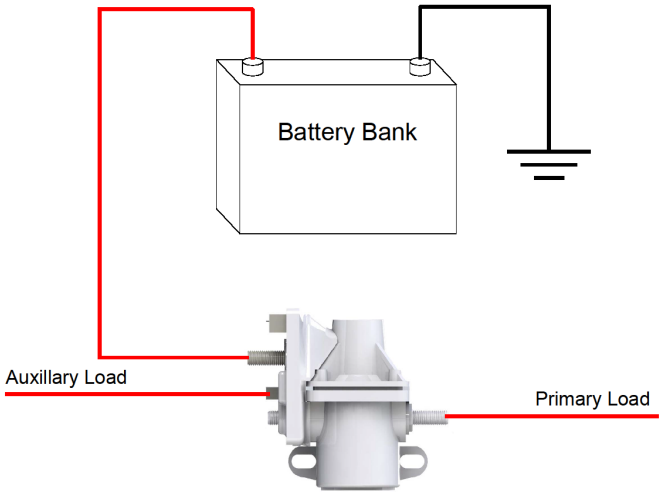
Battery Guard® 1000 (RV-C)

Part number: 00-01130-000

The 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 Battery Guard® 1000 has a mounting plate attached with two mounting holes located in the back and uses automotive standard connectors for peripheral connections.

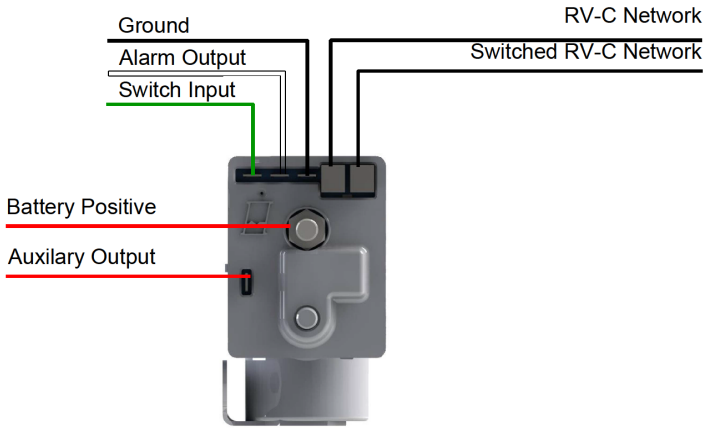
These instructions contain all the information needed to help you install the Battery Disconnect. It is assumed the installer has basic skills in electrical wiring, mechanics, and carpentry. If you have any doubts about these techniques or instructions consult with someone BEFORE you connect a wire or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

Wire Diagram 1



Wire Diagram 1 illustrates the primary connections of the Battery Guard® 1000. 5/16” bolts are used for the battery supply and Primary Load connections and are capable of supporting 100A of current. The Auxiliary Load uses a male ¼” quick connect and can supply up to 2A of current to the Auxiliary Load.

Wire Diagram2



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

Table 1

RV-C Connectors:

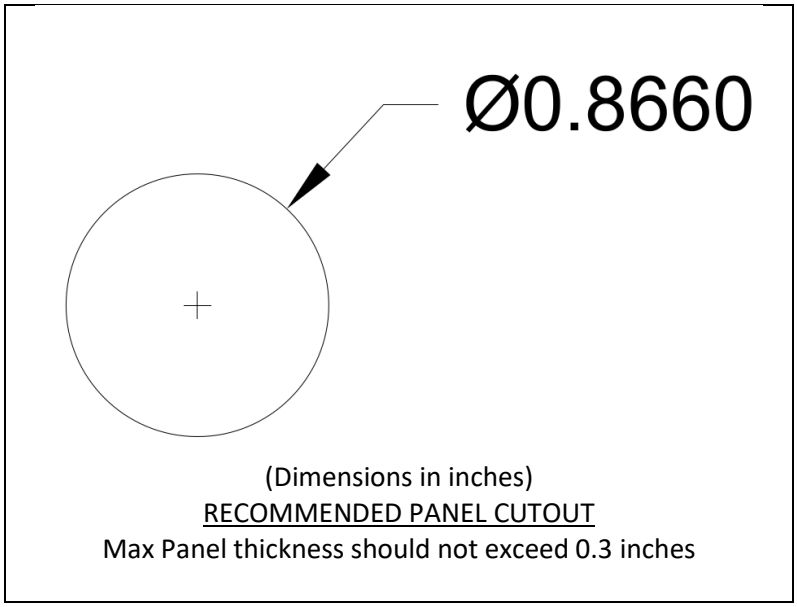
The RV-C network connections use 4 pin Mini-Fit connectors and follows the RV-C standard pin-out convention described in section “2.1.4 Connectors” of the RV-C guideline.

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.



(Dimensions in inches)
RECOMMENDED PANEL CUTOUT
Max Panel thickness should not exceed 0.3 inches

Note: Drawing dimensions refer to the switch used in the Intellitec kit (part # 10-01130-000).

Installing the 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 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.

WARNING: To prevent unwanted isolation when ignition signal is present, the Battery Guard® 1000 looks at the RV-C network to determine its ignition inhibit state. Ensure the network integration supports the "ignition switch status" if attaching operation safety critical devices. If not, it is recommended that safety critical devices be on a separate branch from the Battery Guard® 1000.

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 sufficient space for airflow to allow for cooling.

Connecting the Cables:

*WARNING – Torque requirements for the high-power Battery Positive terminal **4-5 FT-LBS** and Primary Load contact studs should be **5 – 7 FT-LBS.** When connecting the primary load wires (Copper Stud), you must use two wrenches (One open-ended low profile and one torque wrench) to tighten the nuts on the stud, use the torque wrench to turn the outside nut and the open-ended low profile to hold the nut on the inside from turning. The copper stud must not turn, or relay operation may be affected.*

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 defined in the Application Connections table. Remove keps nuts from both copper studs and connect the terminals to the copper studs on the relay. It's important that the "Battery Positive" and "Primary Load" signals defined in Table 1 go to the studs defined in Wire Diagram 1 and 2.

If using the provided Battery Guard® 1000 Switch Harness, follow Wire Diagram 2 for matching the wire harness colors to the connectors.

The Battery Guard® 1000 has 2 RV-C ports. One of these ports provides constant power while the other provides switched power. The switch power follows the state of the primary disconnect. This feature offers a more advanced network management option. Refer to Wiring Diagram 2 to ensure proper connection of the RV-C network.

The Auxiliary output is a 2 amp over current protected output that isolates at an independent low voltage threshold from the primary disconnect. This can be used to maintain power on critical devices or devices required to bring the RV-C network and loads back up.

After all wires have been connected and tightened properly, reconnect the batteries negative cable.

Verifying Operation:

To verify the Battery Guard® 1000 is powered up, check for the green LED heartbeat on the device. This will illuminate right above the company logo.

If using the provided switch with the Intellitec kit 10-01130-000 toggle the state of the disconnect. If the LED ring on the switch is illuminated then the battery disconnect is closed, if the LED ring on the switch is not illuminated then the disconnect is open.

When using this device in an RV-C network use the DC DISCONNECT DGN to change the state of the disconnect. Refer to the 53-01130-300 - Integrators Guide for specific information regarding status and control of the Battery Guard® 1000.

Note: be sure when using the RV-C command that the device you are sending the message with is not connected to the disconnect or auxiliary when testing this function or the device will turn off.

Available Product Literature and Guides:

Brochure:	53-01130-000
Product Specification:	53-01130-001
User's Guide:	53-01130-100
Installation and Applications:	53-01130-200
Integrators Guide:	53-01130-300

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