



## 2010 ELECTRONIC MONITORING PROGRAM GHLCMP POWER REQUIREMENTS

This document provides the minimum power requirements necessary for the proper operation of an EM system. Vessels are responsible to meet these requirements to ensure reliable performance of their EM system.

**The minimum power requirements listed below have to be in place on your vessel to enable you to achieve 100% data collection as required by your license conditions.**

**Archipelago may not provide service for an EM system on a vessel that does not meet these minimum requirements. Archipelago will not take responsibility for the proper operation of this equipment unless these power requirements are met.**

### Minimum Power Requirements

- 1) Sufficient power must be continuously supplied to the EM system from hail out to data retrieval.
- 2) Minimum 10 amps at 12.0 to 16 volts DC delivered through appropriate wire gauge and clean connections.
- 3) Minimum 600 watts at 115 volts AC, 60 cycle (inverter). To insure AC power stability, generator supplied power must be conditioned by an Uninterruptible Power Supply.
- 4) Power must be delivered though a 20-amp fused or breaker equipped circuit.
- 5) **In no case should the engine starting battery supply the EM system power.**
- 6) In DC or inverter based EM power delivery, with the engine running, the alternator charging output must be sufficient to keep the EM system battery fully charged, under continuous EM system operation, at all vessel speeds and under all vessel electrical loads.

### **12-V Hook up Specifications**

**The wiring must have a 20-amp fuse at the power bus connection.** It is important to have power wires fused as close to the battery as possible so if there is a short circuit anywhere in the wiring the fuse will blow. This minimizes the chance of melting or fire due to a short circuit.

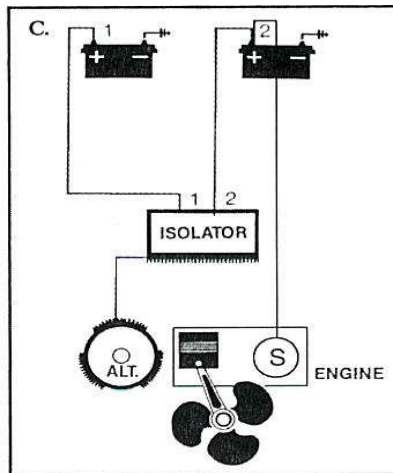
**The minimum wire gauge for 12-volt power is 14 AWG.** The power supply cable must meet the minimum standards listed below.

Wire Gauge	Distance to Power Source (Maximum Cable Length)
14 AWG	20 ft. (6.1 meters)
12 AWG	31 ft. (9.7 meters)

## Power Recommendations

### Isolate your System

Vessels should have an auxiliary 12-volt power source that is electrically isolated from the engine starting battery. The auxiliary battery (or battery bank) should be a quality component, deep cycle, rated to at least 80 Amp-Hours. A battery isolator should be installed between the engine alternator, the starting battery and the auxiliary battery. The vessel alternator must be of sufficient output to handle the charging requirements for the two batteries at all vessel speeds. This type of 12- volt power system will insure that the vessel engine can always be started.



**Battery 1. EM System Power**

**Battery 2. Engine Start**

### Voltage Harness Upgrade

All rental systems have been upgraded with a voltage harness and new software. Owners have been offered this upgrade as well. The new software displays the power supplied to the control box on the monitor and records this voltage in the data. A properly wired EM system that is being provided with correct power will display approximately 12 volts or greater on the monitor, when the engine is running.

The voltage harness upgrade will not resolve vessel related power supply issues, but will be able to identify if there is an issue. If you have questions about the power you are supplying ask your Service Technician to assist you by providing voltage readings from your trip.

If you are not knowledgeable about electrical systems, consult a Marine Electrician. Archipelago Service Technicians are not certified to work on vessels' power supply systems directly.