

Ablemail Electronics

A Division of Merlyn Electronics

Merlyn House,
Merlyn Road
Salford, M6 6EL
Tel: +44 (0)161 745 7697
Fax: +44 (0) 161 737 5615
Email: info@ablemail.co.uk
www.ablemail.co.uk

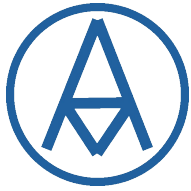
Ablemail Software Interface (ASI)

The software interface allows Ablemail or an Ablemail partner to make selections within the setup of the Ablemail Universal Power Converter, calibrate units, view the unit inputs and outputs in real time and to access the blackbox data recorder of the converter. The Ablemail Software Interface can configure the Universal Power Converter as a converter, a battery charger or a solar charger.

The settings accessed by the Ablemail Software Interface allow the converters/chargers to be configured to meet specific vehicle, specific battery and specific charge and operating regimes. The flexibility allows these units to be used with Stop/Start vehicles, vehicles with regenerative braking and vehicles fitted with Smart alternators. In addition the converters/chargers can easily be configured to meet any new requirements using this software.

CONTENTS

PROFILE AND SETTINGS.....	P.1
HARDWARE AND CALIBRATION.....	P.2
FAULT FINDING, TROUBLESHOOTING AND INCIDENT INVESTIGATION.....	P.3
REAL TIME MONITOR.....	P.3
BLACK BOX MONITOR.....	P.4

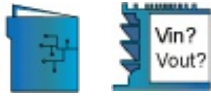


Ablemail Electronics

A Division of Merlyn Electronics

Merlyn House,
Merlyn Road
Salford, M6 6EL
Tel: +44 (0)161 745 7697
Fax: +44 (0) 161 737 5615
Email: info@ablemail.co.uk
www.ablemail.co.uk

Profile and Settings



The Ablemail Universal Power Converter contains very powerful software which can be configured to optimize the converter for working on particular vehicles in customer specified conditions.

The Ablemail Universal Power Converter can be configured as a converter, a battery charger or a solar charger.

Each of these modes have a number of settings for operating with for example different types of batteries, stop start vehicles ,vehicles with smart alternator fitted and different customer trigger voltage thresholds.

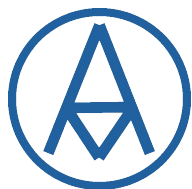
The screenshot below shows many of the options but if you have a particular requirement please talk to the Ablemail Technical Sales as can be included.

The profiles are configured to allow you to ensure that every converter is programmed exactly as your first converter.

The screenshot shows the 'Universal Power Converter Configuration and Monitoring Tool' window. The 'Device Settings' tab is active, displaying a list of settings for a 12V LA Charger. The settings include:

Setting	Value
Customer	Ablemail
Product Name	12V LA Charger
Output Type	Lead-Acid Battery Charger
Output Regime	Constant Current Only
Output 'Float' Voltage	12.49V
Boost Voltage	13.09V
Battery Voltage	24V Battery
Remote Temp. Cut Off	90°C
Run Control	Alternator/Supply Control
Run Control Timer	5 Minute Timer
Run Control On Voltage	2.70V
Run Control Off Voltage	2.52V
Blue-Motion Off Voltage	2.52V
Status Output Control	LED Charging Status
Alarm Output Control	LED Protection Modes
Low Power Mode	Low Power Mode Disabled

At the bottom of the settings list is a button labeled 'Save Values to Universal Power Converter'.



Ablemail Electronics

A Division of Merlyn Electronics

Merlyn House,
Merlyn Road
Salford, M6 6EL
Tel: +44 (0)161 745 7697
Fax: +44 (0) 161 737 5615
Email: info@ablemail.co.uk
www.ablemail.co.uk

Hardware and Calibration



The converter is serialized and has the facility to store vehicle information change and revision data and life data. This data is accessed and changed through the hardware interface.

Each converter is individually calibrated so that each unit delivers $\pm 50\text{mV}$ of the target voltage. The calibration can be checked at any time through the life of the converter and any necessary corrections recorded.

Universal Power Converter Configuration and Monitoring Tool

File Edit Device Data Help

Device Settings Hardware Information Investigate Device Monitor Device

Hardware Templates and Profiles

Enter description for LabelHardwareTemplatesAndProfilesDescription here.

Hardware Information

- Profiles
- Templates

Hardware Information

Enter a profile description of the device. Then match Artwork and Parts list (number ,revision). If needed, enter notes about hardware, software or the device in general (such as the date of order or any detail that could identify this unit). You will then be able to upload these informations to the device from the "device menu". It is also possible to save these informations as a new profile/template from the "File menu".

Profile Description: 13.6V Converter with Interface Board

Serial Number: 001A923587900000000004

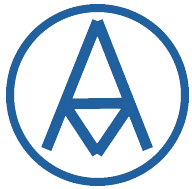
	Artwork Number	Artwork Revision	Parts List Number	Parts List Revision
Main Board	MEA100023	A	MEP100034	D
MCU Board	MEA100031	B	MEP100036	C
Interface Board	MEA100043	E	MEP100064	B
Global Assembly	MEA100033	A	MEP100041	A

Hardware Notes: 120R Resistor fitted for 13.6V Converter

Software Notes: Software Rev 18

General Notes:

Save Values to Universal Power Converter



Ablemail Electronics

A Division of Merlyn Electronics

Merlyn House,
Merlyn Road
Salford, M6 6EL
Tel: +44 (0)161 745 7697
Fax: +44 (0) 161 737 5615
Email: info@ablemail.co.uk
www.ablemail.co.uk

Fault Finding ,Troubleshooting and Incident Investigation

Every complex product and complex vehicle has installation, commissioning and fault finding issues over the life of a vehicle's production and running.

The Ablemail Universal Power Converter has tools to help you minimize the time and effort required to find and rectify these issues.

Real Time Monitor



The realtime monitor allows you to watch and record the key variables of the converter 5 times/second on any pc running the Ablemail PC Software Interface. You can view the files in real time or play them back at a later date then view the files at playback.

Universal Power Converter Configuration and Monitoring Tool

File Edit Device Data Help

Device Settings Hardware Information Investigate Device **Monitor Device**

Realtime Device Monitoring

THESE ARE REALTIME DATA AND WILL BE LOST IF THE APPLICATION IS CLOSED, THE COMMUNICATION LOST OR THE DEVICE POWERED OFF !!

Device Settings and Measurements Recorded Data Voltage Graph Current Graph Temperature Graph

This section can be used to monitor the live measurements of the device. "Current device settings" will show the actual settings of the device after it has been downloaded from the "device menu". "Device Measurements" is showing the realtime measurements including the normal, boost and target voltages, and different counters: "Device clock" shows the length of time the device has been connected, "Run clock" the length of time the device has been running for.

Current Device Settings

Setting	Value
Serial Number	000000000000000000000000
Date of Manufacture	30/12/1899
Customer	
Product Name	
Last Configured By	
Output Type	DCDC Converter
Output Regime	Const. I Only
Output 'Float' Voltage	0.00V
Boost Voltage	0.00V
Battery Voltage	12V Battery
Remote Temp. Cut Off	-40.00°C
Run Control	Always On
Run Control Timer	Instant Acting
Run Control On Voltage	0.00V
Run Control Off Voltage	0.00V
Blue-Motion Off Voltage	0.00V
Status Output Control	LED On/Off
Alarm Output Control	LED Protection Modes
Low Power Mode	Low Power Mode Disabled

Device Measurements

Measurement	Value
Local Input Voltage (LIV)	0.00V
Remote Input Voltage (RIV)	0.00V
Local Output Voltage (LOV)	0.00V
Remote Output Voltage (ROV)	0.00V
Local Output Current (LI)	0.00A
Microcontroller Temperature (MT)	-273.00°C
Power MOSFET Temperature (PT)	-273.00°C
Remote Temperature (RT)	-273.00°C
Target Voltage	0.00V
Normal 'Float' Voltage	0.00V
Boost Voltage	0.00V
Device's Age 'Run Days'	0 days
Run Clock	00:00:00.000
Device Clock	00:00:00.000
Black Box Counters	0 0 0 0 0 0 0

Serial Communication

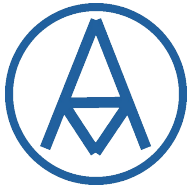
To set up correctly the serial communication, select the com port you are using and the correct baud rate (initially 57600). A message is displayed when the communication is established : "The dcdc converter is connected". If "low power mode" has been enabled in the configuration settings, the serial communication will only be established when the device will turn on.

Com Port: COM4 BAUD: 300 The com port is in use or does not exist.

Communication Log

Tx: 0b Rx: 0b

Search For Universal Power Converter...



Ablemail Electronics

A Division of Merlyn Electronics

Merlyn House,
Merlyn Road
Salford, M6 6EL
Tel: +44 (0)161 745 7697
Fax: +44 (0) 161 737 5615
Email: info@ablemail.co.uk
www.ablemail.co.uk

Black Box Monitor



This is a feature to assist in chasing down those troublesome issues that occur throughout a vehicle's life. The converter stores the maximum and minimum of all the key variables and also keeps data snapshots at pertinent intervals in the last minute of the converter's operation.

Universal Power Converter Configuration and Monitoring Tool

File Edit Device Data Help

Device Settings Hardware Information Investigate Device Monitor Device

Investigate Device

From the "device menu", you can choose to download all or part the eeprom. The downloaded data will be organized in the three pages below.

Hardware Information and Device Settings Black Box Viewer EEPROM Viewer

This page will display the black box data and show the event data graph. You can also download the black box data on its own from the "device menu".

General Black Box Data Realtime Black Box Data

Enter description for LabelGlobalBlackBoxDataDescription here.

Black Box Data	Value
No Writes to EEPROM	0
Nb Hours UPC Has Run	0
Average Local Input Voltage (LIV)	0
Average Remote Input Voltage (RIV)	0
Average Local Output Voltage (LOV)	0
Average Remote Output Voltage (ROV)	0
Average Local Current (LI)	0
Average MCU Temperature (MT)	0
Average FET Temperature (FT)	0
Average Remote Temperature (RT)	0

Description	Hours Run	Max/Min Value
Maximum Local Input Voltage (LIV)	0	0.00V
Maximum Remote Input Voltage (RIV)	0	0.00V
Maximum Local Output Voltage (LOV)	0	0.00V
Maximum Remote Output Voltage (ROV)	0	0.00V
Maximum (LI)	0	0.00A
Minimum MCU Temperature (MT)	0	-273.00°C
Maximum MCU Temperature (MT)	0	-273.00°C
Minimum FET Temperature (FT)	0	-273.00°C
Maximum FET Temperature (FT)	0	-273.00°C
Minimum Remote Temperature (RT)	0	-273.00°C
Maximum Remote Temperature (RT)	0	-273.00°C

Download Data From Universal Power Converter