

## Battery chargers with switch mode technology Type Pb SMT „2B“ and „3B“

Due to an exactly defined charging characteristic of IU1<sub>0</sub>U2 the SMT chargers allow quick and effective charging of lead-acid Gel and AGM batteries, treating the battery careful at the same time. Multiple device options are covering a wide scale of applications – stationary as well as mobile use. Short charging times with high rate of capacity input, temperature adapted charge voltage, long battery service life and frequent buffer operation is crucial criteria for an optimal battery charging procedure. Two charging programs will enforce optimized charging of Gel/AGM batteries as well as vented lead-acid batteries of newest resp. traditional technology. The battery may remain connected with the charger. An overcharging is prevented. At longer times of inoperation storage an automatic regeneration programm prevents a performance reducing acid stratification.



execution A



execution B

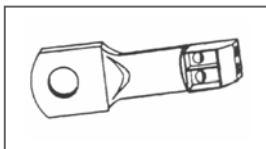
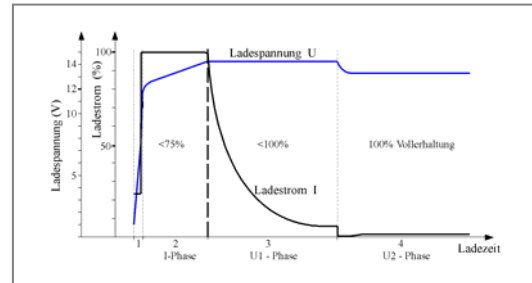
### Feature of these types:

- Unattended charging and standard protection against overload, overheating, overvoltage, wrong polarization, short circuit and overcharging by means of a safety relay for each output. By this, also back discharge of the battery in case of power failure is avoided, and the batteries can always remain connected to the charger.
- The automatic compensation of voltage loss on the charging cables ensures precise keeping of the charging voltage at the battery. Powerful unit versions allow connection of voltage sensor lines, which is recommendable in case of very long charging cables.
- Charging aid for totally discharged batteries: Gentle preliminary charging of the battery to 8V, followed by normal charging characteristic.
- Charging voltage being free from peaks is controlled in such a way that any overcharging of the batteries is excluded.
- Paralell and buffer operation: At simultaneous consumption, micro processor controlled charge assures power supply to consumers at same time.
- Built-in-on-board mains suppression filters ensure unproblematic parallel operation of dynamos, motor generators and wind-driven generators, solar systems etc. at one battery.
- Connection for external temperature sensor (part no. 20.50300): Automatic compensation of charge voltage in correlation of battery temperature.
- 2B = Execution A – Separate auxiliary charging port „S“ for support charging and conservation of charge of the vehicle's starter battery, max. 2 A.
- 3B = Execution B – Integrated charging current distributor with 2 main charging ports, each with max. current and output capacity. Additional auxiliary charging port „S“ for support charging and conservation of charge of a starter battery, max. 4A.
- All-automatic continuous operation for permanent readiness for use of the batteries.

Technical data	Pb 1210 SMT 2B	Pb 1215 SMT 2B	Pb 1220 SMT 2B	Pb 1230 SMT 2B	Pb 1240 SMT 3B
nominal operating voltage (AC)	230V / 45 ~ 65 Hz				
power consumption (AC) max.	160W	240W	320W	510W	680W
power-factor-correktion CosPhi = 1	yes	yes	yes	yes	yes
nominal voltage battery	12 V	12 V	12 V	12V	12V
battery capacity (ass. to case of application)	25 – 115Ah	38 – 170Ah	50 – 230Ah	75 – 350Ah	75 – 480Ah
ripple factor voltage	<50 mV rms	<50 mV rms	<50 mV rms	<40 mV rms	<40 mV rms
main charging, I-phase, 8V(16V)-U1,0-8h	10A max.	15A max.	20A max.	30A max.	40A max.
characteristic line	IU1 <sub>0</sub> U2	IU1 <sub>0</sub> U2	IU1 <sub>0</sub> U2	IU1 <sub>0</sub> U2	IU1 <sub>0</sub> U2
Auxiliary port vehicle starter battery II	12V/0-2A	12V/0-2A	12V/0-2A	12V/0-3A	12V/0-3A
Input battery 1 – temperature sensor	yes	yes	yes	yes	yes
battery regeneration in caso of extended down-time	2 x/week 1h	2 x/week 1h	2 x/week 1h	2 x/week 1h	2 x/week 1h
dimensions mm	220/160/72	220/160/72	220/160/72	380/262/105	330/160/71
weight	1250 g.	1280 g.	1300 g.	1350 g.	2400 g.
Execution	A	A	A	B	B
part no.	20.40230	20.40231	20.40232	20.40236	20.40237

## Charging process output battery I:

1. Preliminary charging of totally discharged battery, gentle initial charging current (I-Phase)
2. Main charging constant, maximum charging current (I-Phase)
3. Main/FullCharging constant charging voltage 1 (U1-Phase)
4. Full/Charging conservation constant continuous charging voltage 2 (U2-Phase)



## External temperature sensor R2001

for control of the battery temperature and automatic charging voltage correction in order to protect sensible systems.  
part no. 20.50300

## Battery Protector 40

12 Volt / 40 Ampere

The Battery Protector 40 is inserted between supply battery or body battery and consumers. It protects the battery from dangerous total discharge and the consumers from low voltage and overvoltage.  
part no. 20.50304

