

Compatibility check

The Altion is designed for use with externally regulated alternators with a nominal voltage range of 12-48 volts, with a full operating range of 8-60 volts.

Verification Steps

To ensure compatibility and safe operation, check the following:

- **Nominal voltage:** Verify if your alternator's nominal voltage falls within the range of 12-48 volts.
- **External voltage regulator compatibility:** Ensure your alternator(s) are designed for external regulation or have a suitable conversion kit installed.
- **ECU control:** This voltage regulator is designed for use with alternators that independent of the engine's ECU (Electronic Control Unit). Most marine main alternators fit this description. In RVs, however, main alternators are often ECU-controlled; the Altion regulator is used with secondary alternators in such setups.
- **Alternator avalanche diodes:** Avalanche diodes are highly recommended for all setups to protect the regulator from voltage spikes occurring from unplanned battery disconnect events. Note that avalanche diodes are rare among 48v alternators. Consult your alternator manufacturer to confirm their presence.

For 48v setups without avalanche diodes, we highly recommend a CAN bus connected setup through RV-C or NMEA 2000 for optimal charge control and safety.

- **Alternator Protection Modules:** For additional safeguarding against load dump events, consider using alternator protection modules. These supplement, but do not replace, avalanche diodes.
- **Ground Connection (Altion Max with multiple alternators):** It's critical that all alternators connected to the Altion share a common ground. This prevents ground loops and potential damage to the regulator.

If you are unsure about any aspect of your alternator's compatibility, consult a qualified mechanic or the alternator manufacturer.

Revision #11

Created 5 April 2024 00:56:36 by Greg Revelle

Updated 28 April 2024 02:54:29 by Greg Revelle