

Bi-DIRECTIONAL Isolator Relay Delay (BIRD909) *Expanding the Possibilities!*

The (Bi-Directional Isolator Relay Delay (BIRD) was designed to control the charging of the engine's battery or auxiliary battery based on whether the engines alternator or the vehicle converter is charging, through an external solenoid (continuous duty solenoid), not supplied. If neither charging system is active the batteries will be isolated from each other. There is also a override input which will force the output ON in the case of a The BIRD is programmable through the KIB V-Bus Studio, where various parameters can be configured for a manufacture specific request. The BIRD can also be controlled and read through the V-Bus The BIRD is housed in a sealed potted box to protect the unit from the elements.



Key features

- 1/4" Faston Connectors
- LED Output Status Indicator
- Program updating is done across KIB's 1-Wire or V-BUS (if equipped)
- Output shutdown through GENSET switch
- Low voltage shutdown
- Over temperature shutdown
- Short circuit shutdown
- No load detection
- Reverse Battery protection
- Sealed Construction
- Overall Size
2.10" x 4.00" x 1.10"

Electrical specifications

- Input Operating Voltage
9.5VDC—18.0VDC
- Input Operating Current
Required 5A Fuse Max
- Overcurrent Shutdown
Current out > Settable
- Standby Current < *1mA*
- Output Shorted Shutdown
Output < 8.0VDC @ ms (settable)
- Operation Temperature
-20°C to 85°C
- Shutdown Temperature
ON—65°C (8°C Hysteresis)
OFF—150°F (15°F Hysteresis)

LED Status Indicator

- Solid Green = Output Active
- Red Flashing Patterns**
- 1 = Low Battery Voltage
- 2 = Over Temperature
- 3 = Over Current
- 4 = Shorted Output
- 5 = No Load Detection

Ordering information

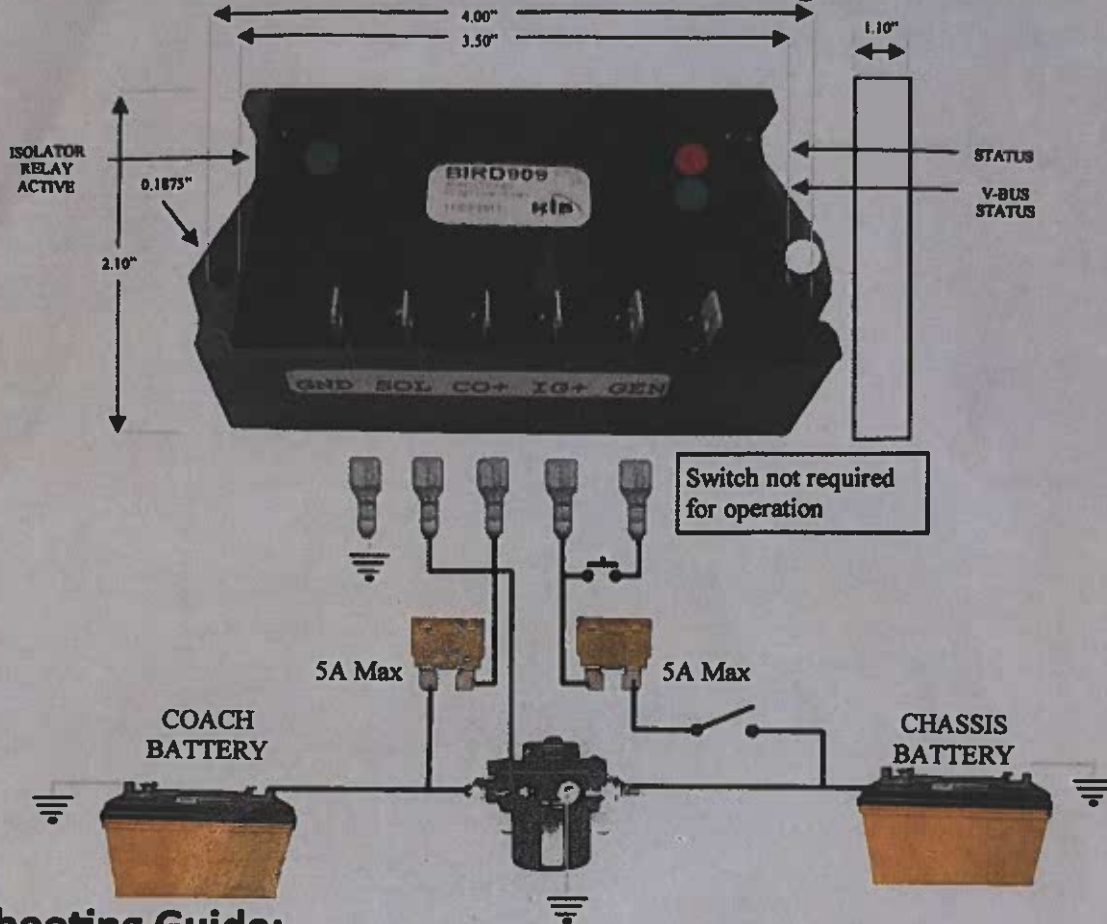
- BIRD909
- Unique customer part numbers can be assigned upon request.

**For more information please call: (574)262-0518
or visit our website at www.kibelectronics.com**

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Dimensions and Wiring



Trouble Shooting Guide:

Problem	Possible Solution
No green or red LED flashing	Check power or fuse to board
LED is flashing green all the time	No problem this is normal operation
LED is flashing red all the time	Switch is shorted to ground and the unit is in shutdown mode
LED is flashing red 1 time	Battery voltage is below 9.5VDC
LED is flashing red 2 times	Temperature of unit has exceeded 65°C (150°F), allow unit to cool If problem persist check operating current, battery voltage, or check for external heat sources and move unit if necessary
LED is flashing red 3 times	Output is pulling to much current and has current limited
LED is flashing red 4 times	Output is shorted, or excessive current is being drawn
LED is flashing red 5 times	High output voltage, check that battery voltage is not higher then set point
LED is flashing red 6 times	Check that the output load is connected

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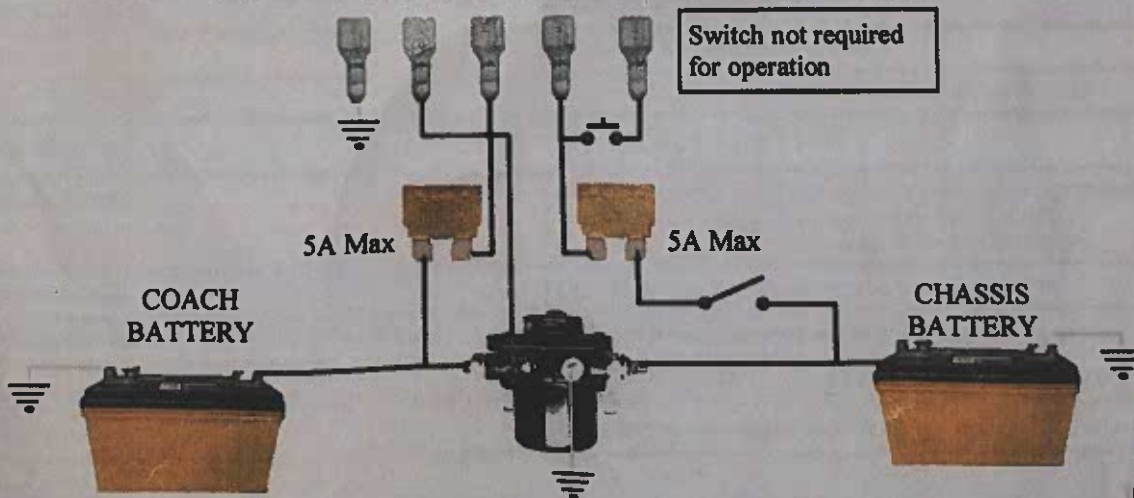
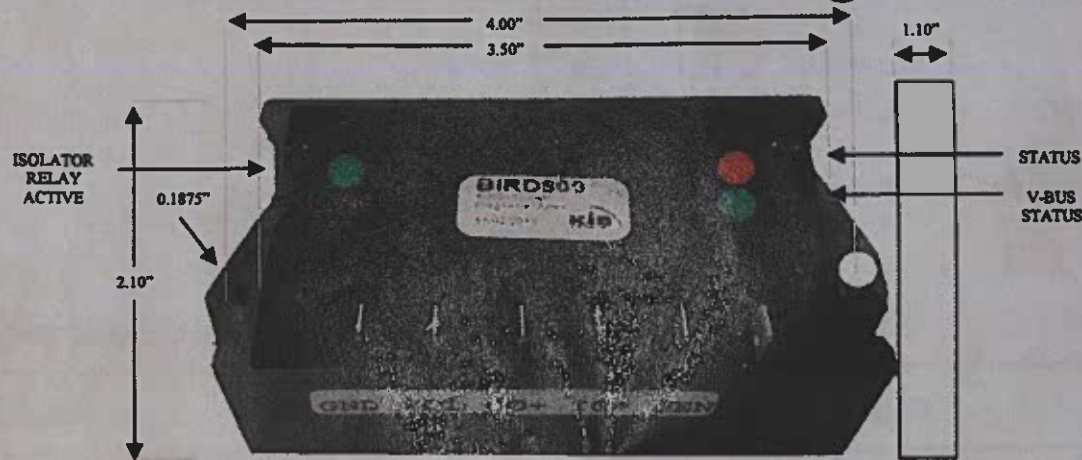
Theory of operation:

The Bi-Directional Isolator Relay Delay (BIRD) senses the voltage on the auxiliary and chassis batteries. If either voltage is above 13.1 volts for a set time period, which indicates the batteries are being charged, the control closes the isolator relay, not supplied. This parallels the batteries, charging them both. If the ignition is OFF and the voltage falls below 12.6 volts for approximately five seconds, the relay will open to prevent the auxiliary loads from discharging the chassis battery. When the voltage goes back above 13.1 volts, the relay will close again.

If the ignition is ON and the voltage falls below 12.0 volts for approximately five seconds, the relay will open to prevent the auxiliary loads from over-loading the alternator and discharging the chassis battery. When the voltage on the chassis goes back above 13.1 volts, the relay will close again. Allowing the batteries to stay paralleled together to a lower voltage helps charge a heavily discharged auxiliary battery more quickly with the varying output of the alternator.

A lock-out lead is provided to prevent conflicts if both the converter/gen-set and the alternator are trying to charge the batteries at the same time.

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