

Marine Electrical Guide

Panels & breakers · Wiring & terminals · Shore power

ABYC-aligned guidance for Northwind DC and AC distribution components. Where this document and ABYC E-11 differ, ABYC E-11 governs.

CONDUCTOR SIZING

Size DC conductors for a 3% voltage drop on critical circuits and 10% on non-critical circuits, measured over the full round-trip length of the run, not the one-way distance. Use tinned, stranded, marine-grade cable throughout. Solid conductor has no place on a boat.

ITEM	SPECIFICATION
Critical circuits	3% maximum voltage drop
Non-critical circuits	10% maximum voltage drop
Conductor	Tinned copper, stranded, marine grade
Measurement	Round-trip length, positive plus negative

OVERCURRENT PROTECTION

Protect every conductor at its source, within 7 inches of the battery positive terminal, or 40 inches where the conductor is in a sheath or conduit. Breaker rating protects the wire, not the load.

ITEM	SPECIFICATION
At the source	Within 7 in of the battery positive
Sheathed run	Within 40 in of the battery positive
Rating	Sized to the conductor, never to the appliance

SHORE POWER

Terminate the shore-power inlet in a weatherproof housing with the cover closing fully on the connected cord. Bond the AC safety ground to the boat's common ground point and fit a galvanic isolator or an isolation transformer on any vessel that stays connected to shore power alongside dissimilar metals.

ITEM	SPECIFICATION
Inlet	30 A, 125 V, weatherproof
Safety ground	Bonded to the common ground point

ITEM	SPECIFICATION
Galvanic protection	Isolator or isolation transformer
Cord	Inspect the pins for heat discolouration each season

Northwind Marine dealer support · Stocked parts ordered by 3 PM CT ship from the Gulf Coast distribution centre the same day. Issue 26 July 2026.