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Ocean Engineering Technical Data Sheet
Northern Power Systems Charge Controller—Temperature Compensation Module Fuse

The first generation solar charge controllers purchased for the lighthouse solarization program does not contain temperature compensation to vary the array disconnect setpoints. Early problems with low battery voltage during winter months necessitated installation of a retrofit kit into Northern Power Systems (NPS) controllers. This kit disables the charge disconnect relays when battery temperature falls below 50 degrees F causing all power created by the solar array to charge the battery. All sites in New England and the Great Lakes that use NPS controllers have been retrofitted.

A 1/8-ampere fuse protects the electronics package of the retrofit kit. If this fuse blows, the retrofit kit will not function properly, allowing charging to terminate prematurely during the winter causing low battery voltage. This fuse should be checked during the fall servicing of the lighthouse. There has been one incidence of the fuse blowing during the summer due to a current surge likely caused by a lightning strike, and not being detected until a low voltage alarm was posted by the SDB/LEACMS the following winter.

Replacement retrofit kits and the Field Change documentation are available from COMDT (G-SEC-2A). Two spare fuses were included in each retrofit kit and should be stored in the base of the charge controller enclosure. Fuses are available locally, part number Littlefuse AGC-1/8 or 312.125, 1/8 ampere, 250 VAC, type 3AG or AGC (1-¼" x ¼"), fast acting.

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