μActive DC-DC Charging System

MICRO-CONTROLLED ON-BOARD BATTERY CHARGER

Keep all your auxiliary batteries fully charged, all of the time, whatever the chassis voltage, whatever the battery voltage

The μactive line-charger system is the leading micro-processor controlled DC-DC charger that provides fast, optimum charging of auxiliary batteries:

- 12V chassis to 12V aux batteries
- 12V chassis to 24V Aux batteries
- 24V tractor to 24V trailer power system
- 24V truck to 12V aux batteries.

It is particularly suited to battery charging on trailers where the batteries are charged via the suzi connection. But is equally useful on rigid vehicles where there are long cable runs or the auxiliary battery is externally mounted and operates at lower temperatures than the start battery.

Where the alternator is powerful, our Virtual Alternator System should be considered instead as it allows the Aux batteries to benefit from even higher charging currents.

Innovative features such as remote alternator detection circuitry, remote temperature and voltage sensing make this unit unique in its field.

Programmable:

This charger range uses software controlled micro-processor control, so if the defaults don't suit your application we can modify them for you.

Key features:

- Powerful & Compact
- Twin Channel 240W-840W
- Wide voltage input range
- Accurate microprocessor controlled 4 stage charging regime
- Integral split charge functionality
- Remote alternator detection
- Recovers fully discharged batteries
- High reliability & proven in-service
- Temperature controlled cooling fan
- Optional remote temperature/voltage compensation

Basic Principles

To optimally charge a battery, the voltage must be set correctly according to the current state of the battery. Too low, and it will not charge enough. Too high, and it will gas excessively, shortening the life of the battery. This optimal voltage also changes with the temperature; higher temperatures require lower voltage and in cold weather the voltage must be raised, hence the requirement for micro-processor control.

It is these very losses that ensure most "remote" batteries cannot be fully charged by the alternator.

Getting the right voltage at the battery terminals can be difficult. Traditionally modern alternator controllers can vary the voltage considerably. The normal alternator usually has fixed voltage at its output connections; on a 12V vehicle this is typically around 13.8V. This means the voltage at the other end of the cable, at the auxiliary battery, is often substantially lower because of the volt drop caused by the length and width of the charging cable, plus any other connections such as fuses, "suzi" connectors etc also cause losses. It is these very losses that ensure most "remote" batteries cannot be fully charged by the alternator alone.

The μactive charger overcomes this by taking in whatever is available and converting it to a boosted, controlled, charging voltage regime.

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ANTARES
engineering with answers

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Control:

Automatic sensing:
The default is for the unit to be switched on/off by the alternator output: When the alternator is spinning (engine running), the charger switches on and it charges the battery. When the alternator stops, the charger goes to sleep mode, conserving power, and with no indicators the quiescent draw is negligible. This ensures the vehicle start battery is not drawn down by the auxiliary loads or the charger.

Manual switch:
If required the unit can be switched by an external input instead of (or as well as) the alternator output.

Battery types:

The μActive charger's control software is configured for both sealed (VRLA) and flooded lead acid batteries used in automotive applications.
Other battery technologies can be accommodated in specially programmed versions.

Charging regime

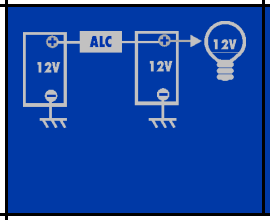
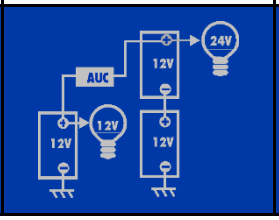
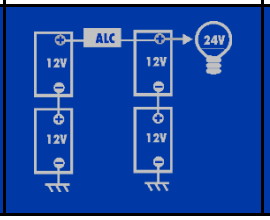
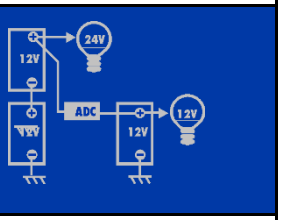
The μActive Charger provides a boost charge, float charge, temperature compensated regime. It is designed for permanent connection and can be used to provide charging from any suitable source such as battery chargers, solar panels as well as a vehicle alternator.

Two Outputs

The two outputs are primary and secondary, and are normally linked together to produce double the output current to provide faster charging.
Optionally, the two outputs can be operated and used independently—please contact our engineers for more details.

Remote sensing

Temperature and voltage can be monitored at the auxiliary battery terminals. This option should be used to overcome voltage drops in extended cable runs, such as when the charger is used off-board or where the batteries are sited in an area subject to a different temperature – such as in the rear of a trailer.

Model type Purpose	12 to 12 ACTIVE LINE CHARGER	12 to 24 ACTIVE UP CHARGER	24 to 24 ACTIVE LINE CHARGER	24 to 12 ACTIVE DOWN CHARGER
Nominal output up to: (Primary and secondary)	40A @12V (240W per channel)	20A @24V (240W per channel)	35A @ 24V (420W per channel)	40A @12V (240W per channel)
Configuration: Primary and Secondary output channels connected together. (Default)				
Secondary channel Special order capability	Normally the secondary channel is supplied configured as per the primary channel to double the power of the unit to provide faster charging. It can be configured to be used separately to charge a separate battery. Note: The battery can be either the same voltage, or a different voltage, or for lower power levels, the secondary channel can be omitted altogether. — Please contact Antares for advice and pricing.			
Part Numbers **(auto on-off control)**	9661 111 111.0	9661 211 211.0	9662 211 211.0	9662 111 111.0
Part Numbers **(manual on/off)**	9661 112 112.0	9661 212 212.0	9662 212 212.0	9662 112 112.0
Auto on-off control On/Off thresholds (V)	13.1V on / 12.6V off		26.2V on / 25.2V off	
Input Voltage range	11.0 – 15.0V		21.0 – 30.0V	
	Extended input range available on request. Contact Antares for details			
Charging regime	4 stage temperature compensated: bulk, boost1, boost 2, float			
Output Voltage boost1/ float (@20°C)	14.2V / 13.6V	28.4V / 27.2V	28.4V / 27.2V	14.2V / 13.6V
Standard Features	On/off control, input under- and over-voltage shutdown, output overvoltage protection			
Weight & Dimensions	1.5kg, 275mm x 121 mm x 67(H)			
Operating temp.	-5 to 40°C, with de-rating above 40°C to 65°C, IP20 environmental protection			
Connections	1 m flying leads - input, output(s), ground stud, 100mm control looms fitted with female super-seal Optional: Control loom 5m, male super-seal to bare end; Battery sense loom with sensor to super-seal			
Cooling	Temperature controlled fan			
Compliance	e11*5860*00, CE marked			