

The DDH range of DC-DC converters

The DDH range of DC-DC converters takes a DC input voltage and transforms it into an isolated DC output voltage. High frequency switched mode techniques are used to give very high conversion efficiency and this results in low heat generation within the units.

The DC output can be set to either of two output voltages by moving the link on the small terminal block. With the link in the "low" position, the output voltage is very closely controlled and does not alter significantly with load current changes. With the link in the "high" position, the output voltage is set automatically to the correct level to charge a lead-acid battery at 2.3 volts per cell. A very good current limit characteristic ensures that the battery is re-charged quickly and efficiently.

The converter consumes a small amount of power even in the no-load state and, if powered from a battery, should be switched off when not in use. This can be achieved by removing the link on the "remote on/off" terminal block and wiring a small switch across the two terminals. Alternatively, a high-current switch or breaker could be fitted in the positive supply line. The converter automatically shuts down if the input voltage drops too low to avoid over-discharging the battery.

INSTALLATION

The converter should be mounted securely to a suitable (preferably vertical) surface with at least 100mm of space around the unit to allow good airflow. Disconnect the battery/batteries. Remove the link from the "remote on/off" terminal block. Connect the +IN terminal to the positive lead from the battery/positive input. Connect the -IN terminal to the negative lead from the battery/negative input. Connect the +OUT of the converter to the positive lead from the battery to be charged/positive load. Connect the -OUT of the converter to the negative lead of the battery to be charged/negative load. Re-connect the output battery and input battery/supply. Either replace the link to the "remote on/off" terminal block (the converter will start running as you do this) or connect the remote on/off switch wires to this terminal block.

NOTE

Keep battery leads as short as possible
Use the correct thickness of cables
Allow for ventilation above, below and to the front of the unit.
Make sure the + and - connections are not reversed, even for a second, as this will blow a fuse inside the converter and it will need to be returned to the workshop for repair.

IMPORTANT

The installation of this converter is straightforward, but it must be remembered that lead-acid batteries store large amounts of energy which could cause a fire hazard if short-circuited. If you are in any doubt at all, have the converter installed by a competent electrician.

This product has an IP (ingress protection) rating of IP30, it is intended for indoor use or within an enclosure.

SPECIFICATION

The unit type number gives the input and output specification.

e.g. type **DDH150A-12**

POWER RATING

DDH150 = 150 watts output

DDH300 = 300 watts output

INPUT VOLTAGE RANGE

DDH150A/DDH300A = 10 – 19 volts input

DDH150B/DDH300B = 19 – 36 volts input

DDH150C/DDH300C = 36 – 72 volts input

DDH150D/DDH300D = 72 – 144 volts input

OUTPUT VOLTAGE

"LOW" setting / "HIGH" setting

DDH150A-12 = 12V 12.5A / 13.8V 15A

DDH150A-24 = 24V 6.2A / 27.6V 7.5A

DDH150A-48 = 48V 3.2A / 55.2V 3.8A

DDH300B-12 = 12V 25A / 13.8V 30A

DDH300B-24 = 24V 12.5A / 27.6V 15A

DDH300B-48 = 48V 6.2A / 55.2V 7.6A

EFFICIENCY

Over 80% at nominal input

SIZE (mm)

DDH150: 155wide x 170high x 65deep

DDH300: 170wide x 220high x 65deep

MAX. AMBIENT TEMPERATURE

Fully rated from -10C to +45C

PROTECTION

Extensive protection facilities are built into the DDH converters for optimum reliability. These include protection against short-circuit, output over-voltage and excessive temperature. The input and output are fuse protected against polarity reversal.

The DDH range of converters
are designed and manufactured in the

U.K.