

Heavy Duty Battery Guard[®] 1000 (12V)

Part number: 00-01153-000



The HD Battery Guard[®] 1000 was designed to make installation simple. With its unique all in one design, Intellitec brought the electronics to the source, eliminating additional wiring and simplifying the installation process. The HD Battery Guard[®] 1000 has a mounting plate attached with two mounting holes located in the back and uses automotive standard connectors for peripheral connections.

Through its correct use you may:

- 1) Prevent unwanted discharging of batteries during extended periods of storage.
- 2) Safely disconnect 12 Volt electrical system when storing for extended periods.
- 3) Prevent overcharging of batteries if RV is plugged into shore power for extended periods.

These instructions contain all the information needed to help you install the Battery Disconnect. It is assumed the installer has basic skills in electrical wiring, mechanics, and carpentry. If you have any doubts about these techniques or instructions consult with someone BEFORE you connect a wire or cut a hole.

The HD Battery Guard[®] 1000 Kit (10-01153-000) includes the following:

1 – HD Battery Guard [®] 1000	(00-01153-000)
1 - 10 ft Harness	(11-01118-001)
1 - 10 ft Extension Harness	(11-01118-000)
1 - Battery Guard [®] Switch with LED indicator	(11-01085-000)

Note: Not included in the kit is the hardware for mounting the HD Battery Guard[®] 1000, Ring Terminals for attaching the battery and load cables.

Additional Parts

Since this kit is for many different types of vehicles, not everything you need can be included. The parts required are listed below and can be purchased at any RV or automotive store.

- 1) Crimp on battery cable lugs. Two (2) for each relay. Must fit 3/8" copper studs on relay.
- 2) Relay Mounting bolts, 1/4", length to suit. Two (2) per relay.

Locating the Battery Guard® 1000 Switch:

The Battery Guard® Switch should be readily accessible by the user. This switch not only controls the state of the battery disconnect but also provides indication of the disconnect state and whether faults have occurred. A typical location for installing the switch is on the interior wall near the entrance door of the coach. This allows the user an opportunity to disconnect or reconnect when necessary as they enter and exit the vehicle. Ensure the wall used for mounting the switch has enough clearance behind it to allow cables access. Typically, ¾" to 1" is required.

Routing the Control Cable:

The control cable used in the 10-01153-000 kit is a multi-conductor wire which includes the switch input signal, the alarm output signal, and the ground signal. This cable must go back to the HD Battery Guard® 1000. It is recommended to leave a service loop or at least 1 ft of extra wire in the run for servicing purposes. This cable does not need to be run inside of conduit or need any other sort of cabling protection.

Note: The HD Battery Guard® 1000 kit includes a 10 ft harness as well as a 10 ft extension harness. Be sure to use the correct configuration when routing the wires.

Installing the HD Battery Guard® 1000:

WARNING: Before proceeding, disconnect all sources of power. Unplug the shore power cable and turn off the generator. Disconnect the battery(s) negative (-) terminal.

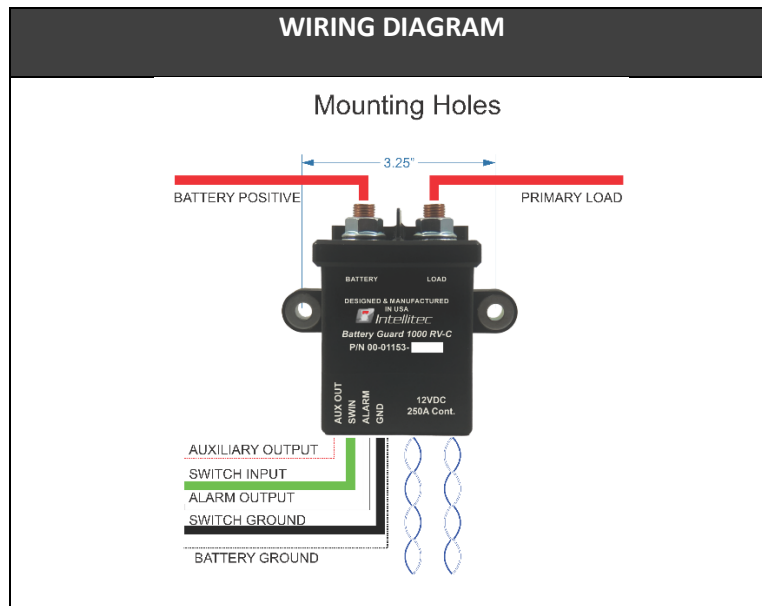
The HD Battery Guard® 1000 controls a relay that acts as electro-mechanical switch that disconnects the battery. It should be located near the battery for wiring simplicity. When installed, the relay will be inserted "in-line" with the cable coming from the positive (+) terminal of the battery. Keep this in mind when choosing the installation location.

While holding the relay in place near the chassis battery, mark the location of the two holes for the relay mounting bolts. Set the relay aside, and drill two mounting holes. Before bolting the relay in place, route the Control Cable near the mounting place. When installing in an engine compartment, be sure to provide enough space for airflow to allow for cooling.

Connecting the Cables:

Locate the positive battery cable for the chassis battery. Carefully cut the cable near the relay. Strip the cable insulation back about 1/2" on each end and crimp on the battery cable terminals. Remove flange nut from both copper bolts. Connect the terminals to the copper studs on the relay. Torque requirements for the high-power copper contact studs should be **5 – 7 FT-LBS, not to exceed 9 FT-LBS**. It's important that the battery feed cable goes to the stud labeled "BATTERY" and the load feed goes to the stud labeled "LOAD". If either wire is not present during installation, then do not continue the installation as the HD Battery Guard® will not operate correctly.

Please refer to the wiring diagram on the following page for additional information regarding how to connect to the HD Battery Guard® 1000.



Note: Color combinations represented in the wiring diagram are from the 10-01153-000 kit harnesses. If using a different harness, please refer to the signal definitions when connecting to the device.

When Using 10-01153-000 kit harness, an additional ground wire from the battery terminal must be connect to the ground quick connect on module (see dashed lines for installation location).

**Quick connect receptacle not included in kit.*

Application Connections:

Signal	Function	Connection Type
Switch Input (GND)	User input allows the ability to toggle primary disconnect state	0.25" Quick Connect Female
Alarm Output (VBAT)	350 mA output indicating disconnect state and low voltage condition	0.25" Quick Connect Female
Ground	Ground supply for Battery Guard 1000	0.25" Quick Connect Female
RV-C Network	RV-C communications with constant battery	4 pin Molex Mini-Fit
Switched RV-C	RV-C communications with switch power	4 pin Molex Mini-Fit
Battery Positive	Battery Power for Primary and Auxiliary Loads	5/16" Ring Term
Primary Load	100 Amp Disconnect for Primary Loads	5/16" Ring Term
Auxiliary Output	2 Amp Disconnect for Auxiliary Load	0.25" Quick Connect Female

RV-C Connectors:

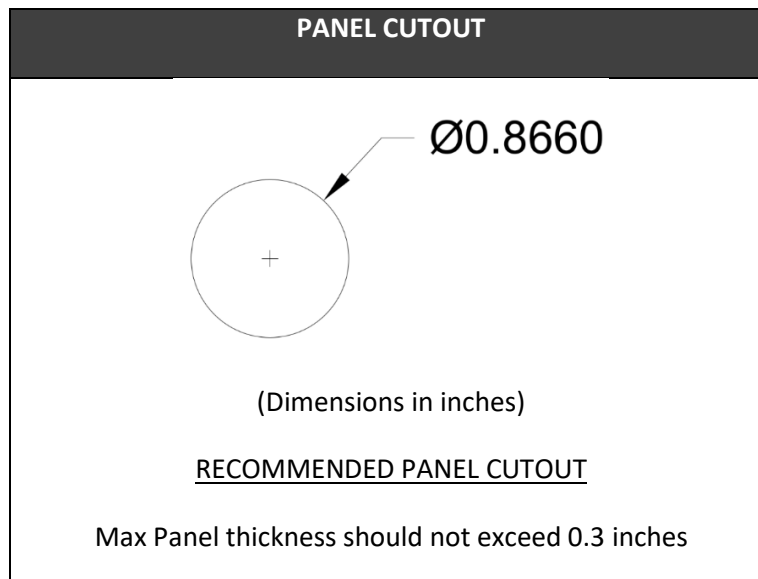
The RV-C network connections use 4 pin Mini-Fit connectors and follows the RV-C standard pin-out convention described in section “2.1.4 Connectors” of the RV-C guideline.

Pin Number	Description
1	CAN H
2	CAN L
3	PS -
4	PS +

Pin Number	Description
1	CAN H
2	CAN L
3	Switched PS -
4	Switched PS +

Locating the Battery Guard® 1000 Switch:

The Battery Guard® 1000 offers a direct switch input signal that allows the user to toggle the primary disconnect state. This can become very useful if the RV-C network were to ever go down or if the user does not have access to the other control methods. The switch should be readily accessible by the user. This switch not only controls the state of the battery disconnect but also provides indication of the disconnect state and whether faults have occurred. Ensure the wall used for mounting the switch has enough clearance behind it to allow cables access. Typically, ¾” to 1” is required.



Note: If using switch as part of the Intellitec kit number 10-01153-000 refer to the dimensions above for mounting the switch in the wall.

Configuration:

The HD Battery Guard® 1000 comes with two preconfigured settings, one for chassis disconnect loads and one for coach disconnect loads. By default, the HD Battery Guard® 1000 is set to its chassis configuration. The differences between the two configurations is the low voltage disconnect threshold and the isolation delay. The parameters can be found in the 53-01153-100 User Guide.

To change the HD Battery Guard® 1000 parameters from chassis disconnect to coach disconnect and vice versa, the following steps are required:

- 1) Remove power from the HD Battery Guard® 1000 by disconnecting the battery feed to the copper stud.
- 2) Connect the switch input to ground by pressing and holding the switch button or by other means.
- 3) Apply power back to the HD Battery Guard® 1000.
- 4) Hold the switch button in for 30 seconds.

When successfully reconfigured, the diagnostic LED on the HD Battery Guard® 1000 will blink.

- 4 blinks indicate the Battery Guard® 1000 is using “chassis” parameters.
- 5 blinks indicate the Battery Guard® 1000 is using “coach” parameters.

If after roughly 30 seconds, the device does not display a blink code on the diagnostics LED, start the process over by removing power from the HD Battery Guard® 1000 and following the remain steps stated above.

Available Product Literature and Guides:

Brochure:	53-01153-000
Product Specification:	53-01153-001
User's Guide:	53-01153-100
Installation and Applications:	53-01153-200
Supporting Documents:	53-01153-300

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