

HVBD SERIES

High Voltage Battery Disconnect

300A, 400A, 600A, 800A
CONTINUOUS DUTY
1500VDC
SYSTEM VOLTAGE



DESCRIPTION

The HVBD Series are high performance manual high voltage battery disconnects designed for safe isolation of high voltage battery packs during maintenance and storage. Featuring a patented hermetically sealed design, HVBDs deliver ultra-low contact resistance, high current carry capability, and industry leading dielectric performance up to 1500V in harsh environments.

FEATURES

HVBD Is The Next Level In Battery Disconnect Technology

- Manual rotary disconnect for safe battery isolation
- Robust metal to ceramic hermetic seal rated to 175°C terminal temperature
- Industry leading dielectric withstand voltage for system voltages up to 1500V
- Ultra-low contact resistance for high current carry
- Oxygen free sealed environment for long term contact stability
- Compatible with OSHA compliant lockout tagout padlocks
- Optional SPDT auxiliary contacts for position sensing
- Patent Pending
- CE Compliant
- **Designed and Assembled in the USA**

TYPICAL APPLICATIONS

- Battery Energy Storage Systems (BESS)
- Electric vehicles including buses and trucks
- Industrial equipment battery systems
- Charging infrastructure energy storage
- Maintenance and service disconnect points
- High voltage battery pack isolation
- Applications requiring LOTO

For factory-direct technical support and application assistance:

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Visit <https://www.rinconpower.com/contact-us>

PERFORMANCE

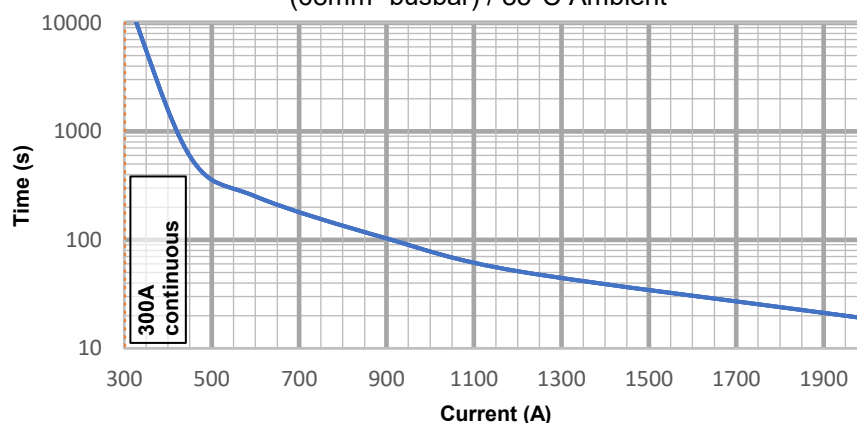
TABLE 1. SPECIFICATIONS

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, 600A, or 800A continuous
Overload Current ²	See graphs below
Make and Break ¹ (400A @ 24VDC)	5,000 cycles
Contact Resistance (Measured at 200A)	Typ: 0.060mΩ, Max: 0.120mΩ
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

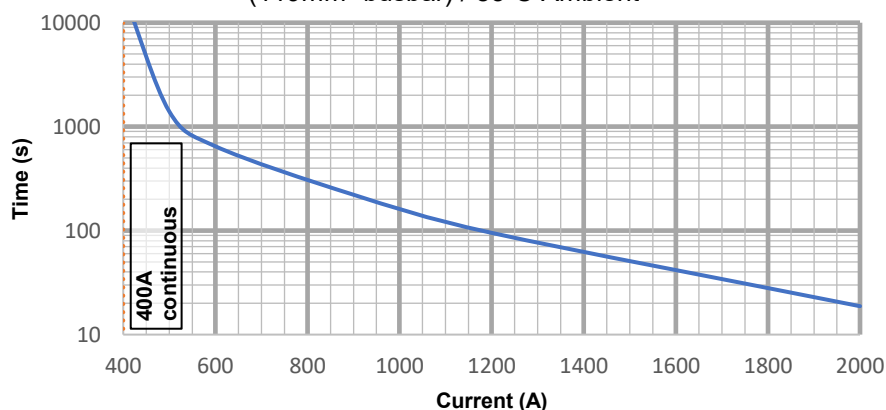
Application Notes

- 170°C Max Terminal Temperature²
- Graphs provided for design reference; user to verify system temperatures

HVBD3 Series Momentary Current Carry (68mm² busbar) / 85°C Ambient

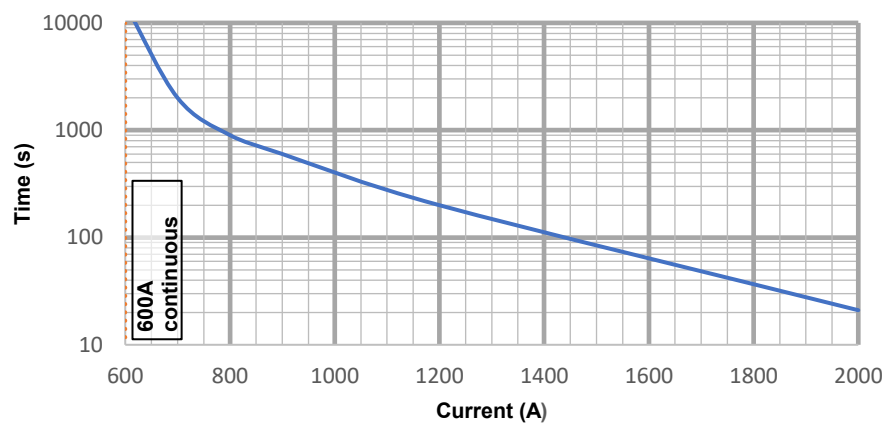
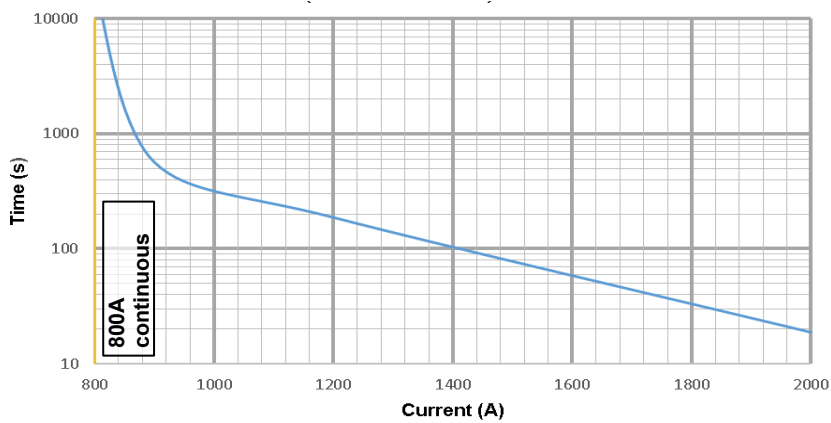


HVBD4 Series Momentary Current Carry (119mm² busbar) / 85°C Ambient



PERFORMANCE (continued)**Application Notes**

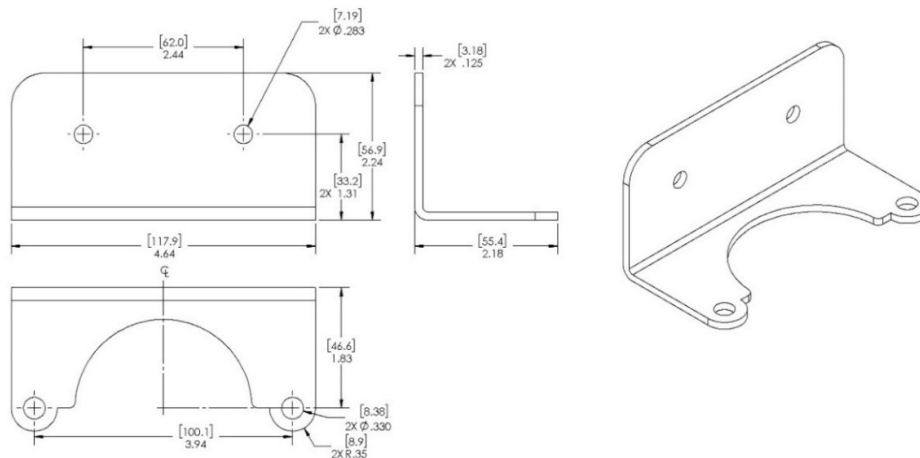
- 170°C Max Terminal Temperature²
- Graphs provided for design reference; user to verify system temperatures

HVBD6 Series Momentary Current Carry
(250mm² busbar) / 75° C Ambient**HVBD8 Series Momentary Current Carry**
(350mm² busbar) / 85°C

AVAILABLE ACCESSORIES (continued)

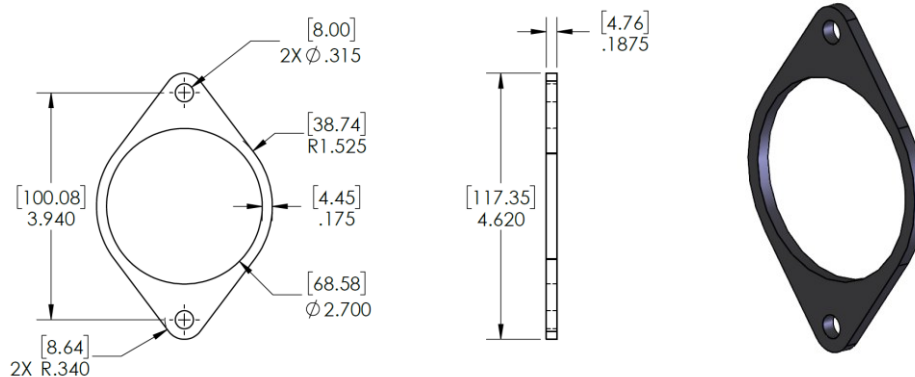
RP2099 Mounting Bracket

- MATERIAL: 300 SERIES STAINLESS STEEL



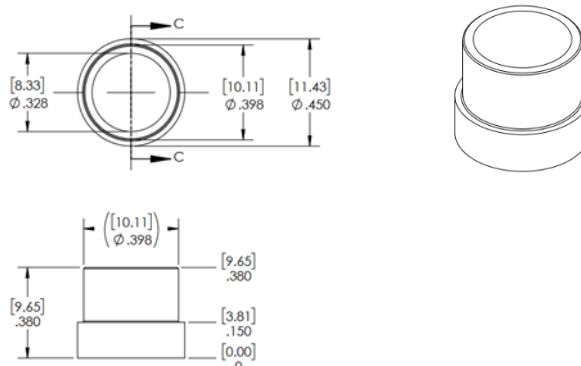
RP2127 Mounting Gasket

- MATERIAL: SILICONE, DUROMETER 20A, COLOR: BLACK



RP2286 Compression Limiter

- MATERIAL: 300 SERIES STAINLESS STEEL



GASKET APPLICATION NOTES

1. MOUNTING SURFACE MUST BE MANUFACTURED WITH A SURFACE FINISH OF Ra 0.8um (32uin) OR SMOOTHER.
2. FASTENER MOUNTING FEATURES MUST BE MANUFACTURED WITHIN +/- .5° OF SURFACE PERPENDICULAR TO MOUNTING PLANE.
3. MOUNTING SURFACE MUST BE CLEAN.
4. REMOVE THE ORIGINAL LOW PROFILE COMPRESSION LIMITERS (2X) FROM HVBD MOUNT HOLES BY PRESSING THEM OUT IN THE DIRECTION TOWARDS THE MOUNTING SURFACE.
5. INSTALL RP2286 COMPRESSION LIMITERS (2X) INTO HVBD MOUNT HOLES BY PRESSING THEM INTO THE MOUNT HOLES TOWARDS HANDLE.
6. APPLY A BEAD OF SILICONE ADHESIVE ON THE MOUNTING SURFACE AROUND THE PERIMETER OF THE MAIN HOUSING THRU HOLE (RECOMMEND DOWSIL 739).
7. INSTALL GASKET ONTO HVBD MOUNTING SURFACE.
8. INSERT HVBD INTO MOUNTING SURFACE THRU HOLE WITH BOTH MOUNTING HOLES ALIGNED.
9. INSTALL THE MOUNTING FASTENERS HAND TIGHT, EVENLY SEAT THE HVBD AND GASKET ON THE BEAD OF SILICONE PREVIOUSLY APPLIED AND THE MOUNTING SURFACE.
10. APPLY INSTALLATION TORQUE OF 110-120 IN-LB TO THE MOUNTING FASTENERS. 11. ALLOW TO CURE FOR 72HRS AT ROOM TEMPERATURE BEFORE TESTING.

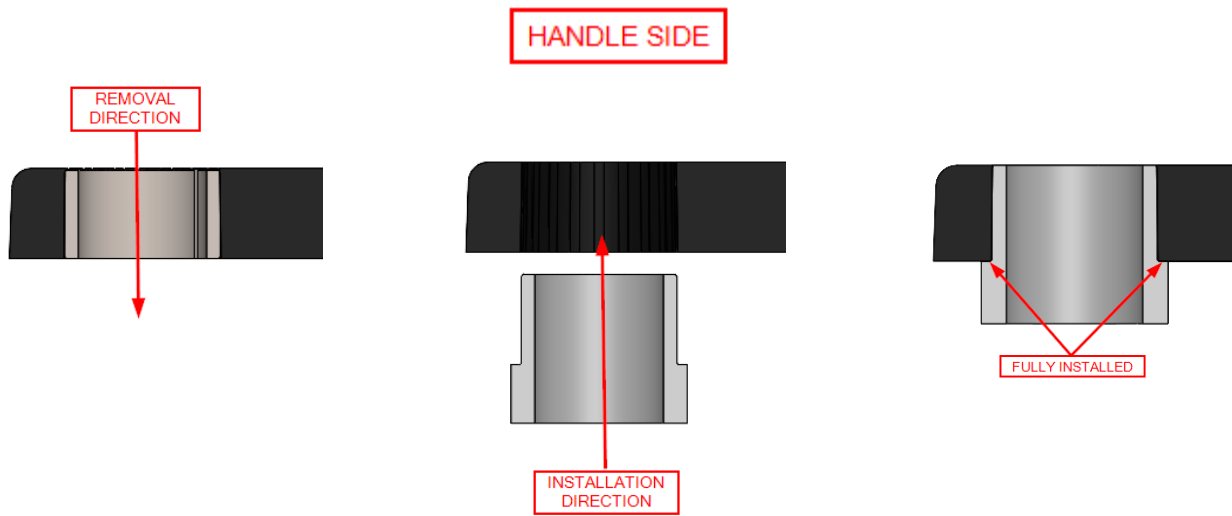


FIGURE 1

FIGURE 2

FIGURE 3

NOTES

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.

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