

Overview

This DC-DC charger takes power from the vehicle battery and alternator, to provide rapid charging of a leisure battery. The leisure battery is more fully charged than using traditional relay systems and any voltage losses in cabling are reduced.

Installation

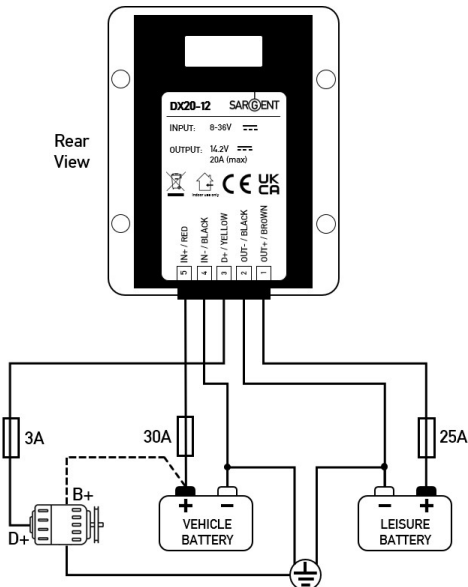
The charger should be installed horizontally or vertically as close to the leisure battery as possible but not within the battery compartment. During operation the charger will become warm, so ensure there is at least 10cm clear around the unit at all times.

Wiring & Fusing

When fitting, try to keep cabling runs as short as possible and do not underrate, as this will lead to excessive voltage losses and reduced performance. Under full load the charger will draw a large amount of current and the input side will typically draw larger currents than the output by a factor of up to 25%. Please refer to the table to select a suitable wiring gauge, length and recommended fuse rating.

Cable	Up to 3m	Up to 6m	Up to 10m	Fuse
from Vehicle battery	4mm ² 12AWG	6mm ² 10AWG	10mm ² 7AWG	30A
to Leisure battery	3mm ² 13AWG	4mm ² 12AWG	6mm ² 10AWG	25A

Connections

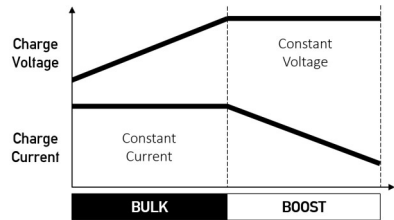


Engine Running Signal (D+)

The D+ input is used to automatically turn on the charger when the engine is started. Connect a signal wire to the D+ terminal of the vehicles alternator as shown in the diagram. On vehicles with smart alternators it may not be possible to connect directly to the alternator, in which case consult the vehicle manufacturer for a suitable location. Alternatively the D+ input may be connected to a switched ignition circuit. Note:- If using this method care must be taken, as leaving the ignition in the On position with the engine Off may result in over discharge of the vehicle battery.

Charging profile

The charger uses a 2-stage profile to maximise charging performance during driving.



BULK

The battery is charged with maximum current, whilst the voltage climbs steadily, until the boost voltage setting is reached.

BOOST

The battery voltage is held constant while the current gradually decreases, until the battery is full.

Operation

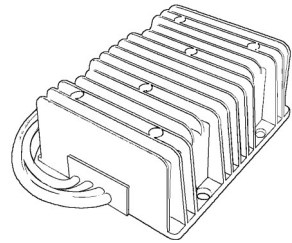
Once the unit detects the vehicle engine is running, it will operate automatically to boost or regulate power from the vehicle battery into a suitable charging voltage for the leisure battery.

When the unit detects the vehicle's engine has been switched off, it will disable charging to avoid the vehicle battery draining onto the leisure battery whilst parked.

Specification

Model	DX20-12
Battery types	Gel, Lead acid, AGM, LiFePO4
Input voltage range	8 - 36V
Battery capacity	30 - 180Ah
Output voltage (boost)	14.2V
Power (max)	284W
Current (max)	20A
Standby current	0mA (D+ off) 130mA (D+ on)
Weight	0.5kg
Dimensions	100 x 78 x 39mm
Operating temperature	-20 - 50°C

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DC-DC Battery Charger
Installation & User Instructions
DX20-12

SARGENT

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