

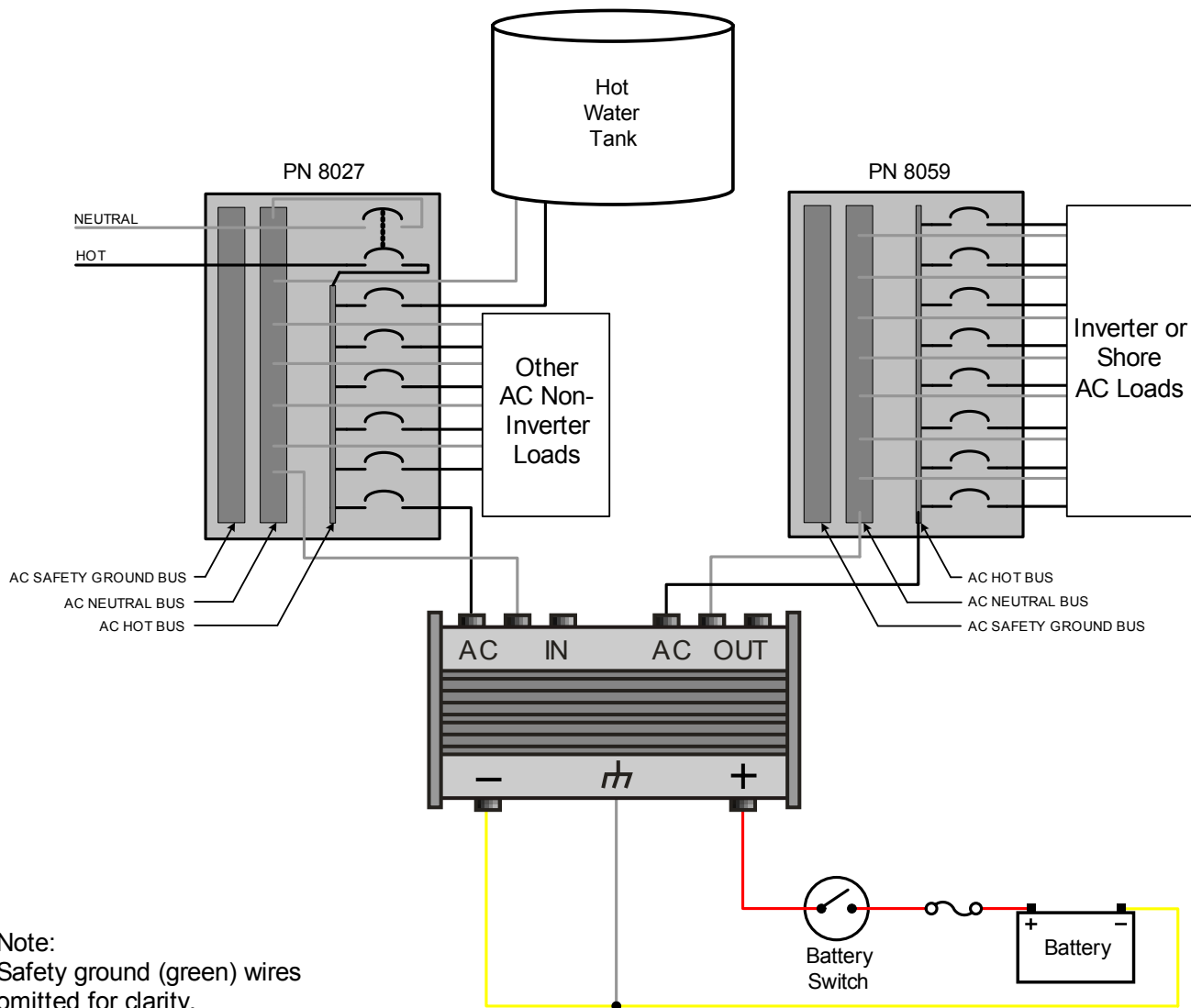
## Application Brief - Inverter High Load Isolation

Installation of an inverter on board offers the convenient use of AC devices while away from the dock. However, using an inverter to power high amperage AC devices such as hot water heaters or ranges will quickly drain the ship's batteries. For this reason the AC system must be wired so that high amperage AC devices cannot be operated through the inverter.

Most large inverters contain automatic transfer switches (ATS). An ATS senses that AC shore power is available and passes the shore power through the inverter to the AC electrical system. When AC shore power is not available, the inverter uses DC power from the ship's batteries to provide AC power. Diagram 1 illustrates an ATS equipped inverter circuit in which the high amperage devices, including the inverter, are powered from the main circuit breaker panel. A second panel wired from the inverter powers loads that are within the inverter and ship battery capacities.

For inverters without an ATS, a source selector system such as Blue Sea Systems' 8032 Source Selector Panel must be installed.

ABYC requires that all inverter-equipped boats have an AC voltmeter installed to monitor the inverter voltage.



Note:  
Safety ground (green) wires  
omitted for clarity.