HVBD SERIES

High Voltage Battery Disconnect

300A, 400A, 600A
CONTINUOUS DUTY
1500VDC
SYSTEM VOLTAGE

APPLICATIONS

- HV Battery Systems
- Heavy Truck
- Off-Road Vehicles
- Electric Vehicles
- Marine
- Emergency Vehicles
- Construction & Mining

FEATURES

HVBD is the next level in battery disconnect technology

- Robust metal-ceramic hermetic seal
- Industry leading dielectric withstand voltage
- High temperature performance
- Ultra-low contact resistance over life
- Ready for harsh environments
- Designed for OSHA compliant lockout/tagout (LOTO)
- Optional integrated auxiliary contacts
- Patent pending
- CE compliant

PERFORMANCE

TABLE 1. SPECIFICATIONS

CHARACTERISTIC	MEASURE
Contact Arrangement	Form X, SPST
Operating Voltage[1]	Up to 1500VDC (no switching under load)
Dielectric Withstand Voltage	5,375VDC, 1 minute
Continuous Current [2]	300A, 400A, or 600A continuous
Overload Current[2]	See graphs on next page
Make and Break[1] (400A @ 24VDC)	5,000 cycles
Voltage Drop (Max at nominal load)	40mV
Min Insulation Resistance	100Mohm
Shock, 1/2 Sine, 11ms	25G
Vibration, Sinusoidal (10-500Hz Peak)	4G
Vibration, Sinusoidal (500Hz-2000Hz Peak)	20G
Operating Temperature[2]	-55˚C to 85˚C
Ingress Protection (Sealed Contacts)	Exceeds IP69, (Hermetically Sealed)
Ingress Protection (Housing Feedthrough) [3]	IP67
Weight	425g
Case Material	PA GF
Switch Lever Material	PA GF
Mounting	100mm | C:C, 2X M8
Mounting Position	Any
Auxiliary Contacts	SPDT, 3A Continuous Duty

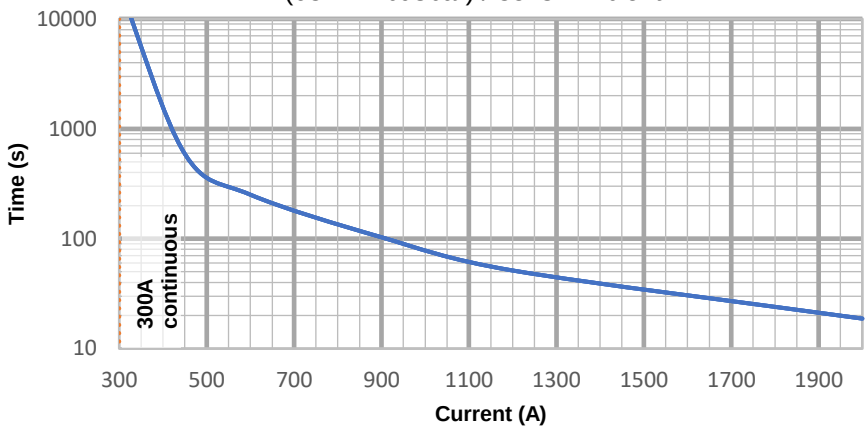
[1] The HVBD is designed to isolate at voltages up to 1500VDC. The HVBD is not intended for make/break switching above 100V.
[2] 170˚C max terminal temperature.
[3] Gasket and or RTV required for feedthrough applications where IP67 is required at the housing flange mounting feature.

PERFORMANCE (cont.)

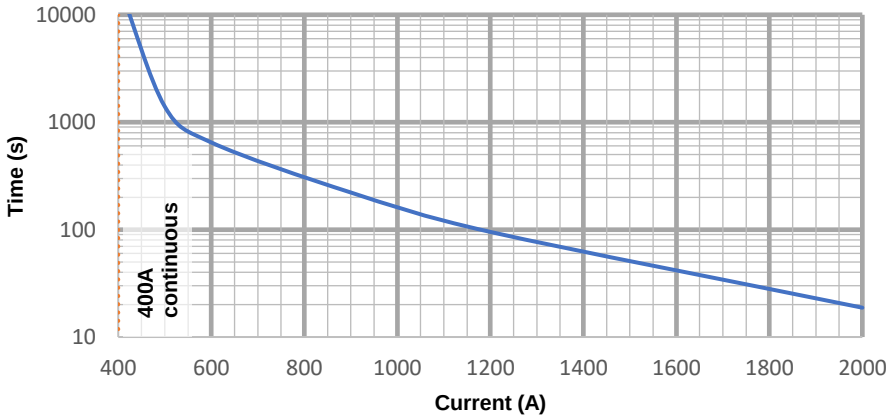
Application Notes

- Current carry @ 85°C Ambient (75°C for 600A version)
- 170°C max terminal temperature
- Graphs provided for design reference; user to verify system temperatures

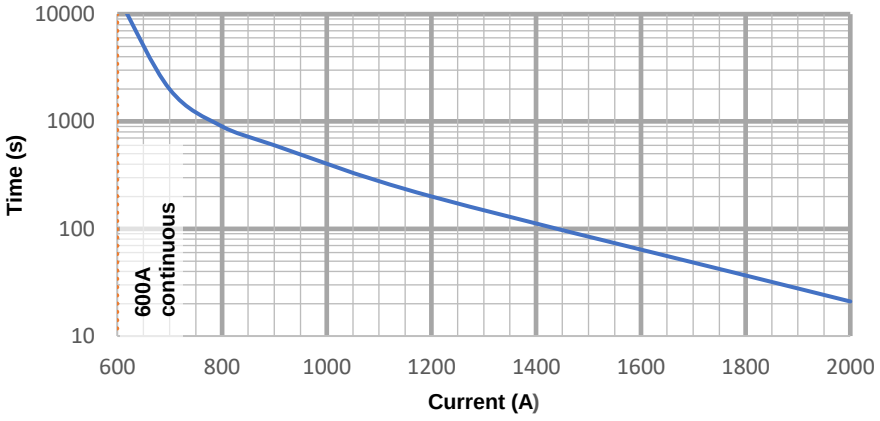
HVBD3 Series Momentary Current Carry
(68mm^2 busbar) / 85°C Ambient



HVBD4 Series Momentary Current Carry
(119mm^2 busbar) / 85°C Ambient



HVBD6 Series Momentary Current Carry
(250mm^2 busbar) / 75° C Ambient



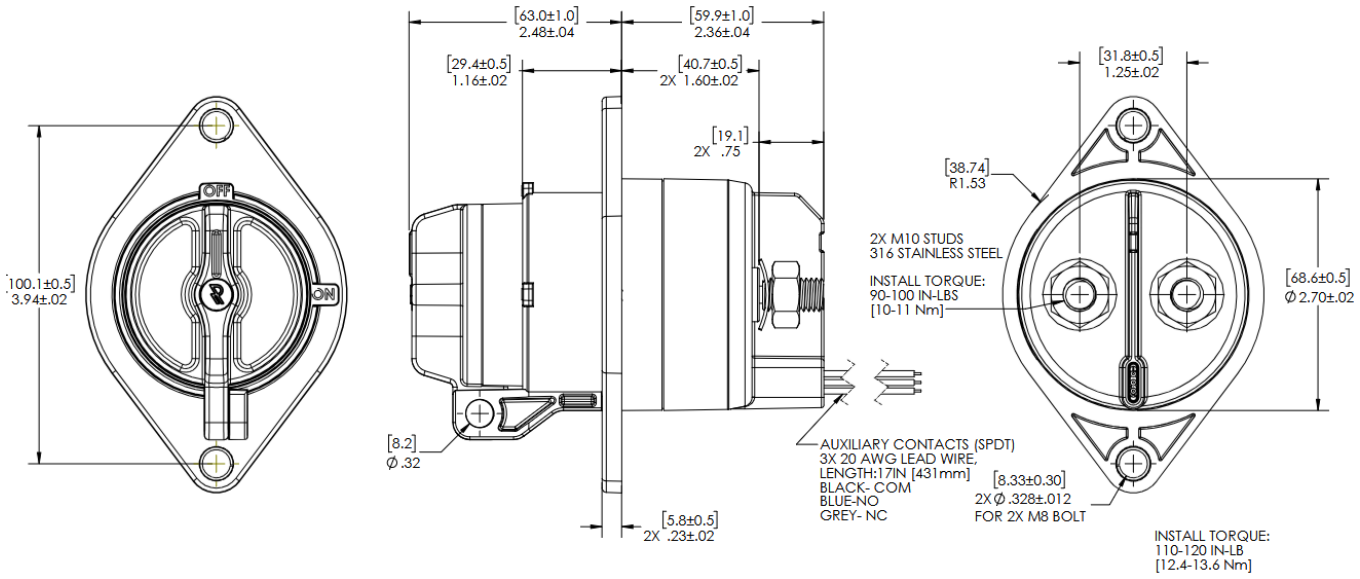
OPTIONS

TABLE 2. PRODUCT NOMENCLATURE				
	CURRENT RATING	MOUNTING	AUXILIARY CONTACTS	HANDLE COLOR
HVBD	**3** 300 Amp	**A** 100 mm C:C	**A** Included	**R** Red
	4 400 Amp			**B** Black
	6 600 Amp		**X** None	**N** Orange

Optional SPDT auxiliary switch details

- Main contacts close before auxiliary contacts when switching from OFF to ON
- Auxiliary contacts open before main contacts when switching from ON to OFF
- IP67 sealed
- Auxiliary contacts rated to (3A @ 12VDC 100k cycles)

PRODUCT DIMENSIONS IN. [mm]



AVAILABLE ACCESSORIES

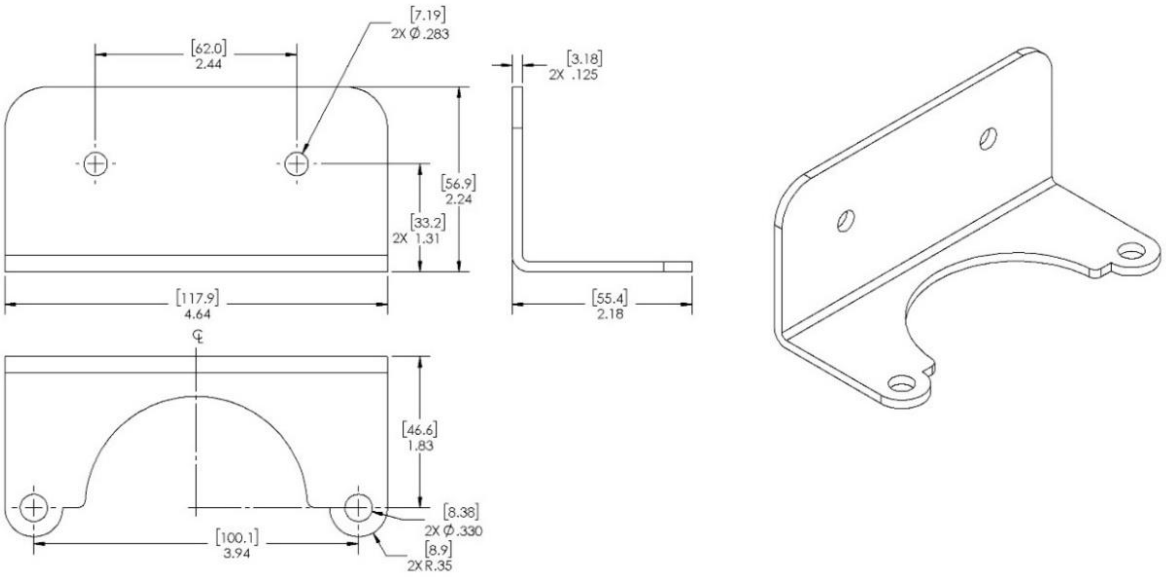
LOTO Padlock

- Safe operation requires the use of an OSHA certified lockout/tagout (LOTO) padlock to ensure the switch remains in the off position
- Lockout Tagout Padlock Requirements:
  - Shackle DIA: 9/32”
  - Vertical Clearance: 3/4”
  - Horizontal Clearance: 5/8”
- Contact Rincon Power for OSHA certified lockout tagout padlock

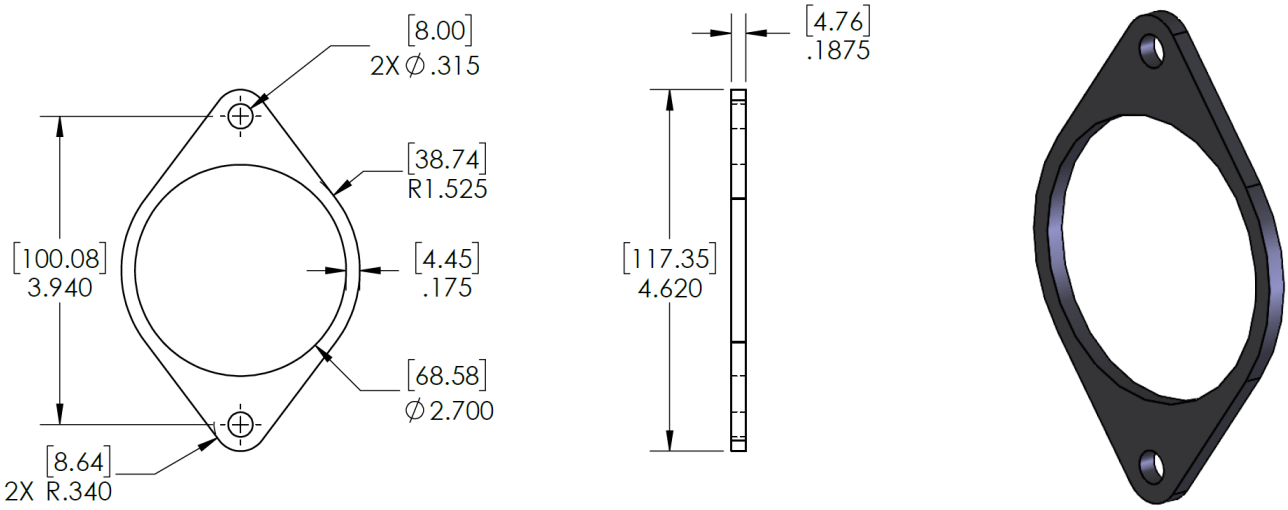
AVAILABLE ACCESSORIES (cont.)

RP2099 Mounting Bracket

- Allows for 90-degree mounting

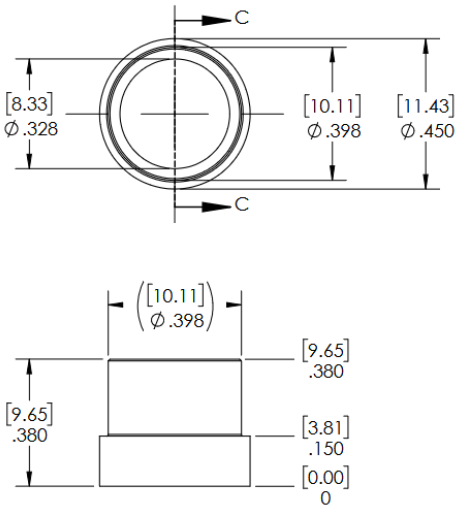


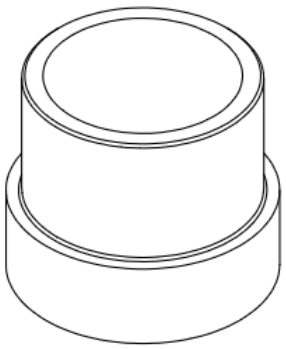
RP2127 Mounting Gasket



MATERIAL: SILICONE, DUROMETER 20A, COLOR: BLACK

RP2286 Compression Limiter





MATERIAL: 304 STAINLESS STEEL

Gasket Application Notes:

For surface mount applications that require IP testing we recommend the following installation steps to ensure a robust seal is created.

1. Surface finish of VDI121 or lower for mounting surface
2. Clean surface with isopropyl alcohol to remove contaminates
3. Remove the original low profile compression limiters (Figure 1) from HVB housing and replace them with RP2286 Compression limiters (Figure 2 / 3)
4. Apply bead of silicone adhesive around DUT thru hole (we recommend Dowsil 739)
5. Install gasket on DUT and Compression Limiters
6. Insert DUT into the mounting surface thru hole with the mounting fastener holes aligned with the mating fastener holes in the mounting surface
7. Install the mounting fasteners lightly to evenly seat the device and gasket on the bead of silicone previously applied and the mounting surface
8. Apply an installation torque of 110-120 in-lb to the mounting fasteners
9. Allow up to 72hrs @ room temperature for the silicone RTV to cure before testing

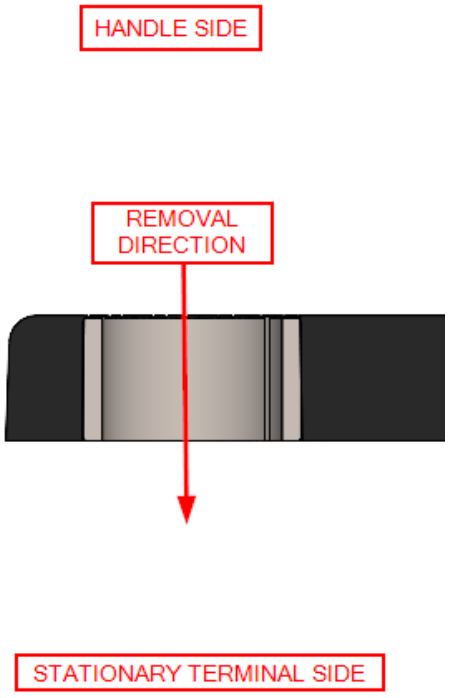


Figure 1

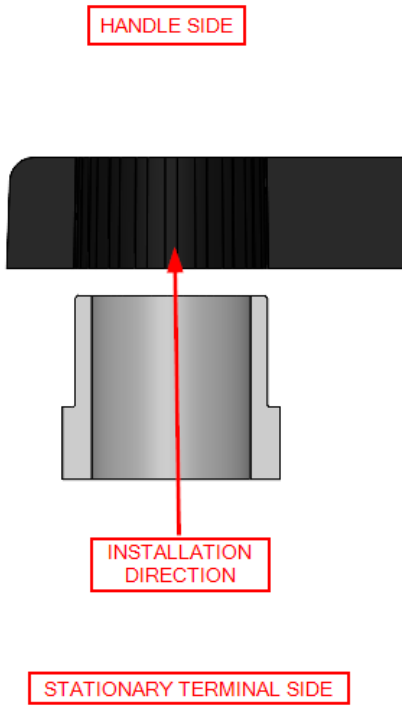


Figure 2

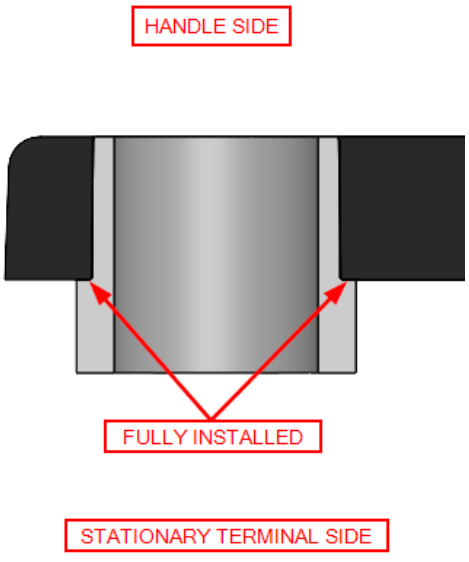


Figure 3

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