Mumusuki Mumusukiui1yr89w7z

Mumusuki 12V 120A 4-Pin Normally Open Car Starter Relay Instruction Manual

Model: Mumusukiui1yr89w7z

1. Introduction

This manual provides detailed instructions for the installation, operation, and maintenance of the Mumusuki 12V 120A 4-Pin Normally Open Car Starter Relay. This relay is designed for various automotive applications requiring a high-power relay, particularly for vehicle starting systems or split charging setups.

Figure 1.1: Front view of the Mumusuki 12V 120A Car Starter Relay, showing the 12V-120A label and terminal connections.

2. Product Features

- **High Power Capacity:** Ideal for vehicles with split charging systems or applications requiring a high-power relay.
- **Efficient Brass Coil:** Features an excellent brass coil for quick motor starting and efficient operation.
- **Reduced Start Switch Current:** Designed to provide high starting power while reducing the current load on the start switch.
- **Durable PC Shell:** Constructed with a high-strength PC shell for robustness and resistance to damage.
- **Wide Application Range:** Suitable for automobiles, off-road vehicles, multi-function vehicles, forklifts,

snowmobiles, carts, lawn mowers, garden tractors, and various electrical equipment.

3. Specifications

Parameter	Value
Voltage	12V
Current	120A
Type	Normally Open
Leading Out Terminal	Terminal Post
Number of Pins	4
Power (Intermittent Work)	4.8W
Power (Long Time Work)	2.4W
Ambient Temperature	-30℃ to +80℃
Vibration Resistance	10-55Hz, 1.5mm
Humidity	40% to 85%
Insulation Resistance	100MΩ Minimum at 500VDC
Withstand Voltage (Contacts)	500VAC (for one minute/sec)
Withstand Voltage (Coil to Wire)	750VAC (for one minute/sec)
Pick Up Time	7ms
Release Time	5ms
Package Dimensions	2.76 x 1.97 x 1.57 inches
Item Weight	2.82 ounces

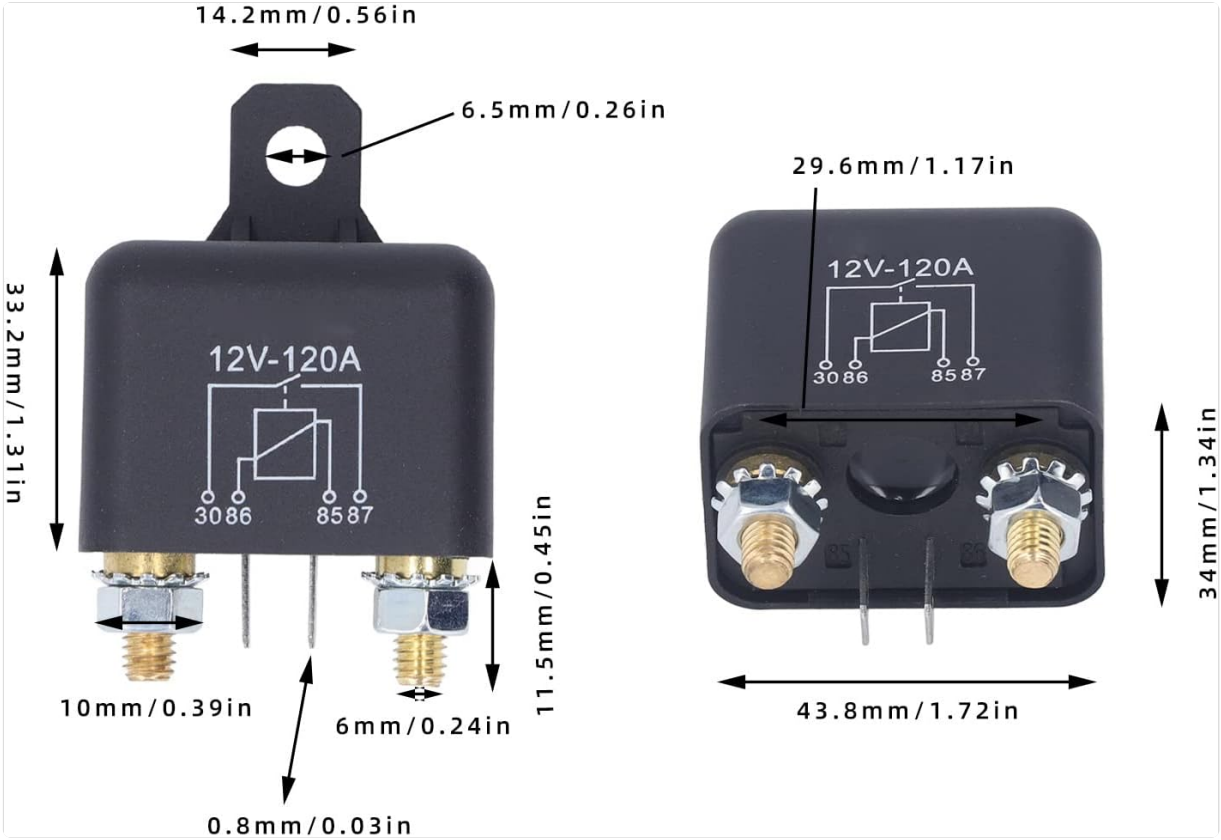

Figure 3.1: Detailed dimensions of the Mumusuki 12V 120A Car Starter Relay, showing measurements in millimeters and inches.

4. Setup and Installation

Proper installation is crucial for the safe and effective operation of the relay. Always disconnect the vehicle's battery before performing any electrical work.

4.1 Wiring Diagram Overview

The relay features a 4-pin configuration with terminal posts for connection. Refer to the diagram on the relay housing for standard wiring connections.

Figure 4.1: Top view of the relay showing the integrated wiring diagram with terminals labeled 30, 86, 85, and 87.

4.2 Terminal Identification

- **Terminal 30:** Typically connected to the positive (+) terminal of the battery (power input).
- **Terminal 87:** Typically connected to the load (e.g., starter motor, auxiliary circuit). This is the output terminal.
- **Terminal 85:** One side of the coil. Usually connected to ground (-) or a switched ground.
- **Terminal 86:** The other side of the coil. Usually connected to a switched 12V positive (+) signal (e.g., from an ignition switch).

Note: Always consult your vehicle's specific wiring diagrams or a qualified automotive technician for precise installation instructions. Incorrect wiring can cause damage to the relay or vehicle electrical system.

4.3 Mounting

The relay features a mounting tab for secure attachment. Choose a location that is dry, protected from excessive heat, and away from moving parts. Ensure the mounting surface is stable and can support the relay.

Figure 4.2: Side view of the relay highlighting the integrated mounting tab for secure installation.

5. Operation

This is a Normally Open (NO) relay. This means that when no power is applied to the coil (terminals 85 and 86), the circuit between terminals 30 and 87 is open (disconnected). When a 12V signal is applied across the coil (energizing terminals 85 and 86), the internal switch closes, creating a connection between terminals 30 and 87, allowing current to flow to the connected load.

- **De-energized State:** Terminals 30 and 87 are disconnected.
- **Energized State:** Terminals 30 and 87 are connected, allowing current flow.

6. Maintenance

The Mumusuki Car Starter Relay is designed for durability and requires minimal maintenance. However, periodic checks can ensure optimal performance and longevity:

- **Visual Inspection:** Regularly inspect the relay and its connections for any signs of corrosion, loose wires, or physical damage.
- **Connection Integrity:** Ensure all terminal connections are tight and secure to prevent arcing or poor electrical contact.
- **Environmental Protection:** While the PC shell is robust, avoid exposing the relay to excessive moisture, extreme temperatures beyond its specified range, or harsh chemicals.
- **Cleaning:** If necessary, gently clean the exterior of the relay with a dry, soft cloth. Do not use abrasive cleaners or solvents.

7. Troubleshooting

If the relay is not functioning as expected, consider the following troubleshooting steps:

- **No Click Sound:** If the relay does not produce an audible "click" when the control signal is applied (e.g., turning the ignition key), check the power supply to terminals 85 and 86. Ensure there is 12V across the coil and a good ground connection.
- **Load Not Receiving Power:** If the relay clicks but the connected load (e.g., starter motor) does not receive power, check the connections to terminals 30 and 87. Verify that terminal 30 has a constant 12V supply and that the wiring to the load from terminal 87 is intact.
- **Intermittent Operation:** This can often be caused by loose or corroded connections. Inspect all wiring and terminals for secure contact and cleanliness.
- **Overheating:** If the relay becomes excessively hot, it may be overloaded or there could be a short circuit in the connected load. Disconnect power immediately and investigate the load circuit. Ensure the current draw does not exceed the relay's 120A rating.

If troubleshooting steps do not resolve the issue, it is recommended to consult a qualified automotive electrician.

8. Package Contents

- 1 x Mumusuki 12V 120A Car Starter Relay

9. Warranty and Support

Specific warranty information for this product is not provided in the available documentation. For warranty claims or technical support, please refer to the retailer or manufacturer's official website, Mumusuki, for their current policies and contact information.

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