



# Ablemail Electronics

A Division of Merlyn Electronics

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The **Ablemail Universal Power Converters** are high performance power supplies, battery chargers and solar chargers. They are designed and manufactured in the UK for the automotive and other highly demanding environments.

The Ablemail Universal Power Converter Range is available with 2 current outputs. The larger 30A unit can handle output currents of up to 30A or loads of up to 900W while the 15A unit can handle output currents up to 15A and loads of up to 450W. At the extreme operating limits of the voltage transformation range, capability may be reduced. Temperature and heatsinking also affect the deliverable load and for more information on this you should consult Ablemail Universal Power Converter Performance Charts (SD1003). However, units may be used in parallel, should high loading be an important application requirement.



15A



30A

The basic converter has the following features:

- Power supply producing a highly regulated 3-32V output with low noise ( $\pm 50\text{mV}$ ) suitable for powering sensitive electronics devices and all types of battery.
- The converter has a wide input voltage range (9-32) making the same units suitable for 12 and 24V automotive applications. The wide input voltage range also resolves a variety of issues on many of the latest green vehicles using Stop/Start technology and regenerative braking.
- The converter has a high efficiency of between 88% and 93% and has a low standby current ( $<2\text{mA}$ ). This makes it a particularly attractive solution for battery powered and energy conscious applications.
- Switched ignition starting and alternator run detection.
- Split charging relay to protect engine starting battery.



•Housed in an aluminium extrusion the Ablemail Universal Power Converters are designed and built to the highest standards allowing operation in the most arduous environmental conditions including automotive (-30 to +70deg C). The converters are available with Protection up to IP65.

- Available with a number of connector options (see Mechanical Options document SD1004).
- Protected against current overload and over temperature to ensure long life.
- CE and E marked
- Lifetime guarantee.

**The basic converters can be upgraded by adding a microcontroller to add the following features.**

• Optimum Battery charging of all types of cells including Lithium cells, AGM and Gel. The microcontroller monitors voltage, current, battery temperature and air temperature and then adjusts the charging profile accordingly.(Temperature monitoring requires addition of Ablemail temperature sensor)

- Charge regime adjustment to customer and vehicle specific requirements
- Solar/Wind Charging including MPPT and automatic connection to the main alternator source if load or battery charge requires
- Operation with fixed output voltage alternators , Euro 5 and Euro 6 engines , Stop / Start Technology , Regenerative Braking and Smart Alternator(ECU Controlled Variable Voltage Alternators) ie All modern engine configurations
- Power management and Load disconnect :

The unit can be controlled by

- Ignition Feed ,
- Engine Run detection
- Serial interface (driven from the vehicle electrical systems)
- Input/Output Interface (driven from the vehicle electrical systems)

The serial interface and the output interface can be used to control other equipment on the vehicle electrical system

- The converter has a realtime monitoring function.
- Status and alarm feedback to the driver and the vehicle control system of many key variables.
- Protection modes: Additional protection modes to protect converter and batteries.
- There are many setup and configuration settings that can be set by the client using the ASI (Ablemail Software Interface SD1005)and our Technical department will be happy to discuss additional requirements .



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## ACCESSORIES

Our converters can be supplied with many accessories to allow the user to get more from the basic converter :

- Lithium Power management Controller
- Battery State indicator
- Battery / remote temperature monitor
- Serial interface
- Remote Input Volt Sense
- External Power Control

These are the existing accessories but our Technical department will always be happy to discuss the creation of bespoke accessories to meet specific customer requirements.

## Applications



## PRODUCT SELECTION

There are many versions of the Ablemail Universal Power Converter available and the Products Selector document (SD1002) combined with the Mechanical Options document (SD1004) will help you in their selection.

For any further assistance contact Ablemail Technical .