Carling Technologies BD-Series battery disconnect switch is designed to minimize battery drain, ensure maintenance personnel safety, and when used in conjunction with a padlock, provides vehicle theft protection.

**Product Highlights:**
- Single Pole, 100-300 Amps
- 12VDC/24VDC
- Fully Sealed to IP67, Including Below the Panel
- Red, Yellow or Black Ergonomic Knob
- Lock Compatible

**Typical Applications:**
- On/Off-Highway Equipment
- Military
- Marine

**Resources:**
- Configure a Complete Part
- Download CAD & Sales Drawing
- Watch Product Video
BD-Series

DESIGN FEATURES

- STUD
- SLIDING CONTACT
- ROTARY KNOB
- SHAFT SEALS
- BODY SEAL
- LOCK COMPATIBLE
**Electrical**

**Application Voltage**
DC
- Rated voltage: 12VDC / 24VDC
- Range of operating voltage:
  - 12VDC: min 9VDC, max 16VDC;
  - 24VDC: min 18VDC, max 32VDC

**Current Ratings**

- 12VDC/24VDC: rated 100A, max 300A (M10 Studs);
- 12VDC/24VDC: rated 300A (M14 Studs)

**Intermittent Current**

- 24VDC/1500A, 3 seconds on, 60 seconds off, 10 cycles: voltage drop should not exceed 400mV between main terminals.
- 28V/1500A/30 seconds: voltage drop should not exceed 400mV
- 28V/2000A/5 seconds followed by 28V/750A/30 seconds followed by 28V/250A/24 hours: voltage drop should not exceed 100mV

**Dielectric Strength**

- 50HZ, 550VAC 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 60°C above ambient.

**Endurance**

**For M10 Studs:**
- 2 seconds ON and 2 seconds OFF per operation, load with rated current & voltage.
  - 12V test @14V±0.1V; 24V test @28V±0.2V.
  - 50,000 cycles: 100A current;
  - 20,000 cycles: 200A current;
  - 3,000 cycles: 250A current

**For M14 Studs:**
- 2 seconds ON and 6 seconds OFF per operation, load with rated current & voltage.
  - 12V test @14V±0.1V; 24V test @28V±0.2V
  - 3,000 cycles: 300A current

**Mechanical**

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

**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**
IEC 60068-2-14 or GB/T 2423.22, Test Na (5 cycles @ -55°C to +25°C to +85°C to +25°C)

**Thermal Resistance**
IEC 60068-2-1 or GB/T 2423.1
Cold: Test A, operate 8 hours @ -40°C
IEC 60068-2-2 or GB/T 2423.2
Heat: Test B, operate 8 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 60068-2-11 or GB/T 2423.17, 48 hours

**Fire and Smoke**
IEC 60695-11-10 or GB/T 2428, HB

**Dust / Waterproof**
IP68, for above and below-panel components of actual switch only

**Chemical Splash**
Gasoline, Diesel, Motor Oil, Brake Fluid, Ammonia, Armor All

**UV Protection**
ASTM G155-05a, cycle 11, 300 hr Xenon Arc, 1.4W / (m2 Nm), wavelength 420 Nm

**Physical**

**Number of Poles**
1 pole

**Wiring Terminals**
Line / Load terminal: M10 brass nuts
- Torque value: M10 (6-8 Nm);
- M14 (10-14 Nm)

**Mounting**
M8 Iron nut, torque value:
- (10-15 Nm)

**Torque Operation**
1.0-3.0 Nm

**Body Color**
Black

**Actuator Color**
Handle color optional, with white color “Arrow” legends.

**Weight**
(M10 Studs): 340±10 g / set;
(M14 Studs): 385±10 g / set

**Material**
Base (PBT glass filled), Bracket & Knob (nylon glass filled), Studs (Copper + Tin plating), Nuts (Brass)

*Manufacturer reserves the right to change product specification without prior notice.*

GPS-0001 Rev: D
**BD-Series - Battery Disconnect - Ordering Scheme & Dimensional Specifications**

1 SERIES
- **BD** Battery Disconnect Power Switch

2 RATING / CYCLES
- **A**
  - 100A @ 24VDC: 50,000 Cycles
  - 200A @ 24VDC: 20,000 Cycles
  - 250A @ 24VDC: 3,000 Cycles
- **B** 300A @ 24VDC: 3,000 Cycles

Note: Refer to General Specifications for test parameters.

3 TERMINATION
- **10** M10 Stud
- **14** M14 Stud

4 KNOB COLOR
- **R** Red
- **Y** Yellow
- **B** Black

5 LEGEND
- **A** Arrow Legend, White Color

**Dimensional Specifications: in. [mm]**

![Dimensional Diagram]

Notes:
1 Only available with code B from box 2.
Mounting Method 1: in. [mm]

Mounting Step 1: Attach mounting gasket with the switch orientation as shown.

Mounting Step 2: Orient as shown and install the switch in mounting panel hole. Then insert studs and washers.


Notes:
1. Switch can be mounted horizontally or vertically.
### Mounting Method 2: in. [mm]

**Mounting Step 1**: Install switch with mounting bracket orientation as shown.

**Mounting Step 2**: Orient as shown and install the switch in customer panel.

**Notes:**

1. Switch can be mounted horizontally or vertically.
**Wiring: in. [mm]**

**Wiring 1:** Disconnect washers and nuts

**Wiring 2:** Attach 2pcs M10 O" ring terminals as shown, then re-fasten washers and nuts

**Wiring 3:** Tighten 2pcs brass M10 nuts (Re: Torque 60-80 in-lb)

**When used in conjunction with a padlock, switch can be locked in the "OFF" position as a safety measure.**
**Authorized Sales Representatives and Distributors**

Click on a region of the map below to find your local representatives and distributors or visit [www.carlingtech.com/findarep](http://www.carlingtech.com/findarep).

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**About Carling**

Founded in 1920, Carling Technologies is a leading manufacturer of electrical and electronic switches and assemblies, circuit breakers, electronic controls, power distribution units, and multiplexed power distribution systems. With four ISO9001 and IATF16949 registered manufacturing facilities and technical sales offices worldwide, Carling Technologies Sales, Service and Engineering teams do much more than manufacture electrical components, they engineer powerful solutions! To learn more about Carling please visit [www.carlingtech.com/company-profile](http://www.carlingtech.com/company-profile).

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