

**PATENT
PENDING**



One Product Handles Two Functions for both auxiliary battery charge management and timed load shedding for add-on circuits.

Prevents add-on equipment from draining batteries / maximizes and extends operational readiness

Protects sensitive on-board electronics via optional under/over voltage shutdown and start event isolation.

EXPERTLY ENGINEERED

PREFERRED BY PROFESSIONALS



Eliminates Vehicle Downtime due to dead batteries. Lowest off-state current draw (1.3 mA) available.



Simple & Robust Installation: Sealed plug with optional long wire leads. Single device reduces installation time and costs and points of potential failure



Remote and Local Diagnostic Feedback via low amp output matching TDR status and on-board LEDs



Bullet-proof Construction: Sealed unit, high temperature materials allow mounting anywhere on vehicle. Integrated thermal overload protection



Meets Stringent OEM Standards for electrical transient self-protection



Adjustable OFF Time Delay & Low Voltage Cut-Off: 0 Seconds to 4 hours, Switch only mode, LVD only mode, 11.0, 11.5, 12.0 Vdc cutoff levels.



Start Isolation / Kill Switch control input options for service technicians, emergency OFF, or protecting sensitive add-on equipment.



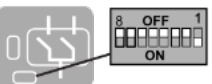
Flexible Control Options via Ignition Key, alternator voltage sense, or both.



4 Year Industry Leading Warranty

System Diagram / Dip Switches

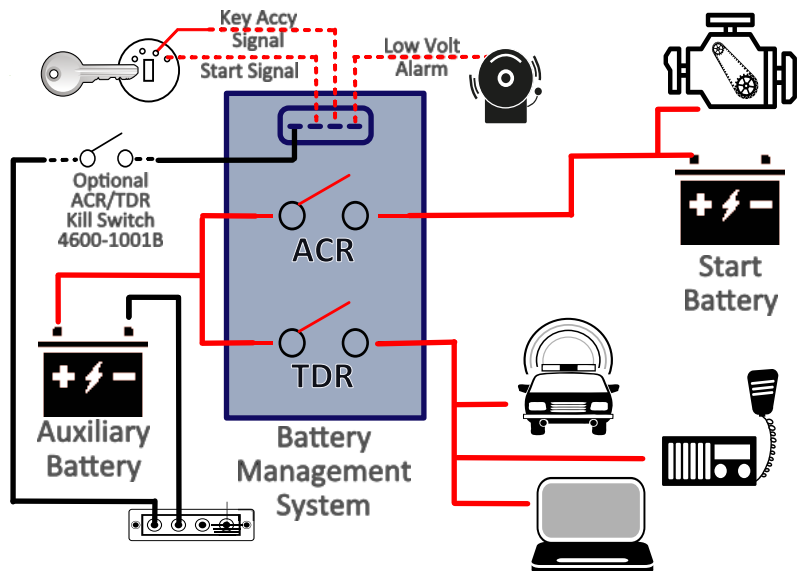
*** DISCONNECT BATTERY FROM POWER DISTRIBUTION SYSTEM BEFORE INSTALLING PRODUCT TO PREVENT ELECTRICAL SHOCK OR PRODUCT DAMAGE**
**** USE OF IGNITION SIGNAL STRONGLY RECOMMENDED FOR ALL FIRST RESPONDER INSTALLATIONS TO ENSURE RAPID ON & WITHSTAND ADVERSE ELECTRICAL SYSTEM CONDITIONS**



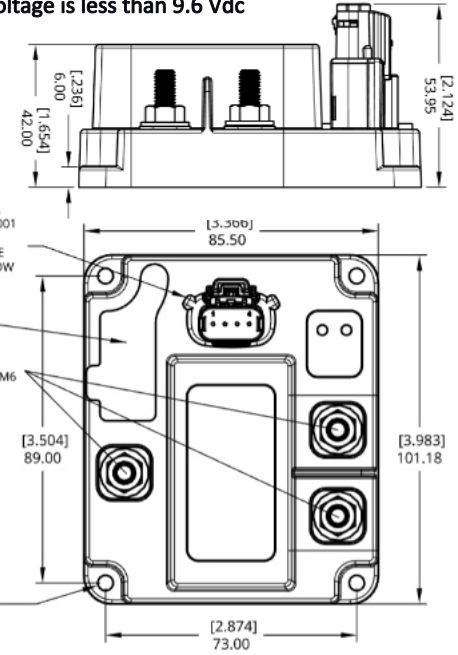
TDR Low Volt Protect	TDR Time Delay
12.0	4 HR
11.5	2.0 HR
11.0	1.5 HR
OFF	1 HR
ACR Under-Volt Protection	30 MIN
ACR Aux Bat Priority	15 MIN
TDR V _{sense}	5 SEC
ON	0 SEC
OFF	

Factory Default

- **DS1-DS3** sets delay between Off Trigger and Relay OFF. 0 & 5 SEC is for install testing or pure relay functionality with short or no time delay
- **DS4-DS5** defines TDR low voltage protection level/ If DS4ON or DS5=ON, (15 sec OFF delay if V_{Aux} < setting, overrides Time Delay or Key On Signal)
- **DS6** enables Aux Battery Voltage Sense to trigger Relay ON/OFF events. DS6=ON is Enabled
- **DS7** enables Aux Battery Priority. if DS7=ON, ACR disconnect voltage reduced from 12.7 to 12.25 V, sharing start battery energy to Aux Battery loads
- **DS8** enables Under-voltage ACR Protection. If DS8=ON, ACR will NOT close if Aux or Start battery Voltage is less than 9.6 Vdc



Dimensions



Specifications

Nominal Voltage	12 Vdc
Input Voltage Range	8-18 Vdc
Continuous Current (Per Circuit / Total)	80 A / 160 A
Max 5 Min Current (Per Circuit / Total)	125 A
Operating Current (Per Circuit)	170 mA
Operating Current, Relays Open	1.4 mA
Cable Size to Meet Ratings	2 AWG
Maximum Cable Size	2/0 AWG
Hardware Material	Stainless Steel
Terminal Stud Torque	80 in-lbs
Time Delay Range	0 sec - 4 hrs
TDR Close / Open Voltage	13.3 / 13.0
ACR Close / Open Time Delay	30 s / 30 s
ACR Close / Open Voltage	13.1 / 12.8
Low Voltage Setting Options (15 sec)	11.0/11.5/12.0
Over Voltage Protection (1 sec)	16.5 Vdc

Methods of Operation

- TDR Output turns ON immediately if:
- 1) Key Ignition Input > 8 Vdc or
 - 2) TDR V_{sense} = On (DS6) and Aux Battery Voltage > 13.0 Vdc
- TDR Output turns OFF after Time Delay setting if:
- 1) Key Ignition Input < 8 Vdc and V_{sense} = Off or
 - 2) Key Ignition Input < 8 Vdc and Input V_{sense} = On and Aux Battery Voltage < 13.0 Vdc
- TDR UV / OV Open (Under-voltage / Over-voltage Protection):
- 1) If DS4 or DS5 = ON, will turn OFF TDR Output if Aux Battery Voltage < LVD Setting or > 17.0 Vdc for 15 seconds
 - 2) Will turn OFF TDR output regardless of Key ON Accy Signal
- ACR Relay Connects Batteries after 30 second delay if:
- 1) DS8=OFF and Aux Battery OR Start Battery Voltage > 13.3 Vdc
 - 1) DS8=ON, Aux Battery OR Start Battery Voltage > 13.3 Vdc, AND both Aux and Start Batteries > 9.6 Vdc
- ACR Relay Disconnects Batteries:
- 1) If DS7=OFF: 30 sec after Aux & Start Battery Voltage < 13.0 Vdc
 - 2) If DS7=ON: 30 sec after Aux & Start Battery Voltage < 12.25 Vdc
 - 3) Immediately if Engine Start Signal Input (Pin #2) > 8 Vdc

Part Numbers

DBCM w/2' Gnd/Start Harness, Bulk Pack	7614B
DBCM w/2' Gnd,Start/Accy/Alarm Harness, Retail	7614-3001
DBCM w/2' Gnd,Start/Accy/Alarm Harness, Bulk	7614-3001B

* Custom product configurations available including stud sizes, control harness wires, time delays, voltage settings, dip switch functionality, and control input functionality.



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