Baomain BM-16LS-W12V

Baomain 16mm 12V DC Latching Push Button Switch with LED Instruction Manual

Model: BM-16LS-W12V | Brand: Baomain

1. Product Overview

The Baomain 16mm latching push button switch with LED indicator is designed for industrial control systems. It features a Single Pole Double Throw (SPDT) configuration with 5 pins, including 1 Normally Open (NO) and 1 Normally Closed (NC) contact for versatile circuit control. The integrated LED operates at 12V DC, providing clear visual status. The switch mechanism is rated for loads up to 5A/250V AC, making it suitable for controlling various electrical components such as starters, contactors, and relays.
This switch is characterized by its latching function, meaning it maintains its state (ON or OFF) until pressed again. It is ideal for applications requiring persistent state control and visual feedback.

2. Key Features

- **Latching Mechanism:** Provides stable ON/OFF states, maintaining position until toggled again.
- **Integrated LED Indicator:** A 12V DC LED offers clear visual feedback of the switch's operational status.
- **SPDT Contacts:** Features 1 Normally Open (NO) and 1 Normally Closed (NC) contact for flexible wiring configurations.
- **Robust Electrical Rating:** Capable of handling up to 5A at 250V AC, suitable for industrial applications.
- **Standard Mounting:** Designed for a 16mm (5/8") mounting hole, secured with an included nut for easy panel installation.
- **Durable Construction:** Made with copper and plastic components for reliable performance.

3. Specifications

Attribute	Value
Model Number	BM-16LS-W12V
Switch Type	Latching Push Button
Contacts	SPDT (1NO + 1NC)

Attribute	Value
Switch Rating	5A / 250V AC
LED Voltage	12V DC
Mounting Hole Size	16mm (5/8")
Button Cap Shape	Square
Button Color	White
Pin Count	5 pins
Dimensions (L x W x H)	24 x 18 x 39mm (0.94" x 0.71" x 1.54")
Material	Copper, Plastic
Operating Temperature	Up to 60°C
International Protection Rating	IP50

Note: All specifications are approximate and subject to change without notice.

4. Installation and Wiring

4.1 Mounting the Switch

1. Ensure the power supply to the installation area is disconnected before beginning.
2. Drill a 16mm (5/8 inch) diameter hole in the desired control panel or enclosure.
3. Insert the switch body through the drilled hole from the front of the panel.
4. Secure the switch in place by tightening the included nut onto the threaded body from the rear of the panel.

4.2 Wiring Connections

The switch features 5 pins for connection: Common (C), Normally Open (NO), Normally Closed (NC), and two pins for the LED indicator. Refer to the wiring diagram below for proper connection.

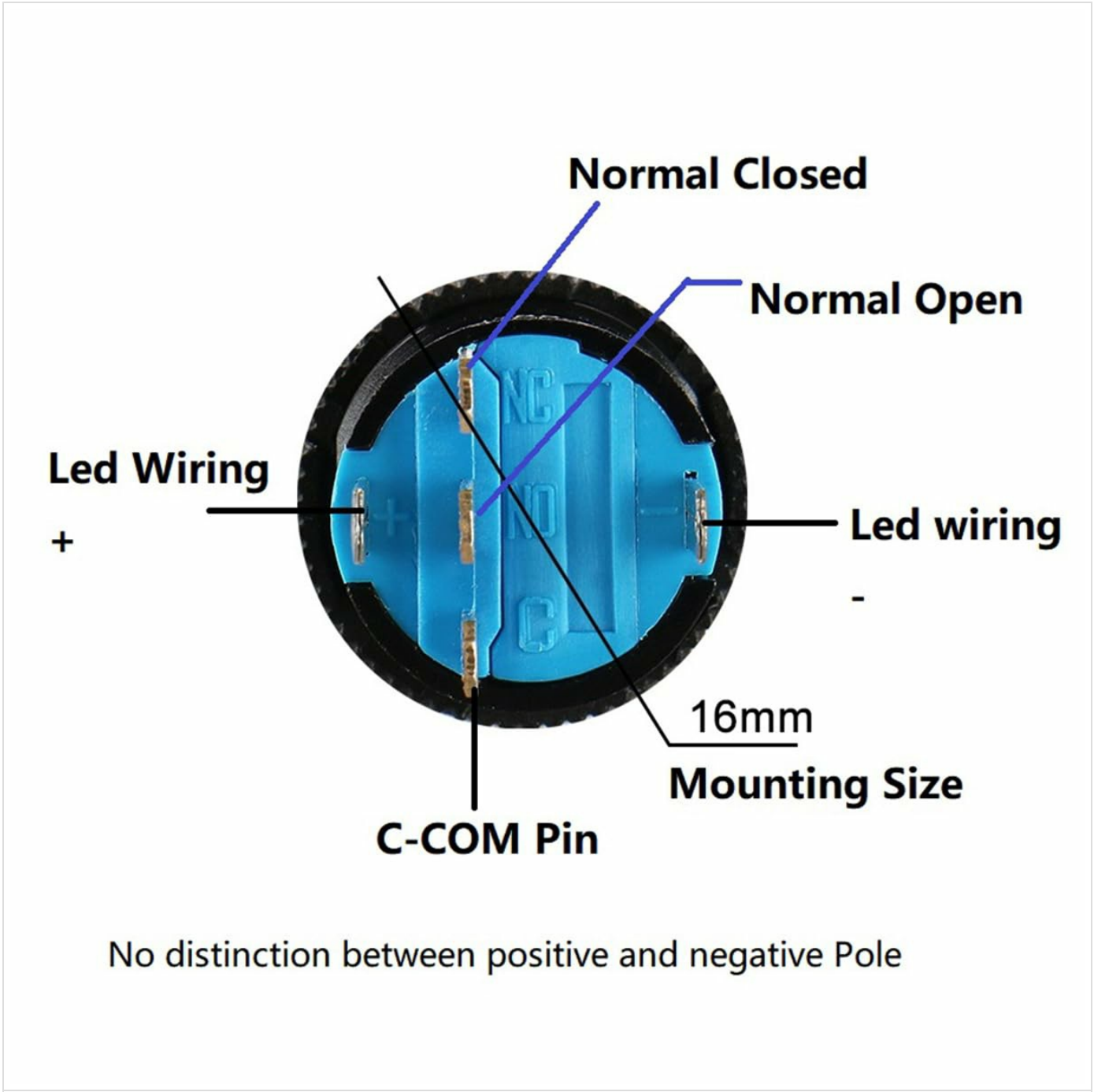

Figure 1: Wiring Diagram. The diagram illustrates the pinout for the Common (C), Normally Open (NO), Normally Closed (NC) contacts, and the two LED wiring terminals. The LED wiring has no distinction between positive and negative poles.

- **Common (C) Pin:** This is the input terminal for the switch circuit.
- **Normally Open (NO) Pin:** This contact is open when the switch is in its default (unpressed) state and closes when the switch is pressed.
- **Normally Closed (NC) Pin:** This contact is closed when the switch is in its default (unpressed) state and opens when the switch is pressed.
- **LED Wiring Pins:** Connect these two pins to a 12V DC power source to illuminate the LED. There is no polarity requirement for the LED connection.

Ensure all connections are secure and insulated to prevent short circuits.

5. Operating Instructions

This is a latching type push button switch. Its operation is straightforward:

1. **To Activate (ON):** Press the button once. The switch will click and remain in the depressed position. The LED indicator will illuminate (if wired correctly) to show the ON state. In this state, the NO contact will be closed, and the NC contact will be open.
2. **To Deactivate (OFF):** Press the button again. The switch will click and return to its original, extended position. The LED indicator will turn off (if wired correctly) to show the OFF state. In this state, the NO contact will be open, and the NC contact will be closed.

Figure 2: Latching Operation. The image demonstrates how a single press activates the switch to an ON state, and a subsequent press deactivates it to an OFF state.

6. Maintenance

The Baomain latching push button switch is designed for durability and requires minimal maintenance. However, periodic checks can ensure optimal performance:

- **Cleaning:** Keep the switch surface clean and free from dust, dirt, or debris. Use a soft, dry cloth for cleaning. Avoid abrasive cleaners or solvents.

- **Connection Check:** Periodically inspect wiring connections to ensure they remain secure and free from corrosion.
- **Environmental Conditions:** Ensure the switch is operating within its specified temperature and humidity ranges. The IP50 rating indicates protection against dust ingress but not against water.
- **Physical Inspection:** Check for any signs of physical damage, loose components, or excessive wear.

Always disconnect power before performing any maintenance or inspection.

7. Troubleshooting

If you encounter issues with your Baomain latching push button switch, consider the following troubleshooting steps:

- **Switch Not Activating/Deactivating:**
  - Verify that the switch is correctly wired according to the diagram in Section 4.2.
  - Check the power supply to the circuit for proper voltage and continuity.
  - Ensure the mechanical action of the button is not obstructed.
- **LED Not Illuminating:**
  - Confirm that the LED wiring pins are connected to a 12V DC power source.
  - Check the power supply to the LED circuit.
  - As the LED has no polarity, ensure connections are secure.
  - Note that the LED will only illuminate when the switch is in the ON (depressed) state, assuming it's wired to indicate switch status.
- **Intermittent Operation:**
  - Inspect all wiring for loose connections or damaged insulation.
  - Ensure the switch is securely mounted and not experiencing excessive vibration.

If problems persist after following these steps, contact Baomain customer support or a qualified electrician.

8. Product Dimensions

For precise integration into your projects, refer to the detailed dimensions below:

Figure 3: Product Dimensions. The image provides measurements for the switch's overall height, width, and the required 16mm mounting hole diameter.

9. Warranty and Support

For information regarding warranty coverage, technical support, or replacement parts, please refer to the official Baomain website or contact your authorized dealer. Keep your purchase receipt for warranty claims.