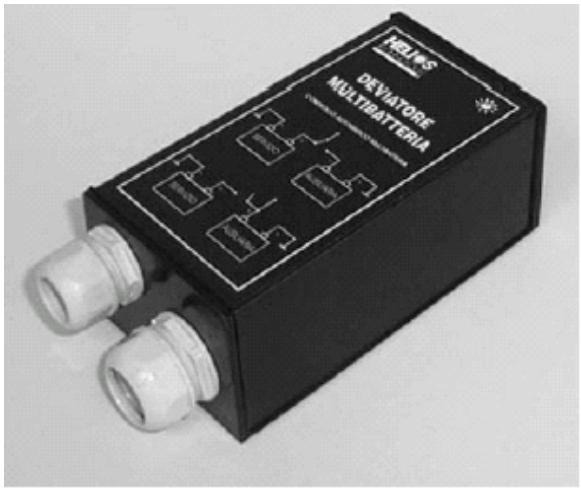
MULTIBATTERY SWITCHER



The performances of a photovoltaic system depend strongly on the available quantity of stored energy in the battery, whatever is the power source that is feeding it.
Nowadays the energy consumption by the loads is so more increasing that the use of only one battery is not enough to guarantee an appropriate storage. Moreover, the parallel connection of the batteries is ineffective and dangerous.
In fact it is well known that the result of the parallel connection of two batteries, even being of the same nominal capacity, will be never the algebraic sum of their capacities. This is due to the inside resistance of the batteries, that being different from each other, will cause inside current migrations and energy losses. For example in a system composed of two batteries 100Ah each, the total result of the parallel connection will not be of 200Ah but of about 160-170Ah, because their different inside resistance allow approximately the 100%recharge of the first and only the 70% recharge of the second. The best solution to charge both the batteries at 100% is the separate recharge of each.
The same considerations apply for the discharge process, so that every single battery should be discharged in a separate and controlled way to guarantee their highest performances.
This is the reason why Helios Technology Srl has designed the **MULTIBATTERY SWITCHER**, an intelligent device that switches automatically the electric connection from one battery to the other, both during their charge (when there is energy available produced by one engine, photovoltaic modules or one outside battery charger) and discharge.
This innovative device is the best solution to allow the maximum energy storing and will let the user get even twice the amount of energy available for the loads. Moreover it will be possible to connect batteries that are different from each other, as lead-acid and lead-gel, one older than the other and of different capacities. The microprocessor inside the **MULTIBATTERY SWITCHER** manages intelligently the available energy, switching it at the proper time and consequently increasing the operating lifetime of the batteries.
The **MULTIBATTERY SWITCHER** can operate automatically but also controlled by the GENIUS® charge regulator for a better management of the ampere hours available by the two batteries. Furthermore it is preset to operate connected with an optional remote control by which the user can select a manual program and therefore, choose what battery to use and when. Thanks to the **MULTIBATTERY SWITCHER** the user will get a higher energy quantity that means a longer autonomy of the loads.

TECHNICAL DATA

Normal operating voltage	12V
Maximum relay current	35A
Minimum operating voltage	9V
Connection terminals size	10mm^2
Capacity of connection terminal with able terminal clamp	16mm^2
Consumption during relay switching (1 second)	450mA
Self-Consumption	7mA
Selectable operating mode with (optional) remote key	Automatic / manual
Selection of the 4 operating programs	Internal jumpers
Program 1	Automatic auxiliary battery / service battery switch
Program 2	Automatic auxiliary battery ON / OFF
Program 3	GENIUS-controlled auxiliary battery / service battery switch
Program 4	GENIUS-controlled auxiliary battery ON / OFF
Operating ambient temperature	From -15C° up to +60C°
Overall dimensions including the cable glands	185 x 85 x 60mm
Weight	450g
IP protection degree	IP22
Input peripheral	Four-pole plug for the connection to GENIUS
Output peripheral for the remote monitor	4 terminals – 4 contacts RJ phone plug
Remote monitor	2 LEDs and one key
Remote-monitor cable length	5m
Information shown by the remote monitor	Automatic / manual / battery 1 - 2

Helios Technology Srl - Via Postumia 9/B, 35010 - Carmignano di Brenta (PD) - Italy - Tel: +39 049 9430288 Fax: +39 049 9430323
E-mail: info@heliostechnology.com www.heliostechnology.com