

Magnetic Proximity Sensors (Reed)

BP1 Series Rectangular Reed Sensor



General Description

BP1 Series rectangular reed sensor is a sensor that can be used as on/off control switch, proximity sensor, motion sensor, position detection sensor etc. This series can be right-side, left-side or down-side cable exit design which is good for most of the applications. Furthermore, BST can provide customized solution for cable and connector according to customer's demand.

BP1 Series rectangular reed sensor is available in Normally open, Normally closed and Changeover form.

Key Features

- No standby power consumption
- Multiple magnetic sensitivity options
- High reliability and long mechanical life
- Fast switching response
- IP67 waterproof rating
- Available in various cable exit directions
- Wide operating temperature: **-40°C to +125°C**
- Custom cable, connector, and housing color available
- RoHS & REACH compliant

Application

- Intelligent home appliance
- Industrial control and automation
- Metering and counter devices
- Security systems
- Fitness and sports equipment
- Smart home appliances
- Door/cover/position detection
- Automotive non-safety systems

Environmental Specifications

Item	Specification
Vibration	10–2000 Hz, 20 G
Shock	100 G, 6 ms
Thermal Cycling	–40°C ~ +125°C, 100 cycles
High Temp Storage	+125°C
Low Temp Storage	–40°C
Humidity Test	85°C, 85% RH
IP Rating	IP67

Mechanical Specifications

Item	Specification
Housing Material	PA / PET
Housing Color	Black / White / Red
Cable Material	PVC
Cable Type	2-wire / 3-wire (depending on contact form)
Cable Length	300 mm standard (custom available)
Cable Gauge	AWG24 (other gauges optional)
Housing Form	Rectangular / Screw-mount / Flange-mount
Ingress Protection	IP67
Operate Distance	5–17.8 mm
Operating Temperature	–40°C to +125°C
Storage Temperature	–40°C to +125°C

Electrical Specifications

Item	BP1-XXX-A (NO)	BP1-XXX-B (NC)	BP1-XXX-C (Changeover)
Contact Form	Form A (NO)	Form B (NC)	Form C (SPDT)
Rated Power (max)	50 W	10 W	10 W
Switching Voltage (max)	200 V	200 V	200 V
Switching Current (max)	1 A	0.5 A	0.5 A
Breakdown Voltage (min)	400 V	250 V	250 V
Contact Resistance (initial)	≤100 mΩ	≤150 mΩ	≤150 mΩ
Insulation Resistance	≥10 ⁹ Ω	≥10 ⁹ Ω	≥10 ⁹ Ω
Operate Time	≤0.5 ms	≤0.5 ms	≤0.5 ms
Release Time	≤0.5 ms	≤0.5 ms	≤0.5 ms
Switching Frequency	Up to 200 Hz	Up to 200 Hz	Up to 200 Hz

Part Number Naming

BP1 – XX – X – XXX

Code	Description
BP1	Series
XX	Housing type (23 = standard rectangular)
X	Cable exit direction (L/R/D)
X	Contact Form: A = NO / B = NC / C = Changeover
XXX	Cable length or customer option code

Model	Contact Form	Rated Power (max)	Switching Voltage (max)	Switching Current (max)	Operate Distance (mm)	Cable Exit	Std. Cable Length (mm)
BP1-23L-A-300	Normally Open (Form A)	50 W	200 V	1 A	5 - 17.8	Left	300
BP1-23L-B-300	Normally Closed (Form B)	10 W	200 V	0.5 A	5 - 17.8	Left	300
BP1-23L-C-300	Changeover (Form C)	10 W	200 V	0.5 A	5 - 17.8	Left	300
BP1-23R-A-300	Normally Open (Form A)	50 W	200 V	1 A	5 - 17.8	Right	300
BP1-23R-B-300	Normally Closed (Form B)	10 W	200 V	0.5 A	5 - 17.8	Right	300
BP1-23R-C-300	Changeover (Form C)	10 W	200 V	0.5 A	5 - 17.8	Right	300
BP1-23D-A-300	Normally Open (Form A)	50 W	200 V	1 A	5 - 17.8	Down	300
BP1-23D-B-300	Normally Closed (Form B)	10 W	200 V	0.5 A	5 - 17.8	Down	300
BP1-23D-C-300	Changeover (Form C)	10 W	200 V	0.5 A	5 - 17.8	Down	300
BP1-23L-A-500	Normally Open (Form A)	50 W	200 V	1 A	5 - 17.8	Left	500
BP1-23L-B-500	Normally Closed (Form B)	10 W	200 V	0.5 A	5 - 17.8	Left	500



Model	Contact Form	Rated Power (max)	Switching Voltage (max)	Switching Current (max)	Operate Distance (mm)	Cable Exit	Std. Cable Length (mm)
BP1-23L-C-500	Changeover (Form C)	10 W	200 V	0.5 A	5 - 17.8	Left	500
BP1-23R-A-500	Normally Open (Form A)	50 W	200 V	1 A	5 - 17.8	Right	500
BP1-23R-B-500	Normally Closed (Form B)	10 W	200 V	0.5 A	5 - 17.8	Right	500
BP1-23R-C-500	Changeover (Form C)	10 W	200 V	0.5 A	5 - 17.8	Right	500
BP1-23D-A-500	Normally Open (Form A)	50 W	200 V	1 A	5 - 17.8	Down	500
BP1-23D-B-500	Normally Closed (Form B)	10 W	200 V	0.5 A	5 - 17.8	Down	500
BP1-23D-C-500	Changeover (Form C)	10 W	200 V	0.5 A	5 - 17.8	Down	500
BP1-23L-A-1000	Normally Open (Form A)	50 W	200 V	1 A	5 - 17.8	Left	1000
BP1-23R-C-1000	Changeover (Form C)	10 W	200 V	0.5 A	5 - 17.8	Right	1000

Important Notes:

- 1, Physical Dimensions: The datasheet does not provide specific mechanical drawings, please contact BST for more sensor information.
- 2, Parameter Basis: The parameters in the table are based on the "standard" configurations mentioned in the datasheet (e.g., PA housing, black color, AWG24 cable). Selecting other optional features may cause slight variations.
- 3, Magnet Matching: Reed sensors require a magnet to operate. The Operate Distance (5-17.8mm) is influenced by the size, strength, and position of the magnet. Magnet circuit design must be considered during selection.
- 4, Standard models listed above are for reference. Cable length, contact form, lead direction, connector type and electrical ratings can be customized OEM / ODM solutions are available upon request.

Reference Drawing (Different sizes are available, please contact BST for more sensor information)

