TECHNICAL DATA

Cable Sizing Chart Information

When sizing up cables for 12v and 24v circuits you must first determine what maximum volt drop % your circuit can handle. If the circuit is a DC circuit the cable length of route is measured from the source of current to the device then back to the source. For an AC application, the length of route is from the source of current to the device.

50 Amp DC winch

(Source of current to device)

5 metres

5 metres

(Device back to source of current)

i.e. In the diagram, the length from the source of current to device is 5m and the length from the device back to current is 5m, therefore the total length of route is 10m (DC Circuit).
A maximum of 3% volt drop is recommended for electronic equipment such as depth sounders, single side band radios, VHF radios and other installations such as navigation lights and bilge blowers. A maximum of 10% volt drop is satisfactory for most lighting and motor installations.

Example 1: The above winch draws 50amps 12VDC and the total route length is 10m. So to determine the size of cable refer to chart B (12 volts, 10% volt drop) go to 50amps on the left hand side of the chart align with 10m mark and the recommended cable will be 10mm^2 (copper flex with 90° insulation).

NOTE: In warm areas, such as engine rooms and inside switchboards, you must consider the de-rating table below when sizing up cables.

Approx. de-rating for different Ambient Temp.	°C	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80
	Factor	1.15	1.12	1.08	1.04	1.00	0.96	0.91	0.87	0.82	0.76	0.65	0.58	0.50	0.41	0.29

These ratings are based on 30°C ambient air temperature and 15°C ambient soil temperature. Maximum conductor temperature 90°C. For other conditions refer to AS/NZS 3008.1.2:1998.

12 Volt and 24 Volt Charts over the page