
Standards	EN/IEC 60947-5-1
Certifications	UL Listed, CE, EAC
Package Dimensions	1.18 x 0.79 x 0.39 inches
Item Weight	6.61 pounds
Manufacturer	CHUNYE

9. Warranty and Support

CHUNYE products are manufactured to high-quality standards. For information regarding product warranty, please refer to the warranty statement provided at the time of purchase or contact your supplier. For technical assistance or support, please reach out to the CHUNYE customer service or your authorized distributor.

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