



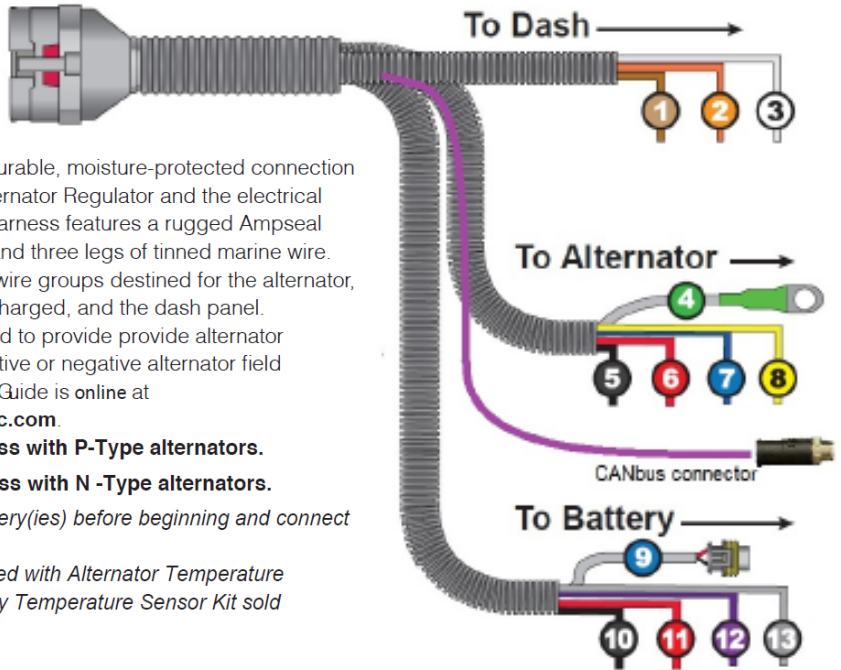
LED Status/Advisory Codes

An onboard LED, visible on the front cover of the APS-500 Alternator Regulator indicates operational and diagnostic codes during operation. There are three modes of information: Standard Operation (green), Error/Advisory mode (red), and Sync Mode (when the regulator is responding to a dominant regulator or a BMS via CAN bus) indicated by orange LED pattern. Error messages are identified by a numeric count, following the generic "error" sequence which will be repeated twice. LED blink patterns are described below:

Idle		<i>Short Flash/Long Delay (4 sec.)</i>
Ramp to Bulk		<i>Short Flash/Short Delay (1/4 sec.)</i>
Acceptance		<i>Flash/Flash/Long Delay (2 sec.)</i>
Over Charge		<i>Equal Flash/Delay (1/4 sec.)</i>
Float/Post Float		<i>Equal Long Flash/Delay (2 sec.)</i>
Equalize		<i>Short Flash/Flash/Long Delay (1.5 sec.)</i>
Error*		<i>Equal Long Flash/Delay (2 sec.)</i>
Restarting		<i>Equal Flash/Delay (1/4 sec.)</i>

* Error pattern repeated twice, followed by flashing of Error ID #. See reference guide for details.

ADVANCED ALTERNATOR REGULATOR



Designed to provide a durable, moisture-protected connection between the APS-500 Alternator Regulator and the electrical system, APS-500 wiring harness features a rugged Ampseal high-current connector and three legs of tinned marine wire. Harness legs consist of wire groups destined for the alternator, the battery bank being charged, and the dash panel. Harnesses are configured to provide provide alternator excitation based on positive or negative alternator field polarity. A detailed User Guide is online at www.americanpowerinc.com.

Use APS-500-PH harness with P-Type alternators.

Use APS-500-NH harness with N-Type alternators.

NOTES: Disconnect battery(ies) before beginning and connect wires in order shown.

Harnesses come equipped with Alternator Temperature Sensors. Optional Battery Temperature Sensor Kit sold separately.

- ➊ **Ignition Wire (Brown)** Connects to switched voltage source (key switch or oil pressure switch). Must see zero volts when off and minimum of 8.5 VDC to activate.
- ➋ **Lamp/Feature Out Wire (Orange)** Remains neutral during normal regulator operation, and provides a source of ground to drive warning lamp or alarm if faults are detected. See User Guide for details.
- ➌ **Feature In Wire (White)** Can be connected to a voltage source greater than 8.5 VDC to enable a range of selectable optional capabilities as detailed in the User's Guide.
- ➍ **Alternator Temperature Sensor (Grey two-wire cable. Green cable shrink.)** Connects to alternator case bolt or ground post.
- ➎ **Alternator Ground (Black)** Connects to alternator ground post.
- ➏ **Alternator Positive (Red)** Connects to alternator positive output post. Fused at 15A.
- ➐ **Alternator Field (Blue)** Connects to alternator's external field terminal.
- ➑ **Stator (Yellow)** Connects to alternator's AC/stator output.
- ➒ **Battery Temperature Cable (Grey two-wire cable. Blue cable shrink.)** Provides a connection point for optional battery temperature sensor. Battery Temperature Sensor sold separately.
- ➓ **Battery Ground Sense* (Black/Yellow Stripe)** Connects to ground terminal of battery being charged. Connect wire to battery ground terminal closest to the center of the battery bank.
- ➔ **Battery Positive Sense* (Red/Yellow Stripe)** Connects to positive terminal of battery being charged. Connect wire to battery positive terminal closest to the center of the battery bank. Fused at 3A.
- ➕ **Current Sensing** (+) (Purple)** Connects to the positive sense terminal on the battery shunt.
- ➖ **Current Sensing** (-) (Grey)** Connects to the negative sense terminal on the battery shunt.

*Battery voltage sensing is most accurate when positive and negative sense wires are located nearest the center of the battery bank, or at opposite ends of the battery bank. See discussion of voltage sensing in the User's Guide for more information.

**Current sensing is calibrated for a 500A/50mV (default) current shunt. Installation may depend on whether shunt is installed HIGH or LOW. Refer to User's Guide for recommendations.