VOTRONIC Peripheral Units

Indispensable Aids in the Background

Safety for the Battery

VOTRONIC automatic chargers ensure correct battery charging due to advanced charging technology. They are suitable for all conventional lead batteries (refer to chapter charging technology). The VOTRONIC peripheral units are the right choice for appropriate treatment of batteries in daily use. They work in the background and ensure automated charging control and battery control.

For campers, boats, intervention vehicles etc. the batteries must supply energy even during standstill of the vehicles. These vehicles are mostly equipped with several batteries being used separately for driving and standstill.

Distinction is made between starter and supply battery (batteries). As already recognizable by the name, the starter battery is responsible for a reliable start of the vehicle, while the other battery (batteries) takes (take) over the supply of the electric appliances in the vehicle. To ensure reliable operation of each battery circuit and the vehicles' electric supply, different units are required for charging control during driving.

The VOTRONIC TRS Relay, for instance, takes over simultaneous charging of all batteries and separation at the right moment to ensure that the vehicle can be started at any time. With the VOTRONIC StandBy Charger in connection with chargers, solar charging controllers, generators etc., which are not equipped with a second charging port, the starter battery can be recharged.

Very often, battery failure is caused by low voltage or total discharge. A battery voltage of less than 10.5 V already causes total discharge and damage of a 12 V lead storage battery. Very often, this is caused by consumers, which have not been switched-off, "hidden" discharge in the mA range by e. g. tracking current in case of humidity despite of disconnected main switch, electromagnetic stop valves of heaters or "silent" consumers, such as clocks, control panels and units in stand-by mode. This harmful total discharge must be avoided. In fact, this should be effected fully automatically.

The VOTRONIC units Battery Protector 40 and 100 control and protect the board battery from dangerous total discharge and the consumers from low voltage and overvoltage. The units effect automatic separation of the electric consumers from the battery prior to total discharge. Total discharge is avoided by application of the VOTRONIC Battery Computer (refer to chapter Battery Control), which is working like a fuel gauge of the battery and which displays the residual capacity of the battery.

StandBy Charger

The VOTRONIC StandBy Charger serves for automatic recharging and trickle charge of the starter battery or the auxiliary battery, if the mains supply charger, the solar charging controller or the generator is equipped with only one charging port. Retrofit of the unit is very easy by just interconnecting it between board battery and starter battery or board battery and auxiliary battery, without having to change the cabling.

If the mains supply charger operates and charges the board battery, a small part of the charging current - depending on the charging condition - will be charged to the second battery (starter battery or auxiliary battery). This trickle charge is effected automatically and can be recognized by an increased voltage of the second battery. Overcharging of the second battery is excluded, since the charging voltage is reduced by at least 0.6 V and the charging current is limited to 2 A.

VOTRONIC Intelligent Cut-off Relay – Plenty of Energy for Starter Battery and Board Battery
TRS Relay

The VOTRONIC TRS Relay will be connected between starter battery and supply battery. It combines the charging possibilities, like dynamo and mains supply charger to enhance the utilization of existing vehicle batteries. During driving the starter battery and the board battery are charged by the dynamo. If required, the integrated cut-off relay also supplies plenty of charging current to the board battery.

During missions - the relay is switched-off in case of motor standstill - the consumers will be supplied by the board battery, whereas the starter battery will not be touched, thus keeping the full starting capacity.

During standstill mode with mains supply charger, solar system or petrol-driven generator, the board battery will be charged at first. As soon as the latter has been charged sufficiently, simultaneous charging of the starter battery will be effected to keep it always ready for operation, also in case of extended stop periods (trickle charge). This function will be indicated by means of a green light-emitting diode.

The intelligent switching to trickle charge ensures adequate recharging of the starter battery (0.1-3.5 A) depending on the corresponding charging state to be able to supply the major part of the charging current to the supply battery being in need of it. Overcharging of the starter battery is excluded.

Unit Type	Order No.	Operating Voltage (Batteries) V	Current Consumption mA	Switching Current Cut-off Relay Driving Mode, A	Charging Current during Standstill Mode for Starter Battery, A	Dimensions* (WxDxH) mm	Weight g	Execution
TRS Relay 12V/70 A [1]	**3081**	12	2	70	0-3,5	90x60x38	115	A
TRS Relay 24V/40 A [1]	**6081**	24	2	40	0-2,5	90x60x38	115	A
StandBy Charger 12 V [2]	**3065**	12	–	–	0-2	90x60x38	52	B
StandBy Charger 24 V [2]	**6065**	24	–	–	0-2	90x60x38	52	B

* Dimensions incl. mounting flanges, without connections

Mark of Conformity: CE, E Test (EMV/Automotive Regulations)
Delivery Scope[1]: Flat connector 6.3 mm and 9.5 mm, manual **Delivery Scope**[2]**:** Manual

Execution A

Execution B