

# Automatic Timer Disconnect (ATD)

Adjustable time or voltage based battery disconnect automatically shuts off devices to preserve battery power.

## Timer Disconnect

- 12V signal triggers relay to connect battery power to devices
- When signal is removed the timer is activated and will disconnect devices after a preset time
- Timer ranges from 15 minutes to 4 hours
- Optional charge sense can be used instead of 12V signal to reduce wiring
- Test mode disconnects devices after 5 seconds to confirm relay and time are operational

## Low Voltage Disconnect

- Senses low battery voltage and automatically disconnects devices to save power
- Adjustable voltage setting at 11.0V, 11.5V, or 12.0V
- Low voltage setting can be used in conjunction with timer disconnect
- Low voltage will disconnect devices prior to preset time to preserve battery power

## Automatic Charging Relay

- Automatically combines two battery banks for charging off a single charging source
- Isolates batteries when charging source is not present or discharging
- Single side sensing design only monitors the voltage of the start battery
- Ideal for auxiliary batteries that are AGM or larger than the start battery

## Solenoid

- 12V signal will connect or disconnect relay without any time delay

**4** in  
**1** Battery Saving Products

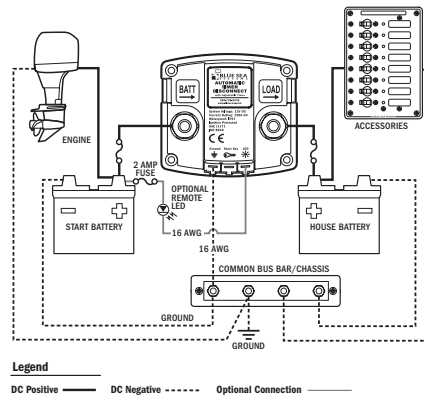


**IGNITION PROTECTED**



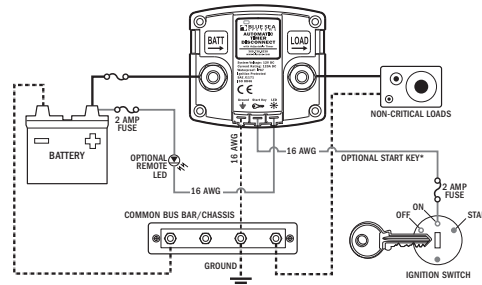
Nominal Voltage	12V DC
Input Voltage Range	9.5-16V
Continuous Rating	120A
Intermittent Rating: 5 min.	210A
Amperage Operating Current (Combine)	175mA
Amperage Operating Current (Open)	4mA
Cable Size to Meet Current Ratings	1 AWG (50mm <sup>2</sup> )
Maximum Cable Size	1/0 AWG (50mm <sup>2</sup> )
Terminal Stud Size	3/8"-16 (M10)
Terminal Stud Torque	140 in-lb (15.82 Nm)
Time Range	15 Minutes - 4 Hours
Charge Sense ON (Connected)	(3 sec) 13.0V or greater
Charge Sense ON (Timing)	(10 sec) 12.75V or lower
Low Voltage (Disconnected)	(10 sec) Battery Voltage < Disconnect Voltage
Over Voltage (Disconnected)	(5 sec) 16.0V or greater
Regulatory	CE marked for ignition protection. Meets ISO 8846 and SAE J1171 external ignition protection requirements. IP67 - protected against immersion up to 1 meter for 30 minutes

### Installation Diagram - Automatic Charging Relay



Note: Because the ATD is single sensing, the battery connected to the charging source must be attached to the stud labeled BATT. Reversal of the starting and house batteries will create undesirable results. It is recommended that the ATD be connected directly to your battery positive terminals through appropriately sized fuses. Connecting in a different location such as a battery switch may affect accuracy because of voltage drop along current carrying conductors. The Start terminal is an optional connection when in ACR mode. If connected the ATD will connect anytime an ignition signal is sensed. Once ignition signal is removed the ATD will go back to voltage sensing. If desired, wire the same as the diagram below.

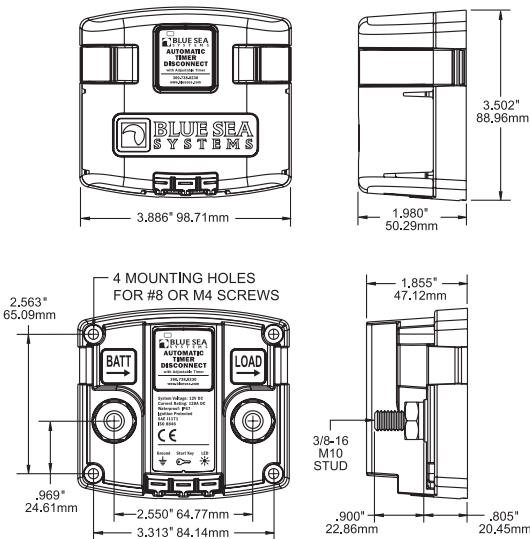
### Installation Diagram - Timer, Solenoid, or Low Voltage Disconnect



Note: Because the ATD is single sensing the battery must be attached to the stud labeled BATT and the devices to be disconnected must be attached to the stud labeled LOAD. Reversal of these connections will render charge sense functionality non-operational.

\* Start Key connection is optional only if "Charge Sense" setting is enabled, to allow the ATD to connect when it senses battery voltage above 13.0V for 3 seconds.

The above installation diagrams show typical applications only.



State	Conditions to Enter State
<b>Connected</b> Relay Closed LED Solid ON	Ignition ON OR { Charge Sense ON + Above 13V for 3 sec. }
<b>Timing</b> Relay Closed LED Single Flash	Ignition OFF + { Charge Sense OFF OR Below 12.75V for 10 sec. }
<b>Disconnected</b> Relay Open LED OFF	Timer setting expired OR Below disconnect voltage setting for 10 sec.
<b>Overvoltage</b> Relay Open LED double flash	Above 16V for 5 sec. To clear overvoltage lockout state: Below 15.9V

Specifications subject to change. See [blueseasystems.com](http://blueseasystems.com) for current information.