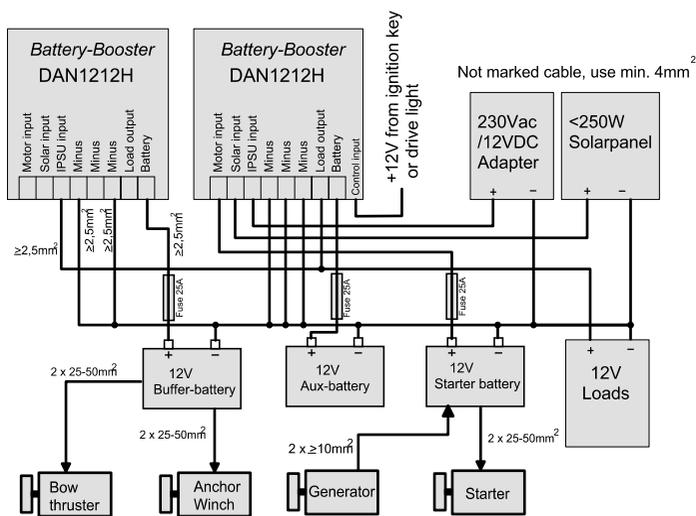


Yacht and autocamper



238-1.dsf

Tips and tricks:

- Do not use the Booster without a battery connected to the battery output
- Place the Booster close to the battery under charge
- Always connect all sources minus-wire directly to the booster
- Always place the booster in a dry place, with the heatsink fins vertical
- If two or more batteries are connected in parallel, make sure that they are of the same type and capacity
- Always discharge the battery through a battery guard in order to avoid deep discharge level
- Never leave the battery discharged for a longer period
- Always connect a suitable fuse close to the battery + pol
- Store the battery at fully charged level, with the battery main fuse disconnected
- In order to keep an optimal battery lifetime, do not discharge to less than 50% of the battery capacity
- As the Booster uses MPPT, the charge current will vary under normal operation
- Always use minimum 4mm² cable for the whole installation!

Accessories for DAN1212H:

- Cable for remote control
- Cable for panel display
- Panel display
- Module for wireless communication

Manufacturer:

DanPower Electronics ApS
Mølløvænget 18, Ramløse
DK-3200 Helsingør
Denmark
Tel. +45 48799171
www.danpower.com



Battery-Booster & Manager DAN1212H

Application:

- Caravans, autocamper, yachts, rescue vehicles and sign trailers
- Charge your 12V auxiliary battery from engine, solarpanel and mains adapter
- Built-in battery guard
- Extend the battery life significantly
- Prepared for panel display with Ah-meter
- Prepared for wireless alarms and settings

Technical specification:

Input:
 Voltage range (Motor, Solar, PSU).....10 - 36VDC
 Fuse (all inputs).....30A

Output:
 Battery output voltage (see figure 1).....13,8 / 14,4VDC
 Load output voltage.....follow the battery output
 Output current max. (Battery output).....15A
 Output current max. (Load output).....20A
 Fuse on **Battery output**.....30A
 Fuse on **Load output** (electronic reversible).....21A
 Standby current on **Battery output** (without input) < 40mA
 Battery guard triggerlevelSee table 2 for settings

Other:
 Efficiency.....90 - 95%
 Operation temperature range.....-20 til +40°C
 Temperature rise at heatsink.....< 30°C
 Insulation between inputs and output.....No
 Insulation to chassis.....500V
 Tightness.....IP44
 Mechanical size.....18,5 x 9 x 5,5cm
 Weight.....800g
 Mounting.....Wall mounting
 Material.....Stainless steel & aluminium
 CE-mark.....EN61000-6-3, EN61000-6-1

General description:

The Battery-Booster provides a fully automatic and correct charging of your 12V auxiliary battery from on of the three inputs sources with the following priorities; PSU, Motor & Solar. When the input source automatically switches, the Booster restarts within 2 seconds.
 The auxiliary battery is charged to 14,4V with a charge current of 15A; the charge cycle restarts after the battery voltage is below 12,5V. The charge cycle is shown in figure 1.
 The functions of the LED placed on the front panel is described in table 1.
 Table 2 shows a number of settings on the 6 dipswitches placed in the Booster.
 On the control connector close to the power terminals, the Motor input can be blocked with a 12V signal.
 In the same connector a signal indicates, if the **Load output** is close to the Battery guard triggerlevel.
 The **Monitor output** connector is used for future options for panel display and wireless surveillance module.

Charge sequence for DAN1212H

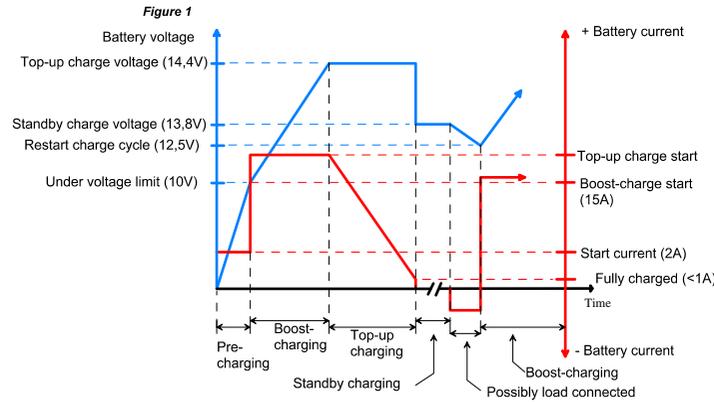


Table 1:

LED	Red flash	Green	Orange	Combi
INPUT ON	Input fuse fault	Input activ		
GUARD STATUS	Output fuse fault	Battery guard connected	Battery guard disconnected	Green flash: 0,2V from disconnected
STATE OF CHARGE	Output fuse fault	Fully charged	Boost charge	Green flash: Top-up charge Green/orange flash: Pre-charge
BATTERY Ah	Battery voltage <10V	Battery voltage >11,5V	Battery voltage <11,5V	Green flash: Discharge on battery (>11,5V) Orange flash: Discharge on battery (<11,5V)

Contact manufacturer in case of faulty fuses. **Warranty lapses if the unit has been opened!**

Table 2:

Switch no.	Function	OFF	ON
1	Charge current level	15A	10A
2	Control with control cable	Motor input disconnected	All inputs disconnected
3	Current limit at PSU input	Disconnected	Connected
4	Current limit level at PSU input	10A	5A
5	Battery guard function	Disconnected	Connected
6	Battery guard trig point	11,5V (approx.50% capacity)	10,5V (aprox.10% capacity left)

All switches are set off by default

Battery Guard:

Loads up to 20A are connected to the **Load output**, which will be disconnected, when the battery voltage is below the selected limit by the switch no. 6 in table 2.

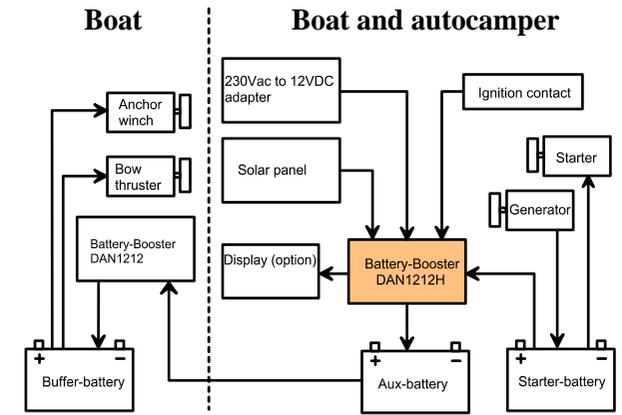
Charging of the aux-battery

The aux-battery is charged directly from one of the three inputs to the Booster.

Motor input: Charge the Aux-battery from the starter-battery when the engine starts. The Booster is controlled by the control input to ensure that the Booster operates when the engine is started.

Solar input: Charge the Aux-battery (MPPT) from the solar panel, when the two other inputs are not present.

PSU input: Charge the Aux-battery from an insulated AC/DC converter, when mains are available.



Charging the start-battery

As the power consumption from the starter-battery is very limited, the charge level from the engine generator is more than sufficient.

Charging of buffer-battery (boats only)

The anchor winch & bow thruster have a big power consumption, but in a very short time. It is recommended to place a small buffer-battery close to the load. This buffer-battery can be charged directly from the Aux-battery or the start-battery through a low power Battery-Booster. A smaller and cheaper booster can easily be used here.

The Battery-Booster in caravans

As the Battery-Booster charge current is up to 15A, in many cases the fridge can be supplied from the load output on DAN1212H. It has the benefit that the fridge is supplied with the high charge voltage from the booster, which will give better cooling performance of the fridge. Please note that the charge current to the battery is reduced by the level of current to the fridge.
 As the distance between the car battery and the Battery-Booster is very long, it is important that the cable is minimum 4mm² the whole length, if the maximum charge current from the booster is to be used.

