

BS-02 – Vdc / Vac / Idc / Iac

Voltage or current actuated bistable relay

1. Introduction

The BS-02 is a bistable relay featuring up to 3 reversible contacts, which switch simultaneously when a voltage (models Vdc and Vac) or current (models Idc and Iac) reaches a predefined setpoint.

The relay's state (normal or inverted) is indicated with two LEDs. A green LED indicates that the relay is in the normal state, while a red LED indicates it is in the inverted state.

The BS-02's contacts maintain their state even if the device loses power. The state is also preserved when power is reapplied.

2. Operation

Every BS-02 has a fixed setpoint, which causes a state change to the inverted state if exceeded.

The relay returns to its normal state when one of the following conditions is satisfied (the applicable condition is fixed, and is specified as described in Section 5):

1. automatically, i.e., contacts return to their normal state when the input voltage (Vdc and Vac models) or current (Idc and Iac models) falls below the setpoint;
2. when the BS-02 is powered off (the relay is reset when power is restored);
3. pressing a reset button on the BS-02 front panel;
4. applying one of the following commands between terminals 22 and 33:
 - closing dry (voltage-free) contact;
 - opening dry (voltage-free) contact;
 - DC voltage application (e.g.: $0 \rightarrow 125\text{Vdc}$);
 - DC voltage removal (e.g.: $125 \rightarrow 0\text{Vdc}$);
 - AC voltage application (e.g.: $0\text{V} \rightarrow 220\text{V}$, 60Hz);
 - AC voltage removal (e.g.: $220\text{V} \rightarrow 0\text{V}$, 60 Hz).

As described in Section 5, a physical reset button can always be specified, in combination with one other reset condition.

3. Technical characteristics

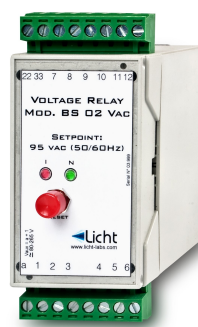
Supply voltage		80 – 265 V _{cc} /V _{ca} (other values can be specified)		
Setpoint accuracy		5%		
Power consumption		Less than 4W		
Contact isolation		2 kV, 50/60 Hz, 1 min.		
Operating temperature		-40 to 85 °C		
Relative humidity		10 - 90%		
Set point	Vac (50/60 Hz)	10 to 300V with 5V increments		
	Vdc			
	Iac (50/60 Hz)	0.5 to 10A with 0.5A increments		
	Idc			
Contacts	Nominal current	8 A		
	Maximum peak current	15 A		
	Nominal voltage	250 V		
	Maximum commutable voltage	400 V		
	Nominal load on AC1*	2000 VA		
	Nominal load on AC15* (230 Vca)	400 VA		
	Single-phase engine power (230 Vca)	0.3 kW		
	Minimum commutable load	300 mW, 5V and 5 mA		
	DC1* contact opening capacity	30V - 8A	110V - 0.3 A	220V - 0.12A

***Conforming to IEC 158-1:** DC1 – slightly inductive DC loads.
AC1 – slightly inductive AC loads.
AC15 – electromagnetic AC loads.

4. Product photograph



BS-02/Iac, BS-02/Idc



BS-02/Vac, BS-02/Vdc

5. Relay code

The table below summarizes the available options for a BS-02 relay, which define its product code.

Measured signal	/IacAC current /IdcDC current /Vac.....AC voltage /Vdc.....DC voltage
Reset mode	Aautomatically Bupon power being restored Cclosing dry contact Dopening dry contact EDC voltage application FDC voltage removal GAC voltage application HAC voltage removal
Number of reversible contacts	A01 contact B02 contacts C03 contacts
Physical reset button	A Yes BNo
Setpoint value	/NN Volts / Amperes

Example: **BS-02/Iac DBB/3.5**

- AC current (/Iac)
- opening dry contact (D)
- SET input (B)
- 2 reversible contacts (B)
- Set point value of 3.5A (/3.5)