

474388

P2hz5 230Vac 2S 2O Safety Relay 474388 User Manual

Model: 474388 | Brand: Pilz (as indicated on product label)

1. INTRODUCTION

This manual provides essential information for the safe and effective installation, operation, and maintenance of the P2hz5 230Vac 2S 2O Safety Relay, model 474388. This device is designed for industrial safety applications, ensuring reliable monitoring of safety functions.

Please read this manual thoroughly before attempting any procedures with the relay. Retain this manual for future reference.

2. SAFETY INFORMATION

WARNING: Improper installation or operation of this safety relay can result in serious injury or death, and damage to equipment. Only qualified personnel should install, operate, or service this device.

- Always disconnect power before performing any installation, wiring, or maintenance.
- Ensure all wiring conforms to local and national electrical codes.
- Verify correct voltage and current ratings before connecting the device. The relay operates on 230Vac.
- Do not bypass or modify any safety features of the relay.
- Protect the device from moisture, dust, and extreme temperatures.

3. PRODUCT OVERVIEW

The P2hz5 230Vac 2S 2O Safety Relay is an electromechanical safety device designed to monitor safety circuits. It

features 2 normally open (NO) and 2 normally closed (NC) contacts for versatile application in safety-related control systems.

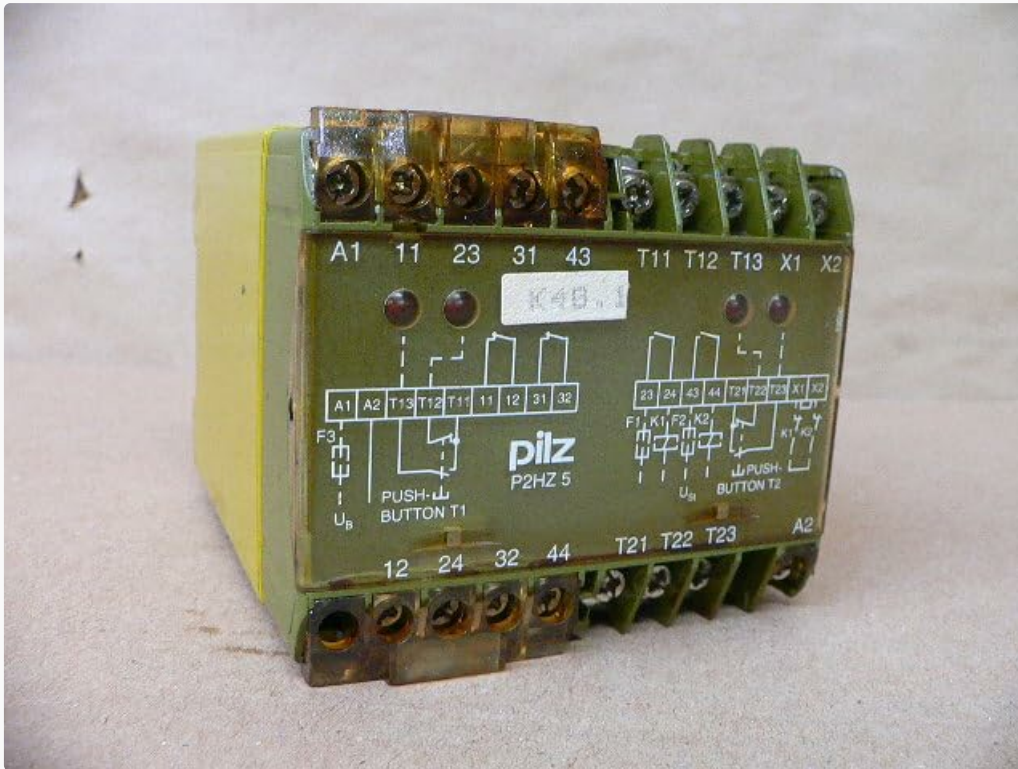


Figure 3.1: Front View with Wiring Diagram

This image displays the front of the P2hz5 safety relay, highlighting the terminal connections (A1, A2, 11, 12, 23, 24, etc.) and the integrated wiring schematic. The schematic illustrates the internal logic and contact configuration, including inputs for push buttons (T1, T2) and outputs (K1, K2). The Pilz branding and model number P2HZ 5 are clearly visible.



Figure 3.2: Side View

This image shows a side profile of the P2hz5 safety relay, emphasizing its robust yellow housing and overall compact design. The green top section with terminal blocks is also visible from this angle.

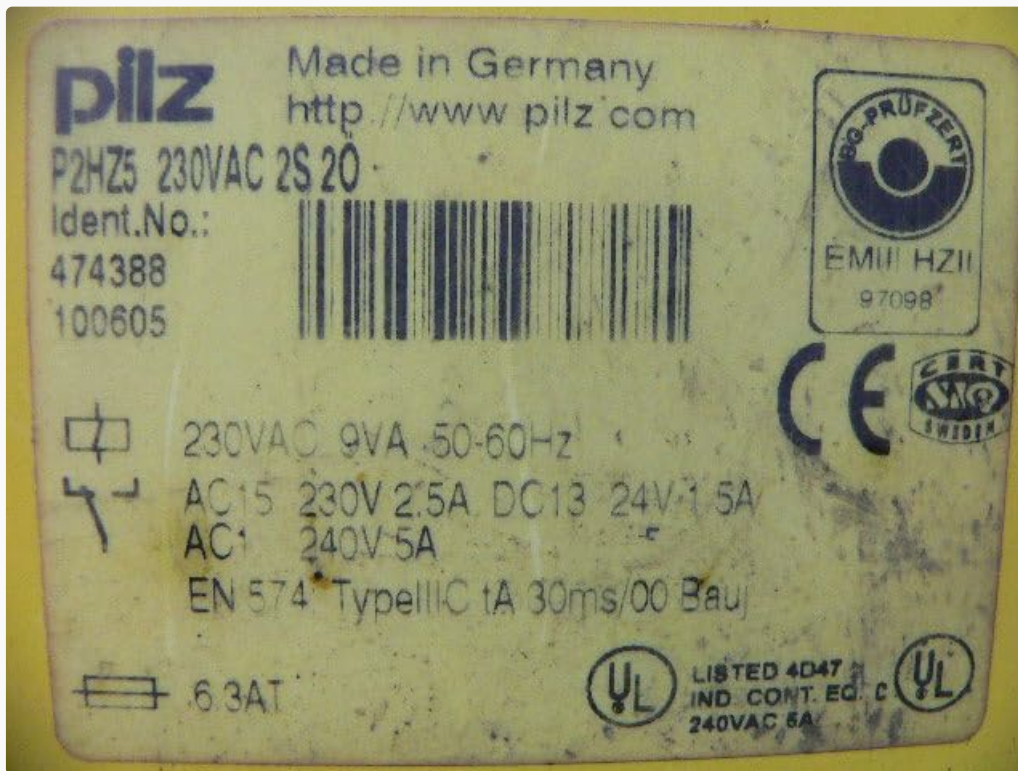


Figure 3.3: Product Label Details

A detailed view of the product label affixed to the P2hz5 safety relay. The label provides critical information including "Made in Germany," the Pilz website, model number P2HZ5 230VAC 2S 2O, identification number 474388, and electrical ratings such as 230VAC 9VA 50-60Hz, AC15 230V 2.5A, DC13 24V 1.5A, and AC1 240V 5A. Various certifications like CE, UL, and TÜV are also present.

4. SETUP AND INSTALLATION

Before installation, ensure the power supply is disconnected. The P2hz5 safety relay is designed for DIN rail mounting within an electrical enclosure.

4.1 Wiring Instructions

Refer to the wiring diagram printed on the front of the device (Figure 3.1) for specific connection points. Key connections include:

- **Power Supply:** Connect 230Vac to terminals A1 and A2.
- **Inputs:** Connect safety devices (e.g., emergency stop buttons, light curtains) to the appropriate input terminals (e.g., T1, T2, F3).
- **Outputs:** Utilize the safety outputs (e.g., 13-14, 23-24, 33-34, 43-44) for controlling contactors or other safety-related components. The relay provides 2 normally open (NO) and 2 normally closed (NC) contacts.
- **Feedback Loop:** Implement a feedback loop (e.g., X1-X2) if required by the safety circuit design to monitor external contactor states.

Ensure all connections are secure and properly insulated. Double-check all wiring against the schematic before applying power.

5. OPERATING INSTRUCTIONS

Once properly installed and wired, the P2hz5 safety relay operates by monitoring the state of connected safety devices. When all safety inputs are in a safe state, the relay's output contacts will close, allowing power to flow to the controlled machinery.

5.1 Power-Up and Reset

1. Apply 230Vac power to terminals A1 and A2.
2. The relay will perform an internal self-test.
3. If all safety inputs are closed (e.g., emergency stop button released, guard closed), the relay will energize its output contacts. Some models may require a manual reset via a dedicated reset button (e.g., connected to T1/T2 or X1/X2) to close the safety outputs after power-up or a fault condition.

5.2 Fault Conditions

In the event of a safety input opening (e.g., emergency stop pressed, guard opened) or an internal fault, the relay will immediately de-energize its safety outputs, bringing the controlled machinery to a safe state. The relay will remain in this safe state until the fault is cleared and, if applicable, a reset is performed.

6. MAINTENANCE

The P2hz5 safety relay is designed for long-term, reliable operation with minimal maintenance. However, periodic checks are recommended to ensure continued safety and performance.

- **Visual Inspection:** Periodically inspect the relay for any signs of physical damage, discoloration, or loose connections.
- **Terminal Tightness:** Ensure all terminal screws are securely tightened to prevent intermittent connections or overheating.
- **Environmental Conditions:** Verify that the operating environment remains within the specified temperature and humidity ranges, and free from excessive dust or corrosive agents.
- **Functional Test:** Regularly test the safety function by activating connected safety devices (e.g., pressing the emergency stop button) to confirm the relay correctly de-energizes its outputs.

Always disconnect power before performing any maintenance procedures.

7. TROUBLESHOOTING

This section provides guidance for common issues encountered with the P2hz5 safety relay. For complex problems, consult a qualified technician.

Problem	Possible Cause	Solution
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Problem	Possible Cause	Solution
Relay outputs do not energize after power-up.	<p>Safety inputs are not closed (e.g., E-stop pressed, guard open).</p> <p>Incorrect wiring.</p> <p>Missing reset signal (if applicable).</p> <p>Insufficient power supply.</p>	<p>Verify all safety devices are in a safe state.</p> <p>Check wiring against the schematic (Figure 3.1).</p> <p>Apply the required reset signal.</p> <p>Confirm 230Vac is present at A1/A2.</p>
Relay de-energizes unexpectedly.	<p>A safety input has opened.</p> <p>Intermittent wiring connection.</p> <p>Power supply fluctuation.</p>	<p>Inspect safety devices and their wiring.</p> <p>Check all terminal connections for tightness.</p> <p>Verify stable 230Vac power supply.</p>

8. SPECIFICATIONS

Parameter	Value
Model Number	P2hz5 (474388)
Supply Voltage	230Vac, 50-60Hz
Power Consumption	9VA
Output Contacts	2 Normally Open (NO), 2 Normally Closed (NC)
AC15 Rating	230V 2.5A
DC13 Rating	24V 1.5A
AC1 Rating	240V 5A
Product Dimensions	7.09 x 6.3 x 8.27 inches
Product Weight	1.32 Pounds
Manufacturer	Pilz (as indicated on product label)
Certifications	CE, UL, TÜV (as indicated on product label)

Note: Specifications are based on product label information and provided product data.

9. WARRANTY AND SUPPORT

This product is listed as used. Specific warranty information for used industrial components may vary depending on the seller and original manufacturer policies. Please refer to your purchase agreement for details regarding any applicable warranty.

For technical support or inquiries regarding the Pilz P2hz5 safety relay, it is recommended to consult the official Pilz documentation or contact a qualified industrial automation specialist.

For general product inquiries related to your purchase, please contact the seller directly.

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This manual is for informational purposes only. Information is subject to change without notice.