



Manuals.plus /

- › AOKLEY /
- › AOKLEY GN-1A-12L/GN-1A-24L Electromechanical Relay Instruction Manual

AOKLEY GN-1A-12L, GN-1A-24L

AOKLEY GN-1A-12L/GN-1A-24L Electromechanical Relay Instruction Manual

Models: GN-1A-12L (12V), GN-1A-24L (24V)

1. INTRODUCTION

This manual provides essential information for the safe and effective installation, operation, and maintenance of your AOKLEY GN-1A-12L or GN-1A-24L electromechanical relay. Please read this manual thoroughly before using the product and retain it for future reference.

2. SAFETY INFORMATION

WARNING: Electrical components can cause injury or death. Installation and servicing should only be performed by qualified personnel.

- Always disconnect power before installing, wiring, or servicing the relay.
- Ensure the relay's voltage and current ratings match your application requirements.
- Do not exceed the specified maximum current and voltage ratings.
- Protect the relay from moisture, dust, and extreme temperatures.
- Verify all connections are secure and correct before applying power.

3. PRODUCT OVERVIEW

The AOKLEY GN-1A series are compact electromechanical relays designed for various switching applications. They feature a 4-pin configuration and are available in 12V (GN-1A-12L) and 24V (GN-1A-24L) coil voltage options, both rated for 16A.

3.1. Key Features

- Electromechanical switching
- Compact design
- High current rating (16A)
- Available in 12V and 24V coil versions

3.2. Product Diagram and Dimensions

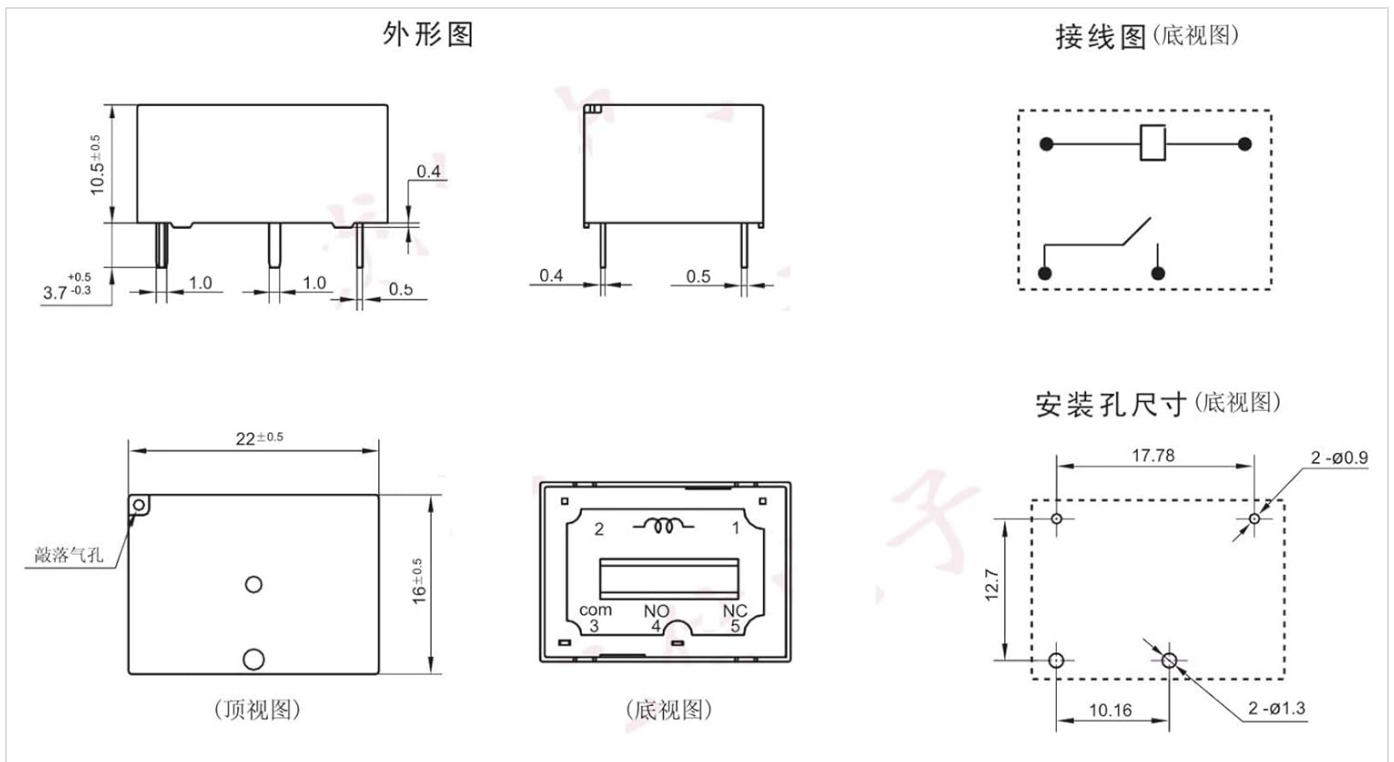


Figure 1: Technical drawing of the AOKLEY GN-1A series relay. This diagram illustrates the relay's external dimensions, internal wiring schematic, top view, bottom view with pin assignments, and recommended mounting hole dimensions. Key dimensions include overall length (22 ± 0.5 mm), width (16 ± 0.5 mm), and height (10.5 ± 0.5 mm). Pin dimensions are also detailed.

4. SPECIFICATIONS

Specification	Value
Model Numbers	GN-1A-12L (12V), GN-1A-24L (24V)
Coil Voltage	12V DC or 24V DC (depending on model)
Contact Rating	16A
Number of Pins	4
Package Dimensions	1.18 x 0.79 x 0.39 inches (approx. 30 x 20 x 10 mm)
Item Weight	1.76 ounces (approx. 50 grams)
Manufacturer	AOKLEY

5. SETUP AND INSTALLATION

5.1. Pin Configuration and Wiring

Refer to Figure 1 for the pin configuration and wiring diagram. The relay features a common (COM), normally open (NO), and normally closed (NC) contact, along with coil terminals.

- **Pins 1 & 2:** Coil terminals. Connect the appropriate DC voltage (12V for GN-1A-12L, 24V for GN-1A-24L) across these pins to energize the coil. Polarity may be indicated on the relay body.
- **Pin 3 (COM):** Common contact. This is the moving contact that switches between NO and NC.
- **Pin 4 (NO):** Normally Open contact. This contact is open when the coil is de-energized and closes when the coil is energized.
- **Pin 5 (NC):** Normally Closed contact. This contact is closed when the coil is de-energized and opens when the coil is

energized.

Ensure all wiring is done according to local electrical codes and safety standards. Use appropriately sized wires for the current load.

5.2. Mounting

The relay can be mounted using the specified mounting hole dimensions shown in Figure 1. The mounting holes are designed for secure attachment to a PCB or mounting plate. The mounting hole dimensions are approximately 17.78 mm by 12.7 mm center-to-center for the main holes, with diameters of Ø0.9 mm and Ø1.3 mm for specific points.

- Ensure adequate clearance around the relay for heat dissipation and ease of access.
- Mount the relay in a stable position to prevent vibration.

6. OPERATING INSTRUCTIONS

The AOKLEY GN-1A relay operates by energizing its coil, which creates a magnetic field that moves the common contact. This action switches the electrical connection from the Normally Closed (NC) contact to the Normally Open (NO) contact.

1. **De-energized State:** When no voltage is applied to the coil (Pins 1 & 2), the common contact (Pin 3) is connected to the Normally Closed (NC) contact (Pin 5). The Normally Open (NO) contact (Pin 4) is disconnected.
2. **Energized State:** When the rated voltage (12V or 24V DC) is applied to the coil (Pins 1 & 2), the coil energizes, and the common contact (Pin 3) switches to connect with the Normally Open (NO) contact (Pin 4). The Normally Closed (NC) contact (Pin 5) is now disconnected.
3. **Switching Off:** When the voltage is removed from the coil, the relay returns to its de-energized state, and the common contact reconnects to the NC contact.

Ensure the control circuit providing voltage to the coil is stable and within the specified voltage range for the relay model being used.

7. MAINTENANCE

AOKLEY GN-1A relays are designed for reliable operation with minimal maintenance. However, periodic checks can help ensure longevity and performance.

- **Visual Inspection:** Periodically inspect the relay for any signs of physical damage, discoloration, or loose connections.
- **Environmental Conditions:** Ensure the operating environment remains within the specified temperature and humidity ranges. Keep the relay free from excessive dust and moisture.
- **Contact Integrity:** If the relay is frequently switching high inductive loads, contact wear may occur over a very long period. If erratic behavior is observed, consider replacing the relay.
- **Cleaning:** If necessary, gently clean the exterior of the relay with a dry, soft cloth. Do not use solvents or abrasive cleaners.

8. TROUBLESHOOTING

If you encounter issues with your AOKLEY GN-1A relay, refer to the following troubleshooting guide:

Problem	Possible Cause	Solution
Relay does not energize (no click sound)	<ul style="list-style-type: none"> o No power to coil o Incorrect coil voltage o Loose or incorrect wiring o Damaged coil 	<ul style="list-style-type: none"> o Check power supply to coil terminals (Pins 1 & 2). o Verify coil voltage matches relay model (12V or 24V). o Inspect wiring for proper connections and continuity. o Replace relay if coil is damaged.
Relay energizes but contacts do not switch load	<ul style="list-style-type: none"> o Incorrect load wiring o Overload condition o Damaged contacts 	<ul style="list-style-type: none"> o Check wiring to COM, NO, and NC terminals (Pins 3, 4, 5). o Ensure load current does not exceed 16A. o Replace relay if contacts are visibly damaged or not making proper connection.
Relay contacts are stuck (always open or always closed)	<ul style="list-style-type: none"> o Contact welding due to overload/short circuit o Mechanical failure 	<ul style="list-style-type: none"> o Replace the relay. Investigate and resolve the cause of overload/short circuit.

9. WARRANTY AND SUPPORT

Specific warranty information for this AOKLEY product is not provided in the available documentation. For warranty claims or technical support, please contact your retailer or the manufacturer directly with your purchase details.