

Bistable relay WBI-1S-24

Description

bistable switch is a pulse relay designed for use in installations with a 24 V AC/DC supply voltage. It is most commonly used to control electrical circuits, such as lighting in stairwells, corridors, or utility rooms, where 24 V AC or DC voltage is present. The device allows you to turn loads on and off using any number of pushbuttons connected in parallel. Control is achieved by applying a +24 V pulse to the "S" terminal.

WBI-1S-24 is equipped with LED diodes: green "U" (power) and red (operation).

The maximum load current of the changeover contact (NO / NC) is 16 A 250 V AC AC-1 (2.5 A 250 V AC AC-15).

The modular housing (1 DIN module) is made of self-extinguishing plastic and is designed for mounting on a TH35 rail.



Principle of operation

Once the power supply is applied, the device indicates readiness with a green "U" LED. Pressing any control button switches the output contact from position 16-15 to 15-18 and illuminates the red LED. Pressing the same or a different button again switches the contact back to position 16-15, and the LED turns off. The switch "remembers" its operating state even during short-term power outages (approx. 1 second).

Load selection

- 1 category covers resistive loads, meaning those that do not generate significant inrush currents or have inductive properties. The situation is different for LED sources – each LED system contains a power supply, which can be built into the light source (e.g., an E27 LED bulb) or externally. When the power supply is turned on, the input capacitors charge, resulting in a very high, short-term surge current. In extreme cases, this current can reach values tens or even hundreds of times greater than the rated current – a phenomenon most often encountered in simple, inexpensive LED power supplies such as "cheap drivers." For example, a single 20W LED luminaire can experience a surge of 40–70 A lasting 1–2 ms, which, despite the luminaire's seemingly low power output, can fuse relay contacts.

Why don't we provide a table for selecting LED load for Pollin products?

The load generated by an LED depends on the internal design of the power supply and cannot be precisely estimated without detailed data from the power supply manufacturer. Commercially available designs vary significantly, making it impossible to determine a clear value, allowing only estimates with a greater or lesser margin of error. Therefore, special care must be taken when selecting contactors and relays for LED loads.

Suggestion for the installer

Use a reduction factor – connect 5 to 10 times fewer luminaires to the contact than their rated power, and in the case of cheap LED sources even 15 to 30 times less.

In larger installations, choose contactors or relays with a higher load capacity, preferably with a "zero-crossing" function, which can significantly reduce the effects of surge currents.

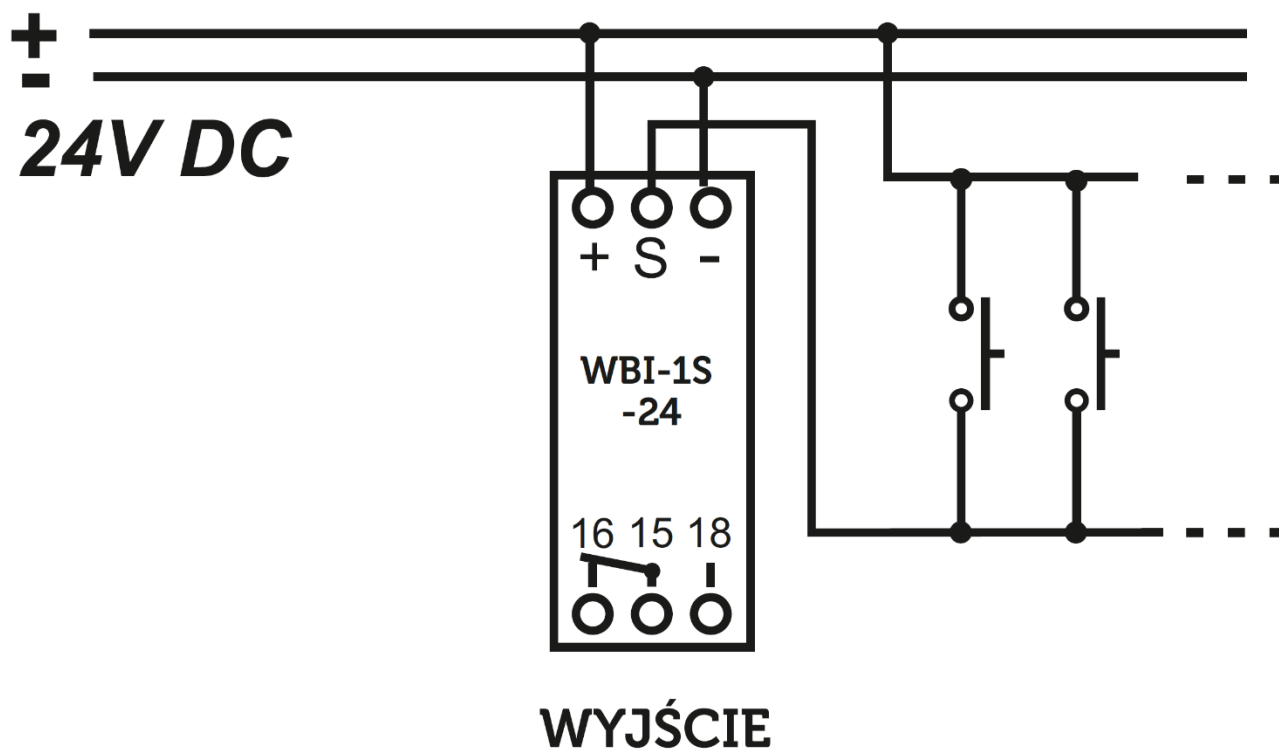
Technical data

Parameter name	Value
Rated supply voltage	24V AC/DC
Operating temperature range	-20 to 50 °C
Max power consumption	0.7 VA
Delayed shut-off function	-
Adjusting the delayed shutdown time	-
Number of relay outputs	1
Contact arrangement	NO / NC
Maximum load current AC-1	16A / 250V AC
Maximum load current AC-15	2.5A / 250V AC
Maximum LED load power	120 W
Case	Modular housing (1 DIN module)

Parameter name	Value
Degree of protection	IP20
Installation	TH35 rail
Time ranges	-
Additional information	WBI-1S-24 can be controlled by connecting the potential of terminal A1 or A2 to terminal S
Clamp type	Elevator
Wire stripping length	8 mm
Single-wire conductor	0.5 to 2.5 mm ²
Multi-stranded conductor (stranded wire) without ferrule	0.5 to 2.5 mm ²
Stranded wire with square crimp sleeve	0.5 to 2.5 mm ²
Tighten to maximum torque	0.5 Nm

Full technical specifications are available on the website www.pollin.pl/do-pobrania or by scanning the QR code provided in the warranty and guarantee section.

Connection diagram



Installation

bistable relay must be installed in accordance with applicable electrical installation standards and regulations. The following guidelines are intended to ensure the installer's safety and the proper operation of the device:

1. **Authorizations** - The device may only be installed by a person with appropriate qualifications and authorizations to work on electrical installations.
2. **Disconnecting the power supply** - Before starting any work, it is essential to disconnect the power supply at the distribution board and make sure that the circuit is voltage-free (e.g. using a voltage indicator).
3. **Personal Protection** - The installer should use personal protective equipment such as electrically insulating gloves and safety glasses.
4. **Mechanical installation** - The device should be mounted on a standard TH35 rail in the distribution board, ensuring stable mounting and adequate ventilation space.
5. **Connecting Wires** - Connections should be made according to the wiring diagram provided by the manufacturer. Ensure that terminals are tightened with the correct torque and that wires of the appropriate cross-section are used. Only one wire may be inserted into each terminal – regardless of whether it is solid or stranded with a crimped ferrule.
6. **Checking the connections** - After completing the installation, carefully check the correctness of all connections, make sure that the terminals are securely tightened and that there are no exposed wires that could cause a short circuit or a shock hazard.
7. **Restoring Power** - After completing the installation and inspection, turn on the power and check the operation of the device according to the instructions.
8. **Tests** - After completing the assembly, check the correct operation of the device.

No Modifications - Any modifications to the device or its components are prohibited. This may result in malfunctions and a safety hazard.

Warranty and guarantee – short information

The warranty applies to every purchaser, including consumers. Warranty claims should be directed to the seller from whom the purchase was made.

If a defect is found in the device, the customer has the right to choose: he or she can use the statutory warranty (in accordance with the provisions of the Civil Code) or the manufacturer's warranty.



Pollin Guarantee



Pollin devices are covered by a 10-year manufacturer's warranty – Zakład Elektroniczny POLLIN Wojciech Polak. The warranty applies only to devices purchased by businesses and covers material and manufacturing defects.

Warranty claims should be submitted by e-mail to: pollin@pollin.pl, in accordance with the procedure described in the full version of the document.

The warranty does not cover, among other things, mechanical damage, unauthorized modifications, installation by unqualified persons and natural wear and tear of consumables.

The full text of the warranty terms is available at: <https://pollin.pl/do-pobrania> or via the attached QR code.

Markings



This symbol on a device indicates that the used equipment should not be disposed of with other household waste. Used equipment should be taken to one of the designated electronic waste collection points or returned to the store when purchasing new equipment. Improper disposal of electronic waste poses a threat to the environment and human health.



The CE marking confirms that the product meets the essential requirements of all applicable European Union directives and regulations.



This marking indicates that installation, connection and all servicing of the device may only be performed by qualified personnel with electrical qualifications.

Technical support – the fastest help from Pollin experts

If you have any questions regarding the operation, configuration or installation of the device, **please contact us by email – this is the fastest way to obtain technical support**.

Send a message to: support@pollin.pl, describe the problem in detail and leave your contact number and the hours when we can call you.

Our engineers will review your request and make every effort to provide you with professional assistance as quickly as possible.

Want to talk to the sales department?

Use the telephone contact – the number can be found at <https://pollin.pl/>.

Discover the world of Pollin automation – more than one product!

Thank you for your trust and for choosing Pollin technology – solutions that work for you. This is just the beginning of the possibilities Pollin technology offers! Our brand is synonymous with reliability, innovation, and safety in electrical installations.

On the website <https://www.pollin.pl> you will find:

- **A full product catalog** – from automation and security to modern solutions supporting renewable energy sources and Smart Home installations.
- **Downloadable materials** – manuals, diagrams, catalog cards and warranty documents in one place.

Don't wait – scan the QR code from the manual or visit our website and discover solutions that are changing industry standards.



Pollin Automation – Technology That Works for You

Pollin is more than just a product
It is a trusted partner in your work !