

BD1-Series

Battery Disconnect Power Switch

PRODUCT WEBPAGE

request sample, configure part, watch video



The BD1-Series battery disconnect switch is designed to minimize battery drain, ensure maintenance personnel safety. Additionally, the optional, removable key adds an extra layer of security to protect against vehicle theft.

1 Pole **250** Amps **12-24** VDC **IP67 Sealing**
 Above-Panel

Typical Applications

- On/Off-Highway Equipment
- Military
- Marine

Design Features

OFF POSITION



ON POSITION



OFF POSITION WITH KEY REMOVED



Tech Specs

Electrical

Application Voltage	DC Rated voltage: 12VDC / 24VDC Range of operating voltage: 12VDC: min 9VDC, max 16VDC; 24VDC: min 18VDC, max 32VDC
Current Ratings	250A@ 12VDC/24VDC
Contact Voltage Drop	Voltage drop ≤ 100mV after 300 sec. ON at 200% rated current prior to endurance test; Voltage drop ≤ 500mV after 5 msec. ON at 1600A max. current prior to endurance test.
Dielectric Strength	50HZ, 1200VAC for 1 minute between electrically / isolated terminals in main circuit; between terminals of main circuit, knob and enclosure.
Insulation Resistance	Minimum of 100 Megohms 1 min @ 500VDC.
Temperature Rise	Terminal should not exceed 90°C above ambient at rated current after endurance test.
Endurance	2 seconds ON and 3 seconds OFF per operation, load with rated current & voltage. 12V test @14V; 24V test @28V. Total 20,000 cycles: 250A current ratings, including 4,000 cycles respectively at -40 °C±2 and +85 °C±2; 12,000 cycles at 23 °C±2.
Overload	500A: 300 seconds ON; 1600A: 30 seconds ON.

Mechanical

Handling Shock	Fully functional after 3 drops from 1000 mm height. Surface damage may occur.
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Agency Approvals

UL 558/583

Environmental

Operating Temp.	-40 °C to +85 °C.
Moisture Resistance	IEC 60068-2-38 or G/T 2423.34, Test Z/AD: Composite temperature/humidity cycle test, ten 24-hour cycles @ -10°C to +65°C, ≤80-96% RH.
Thermal Cycling	IEC 60068-2-14 or GB/T 2423.22, Test Nb, 25 Cycles -40°C to +85°C.
Thermal Shock	GB/T 28046.4-2011, 5.3.2, Test Na (100 cycles@ -40°C to +25°C to +85°C to +25°C).
Thermal Resistance	ISO 16750-4 or GB/T 28046.4 Cold: Test A, work 24 hours @ -40°C ISO 16750-4 or GB/T 28046.4 Heat: Test B, work 48 hours @ +85°C.
Vibration	IEC 60068-2-34 or GB/T 2423.11,10-500 Hz, Random vibration test for 8 hours in each of the 3 mutually perpendicular axes. 25Gs @ Z axes, 12.5Gs @ X/Y axes, powered.
Salt Spray	IEC 60695-11-10 or GB/T 2408, HB (horizontal burning) and V0 (vertical burning).
Sealing	IP67, for above and below-panel components of actual switch only
Chemical Splash	Gasoline, Diesel, Motor Oil, Brake Fluid, Ammonia, Mixture of previous five chemicals.
UV Protection	ASTM G155-05a, cycle 11, 300 hr Xenon Arc, 1.4W / (m ² Nm), wavelength 420 Nm.

Physical

Number of Poles	1 pole
Wiring Terminals	Line / Load terminal: brass nuts Torque value: M10 (10-15 Nm).
Mounting	M6/M7/M8 bolt and nut, torque value: 4-5 Nm.
Torque Operation	0.5-1.0 Nm.
Body Color	Black
Actuator Color	Red
Weight	Approximately 165g
Material	Base & Bracket & Key (glass filled nylon), Studs (Tin plated brass), Nuts (Brass) Locking Washers (SUS304).

Ordering Scheme

Sample Part Number **BD1 - 1 A 2 /CAP**

Selection 1 2 3 4 5

1. SERIES

BD1 Battery Disconnect Power Switch (1 Pole)

2. RATING / CYCLES

- 1 250A @ 12/24VDC
- 2 250A @ 12/24VDC, UL 558

Notes:

- 1 Individual Keys separately available, reference part number 308-39943-001.
- 2 Only available with rating code "1".
- 3 The Cap accessory is only available for the removable key type.

[Configure Complete Part Number >](#)

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3. KEY STYLE

- A** Removable¹
- B** Non-Removable

4. TERMINATION

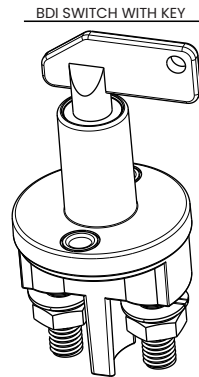
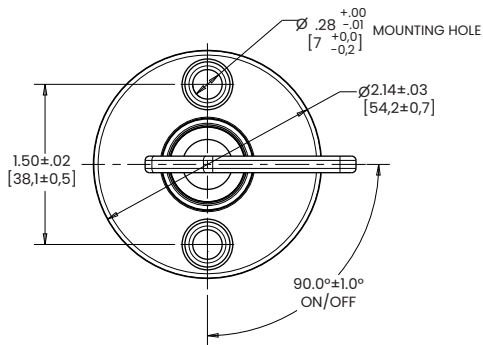
- 1 M10 Stud 19 mm length
- 2 M10 Stud 27 mm length
- 3 M8 Stud 19 mm length²

5. ACCESSORY 3

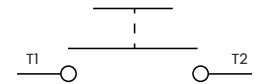
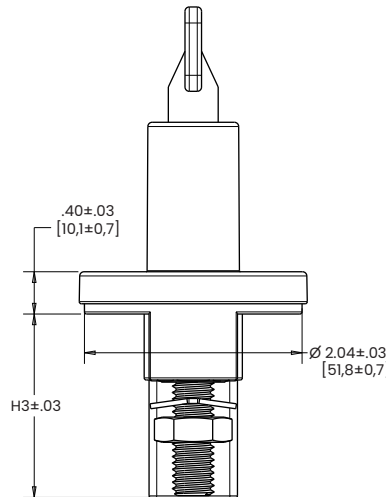
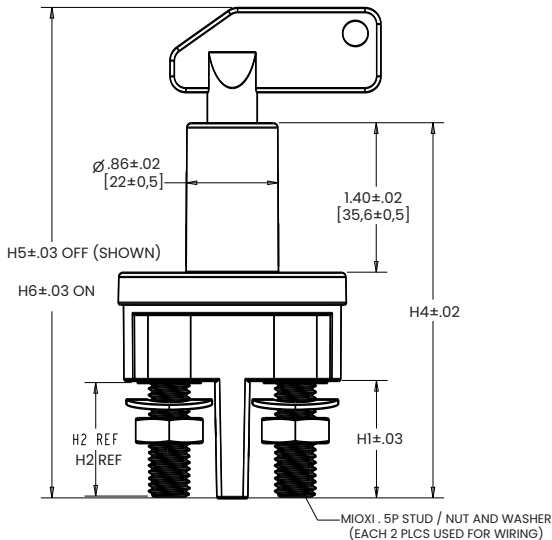
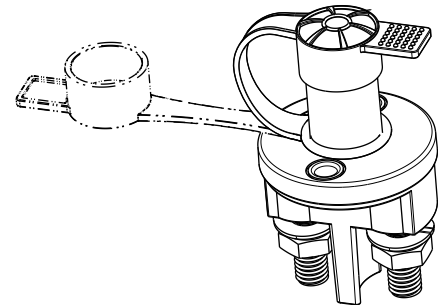
- BLANK** Without Cap
- /CAP** With Cap

Dimensional Specs

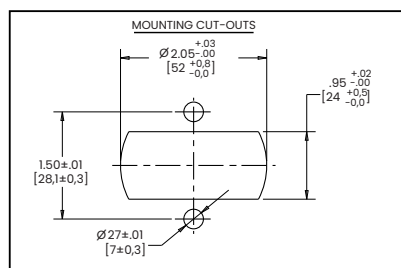
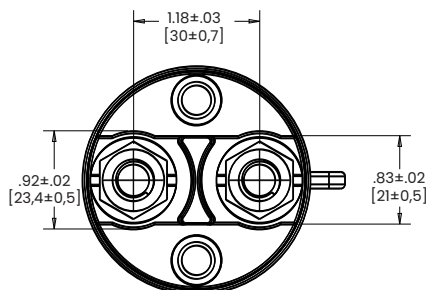
inches [millimeters]



BDI SWITCH WITH CAP



"ON/OFF" SINGLE POLE SINGLE THROW SWITCH CIRCUIT DIAGRAM



Part Number	BD1-XX2	BD1-XX1
H1	1.10 [27.9±0.6]	0.80 [20.3±0.63]
H2	1.06 [27] [27]	0.75 [19]
H3	1.72 [43.6±0.7]	1.42 [36.0±0.5]
H4	3.51 [89.3±0.5]	3.21 [81.6±0.5]
OFF: H5	OFF 4.59 [116.7±0.7]	OFF 4.29 [109.1±0.7]
ON: H6	ON 4.45 [113.1±0.7]	ON 4.15 [105.4±0.7]

Notes:

- 1 Torque for mounting nut: M6, M7 or M8 (4-5 nm)
- 2 Torque for wiring nut: M10 (10-15 nm)
- 3 Switch can be mounted vertically or horizontally

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