

# BATTERY CHARGERS



- 3-Stage & 8-Stage Battery chargers for lead acid batteries**
- Microprocessor controlled power management**
- Built-in Temperature compensation function**
- 3 Colour LED loading indicator**
- Protection: Reverse polarity / Short circuit / Over temperature**



## *Current Automation*

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# AC/DC Smart Charger

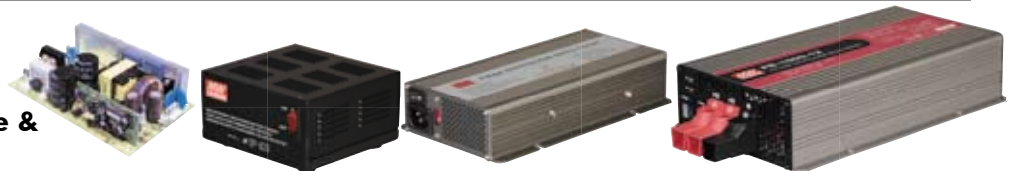
## 3-Stage Battery Chargers

- Multi step charger with auto shut-off
- LED status display
- Short circuit protection
- Reverse polarity protection
- Overload protection
- Automatic fan control
- Input range of 90~264 V AC, 50~60 Hz



### SPECIFICATIONS

Model	Output voltage	Output amps	Red LED Display	Light Yellow LED Display	Dark Yellow LED Display	Orange LED Display	Green LED Display	Equalize Charge	Float charge	Dimensions	Weight
PM-0212F	12 V DC	2 A	Charging	-	-	-	Fully charged	14.6 V DC	13.7 V DC	120 x 60 x 34 mm	0.3
PM-0224F	24 V DC	2 A	Charging	-	-	-	Fully charged	29.2 V DC	27.4 V DC	120 x 60 x 34 mm	0.3
PM-0312F	12 V DC	3 A	Power On	-	-	Charging	Fully charged	14.6 V DC	13.7 V DC	180 x 88 x 47 mm	0.8
PM-0324F	24 V DC	3 A	Power On	-	-	Charging	Fully charged	29.2 V DC	27.4 V DC	180 x 88 x 47 mm	0.8
PM-0336F	36 V DC	3 A	Power On	-	-	Charging	Fully charged	43.8 V DC	41.1 V DC	180 x 88 x 47 mm	0.8
PM-0348F	48 V DC	3 A	Power On	-	-	Charging	Fully charged	58.4 V DC	54.8 V DC	180 x 88 x 47 mm	0.8
PM-0412F	12 V DC	4 A	Power On	-	-	Charging	Fully charged	14.6 V DC	13.7 V DC	180 x 88 x 47 mm	0.8
PM-0424F	24 V DC	4 A	Power On	-	-	Charging	Fully charged	29.2 V DC	27.4 V DC	180 x 88 x 47 mm	0.8
PM-0436F	36 V DC	4 A	Power On	-	-	Charging	Fully charged	43.8 V DC	41.1 V DC	180 x 88 x 47 mm	0.8
PM-0512F	12 V DC	5 A	Power On	-	-	Charging	Fully charged	14.6 V DC	13.7 V DC	180 x 88 x 47 mm	0.8
PM-0524F	24 V DC	5 A	Power On	-	-	Charging	Fully charged	29.2 V DC	27.4 V DC	180 x 88 x 47 mm	0.8
PM-0612F	12 V DC	6 A	Power On	-	-	Charging	Fully charged	14.6 V DC	13.7 V DC	180 x 88 x 47 mm	0.8
PM-0624F	24 V DC	6 A	Power On	-	-	Charging	Fully charged	29.2 V DC	27.4 V DC	180 x 88 x 47 mm	0.8
PM-0712F	12 V DC	7 A	Power On	-	-	Charging	Fully charged	14.6 V DC	13.7 V DC	180 x 88 x 47 mm	0.8
PM-0724F	24 V DC	7 A	Power On	-	-	Charging	Fully charged	29.2 V DC	27.4 V DC	180 x 88 x 47 mm	0.8
PM-0824	24 V DC	8 A	-	Bulk charging	Float charging	-	Power On	29.2 V DC	27.4 V DC	223x 209 x 85 mm	2.6
PM-0848	48 V DC	8 A	-	Bulk charging	Float charging	-	Power On	58.4 V DC	54.8 V DC	280 x 209 x 85 mm	3.0
PM-1012F	12 V DC	10 A	Power On	-	-	Charging	Fully charged	14.6 V DC	13.7 V DC	180 x 88 x 47 mm	0.80
PM-1024	24 V DC	10 A	-	Bulk charging	Float charging	-	Power On	29.2 V DC	27.4 V DC	223 x 209 x 85 mm	2.6
PM-1212F	12 V DC	12 A	Power On	-	-	Charging	Fully charged	14.6 V DC	13.7 V DC	180 x 88 x 47 mm	0.8
PM-1212	12 V DC	12 A	Power On	Bulk charging	Float charging	-	-	14.6 V DC	13.7 V DC	223 x 209 x 85 mm	2.6
PM-1424	24 V DC	14 A	Power On	Bulk charging	Float charging	-	-	29.2 V DC	27.4 V DC	280 x 209 x 85 mm	3.0
PM-2024F	24 V DC	20 A	Power On	Bulk charging	Float charging	-	-	29.2 V DC	27.4 V DC	280 x 209 x 85 mm	3.0
PM-2036F	36 V DC	20 A	Power On	Bulk charging	Float charging	-	-	43.8 V DC	41.1 V DC	243 x 186 x 163 mm	4.5
PM-2048F	48 V DC	20 A	Power On	Bulk charging	Float charging	-	-	58.4 V DC	54.8 V DC	283 x 186 x 163 mm	5.0
PM-2512	12 V DC	25 A	Power On	Bulk charging	Float charging	-	-	14.6 V DC	13.7 V DC	280 x 209 x 85 mm	3.0
PM-2524	24 V DC	25 A	Power On	Bulk charging	Float charging	-	-	29.2 V DC	27.4 V DC	400 x 209 x 85 mm	4.40
PM-5012	50 V DC	50 A	Power On	Bulk charging	Float charging	-	-	58.4 V DC	54.8 V DC	400 x 209 x 85 mm	4.40
PM-5024	24 V DC	50 A	Power On	Bulk charging	Float charging	-	-	29.2 V DC	27.4 V DC	415 x 180 x 160 mm	7.70
PM-10012	12 V DC	100 A	Power On	Bulk charging	Float charging	-	-	14.6 V DC	13.7 V DC	415 x 180 x 160 mm	7.70



## MEANWELL 2-Stage, 3-Stage & 8-Stage Battery Chargers

Model	W	Input Volts	Single Output Rated Current (A)									Dimension (LxWxH) (mm)	Weight kg
			13.5 V	13.8 V	14.4 V	27 V	27.6	28.8 V	54 V	55.2 V	57.6 V		
P0-120Δ-13▽	99	90~264		7.2								PCB :144x 90x 35 mm	1.24
P0-120Δ-27▽	119	90~264					4.3					With case:	1.24
P0-120Δ-54▽	121	90~264							2.2			180x 96x 49 mm	1.24
ESC/P-120-□	108	90~264	8.0			4.0			2.0			150x 140x 86 mm	1.38
ESC/P-240-□	216	90~264	16			8.0			4.0			150x 140x 86 mm	1.38
PB-300-□	300	90~264			20,85			10.5			5.3	253x 135x 48.5 mm	1.45
PB-360-□	360	90~264			24.3			12.5			6.25	253x 135x 48.5 mm	1.5
PB-1000-12	1000	90~264			60 A							300 x 184 x 70 mm	3.5
PB-1000-24	1000	90~264						34.7				300 x 184 x 70 mm	3.5
PB-1000-48	1000	90~264									17.4	300 x 184 x 70 mm	3.5

\* Note : ○ = A: Voltage detector; B: Current detector; Δ = P: With PFC; N: None PFC (PFC: Power factor correction); ▽ = P: Open P.C.B; C: With Case

## Desktop Chargers

### FEATURES

- Class II power (without earth pin)
- No load power consumption < 1 W
- Constant current and voltage (CC, CV)
- 2 Colour LED indicate for charging status
- Protections short circuit / over load / over voltage / over temperature



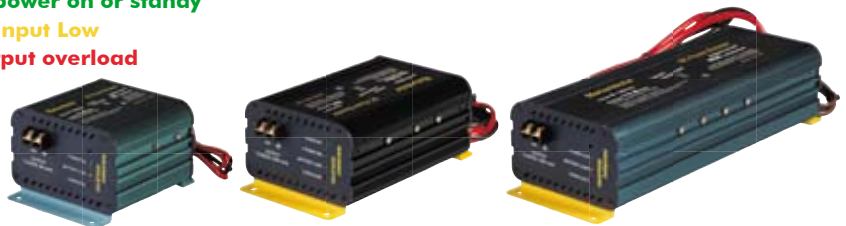
Model	W	Input Voltage	Single Output Rated Current (A)							Dimension (LxWxH) (mm)	Weight (kg)
			3 V	5.6 V	7.2 V	8.4 V	14.3 V	16.8 V	28.6 V		
GC06Δ-▽P1J	6	90~264 V AC	1.33	0.89	0.83	0.71	0.41	-	-	32 x 66 x 42.5 mm	100 g
GC30Δ-▽P1J	30	90~264 V AC	4	3.99	3	3	2.09	1.6	1.04	108 x 67 x 36 mm	309 g

## DC-DC Booster Chargers

### FEATURES

- Ignition protection
- Short circuit protection
- Overload protection
- Over temperature protection
- Parallel operation possible
- Suitable for battery boost and charging
- Input and output galvanically isolated.
- Output voltage adjustable

- **3 Colour LED indication:**  
**Green-power on or standby**  
**Yellow-Input Low**  
**Red-output overload**



The DC-DC isolated power booster is ideal to regulate and charge batteries in an unstable charging system and to compensate for line loss from long distance charging.

Model	Input Voltage	Output Voltage	Continuous Current	Efficiency	Ripple & Noise	Load Regulation	Size (mm)	Weight (kg)
PB-1108	8~16 V DC	13.8 V DC	8 A	85~90%	30 mV	30 mV from no load to full load	100 x 115 x 70 mm	0.75
PB-1112	8~16 V DC	13.8 V DC	12 A				140 x 115 x 70 mm	1.0
PB-1120	8~16 V DC	13.8 V DC	20 A				160 x 115 x 70 mm	1.2
PB-1130	8~16 V DC	13.8 V DC	30 A				250 x 115 x 70 mm	1.7
PB-1140	8~16 V DC	13.8 V DC	40 A				270 x 115 x 70 mm	2.1
PB-2205	20~32 V DC	27.6 V DC	5 A		50 mV		100 x 115 x 70 mm	0.75
PB-2210	20~32 V DC	27.6 V DC	10 A				140 x 115 x 70 mm	1.0
PB-2215	20~32 V DC	27.6 V DC	15A				250 x 115 x 70 mm	1.7
PB-2220	20~32 V DC	27.6 V DC	20 A				270 x 115 x 70 mm	2.1

## DC-DC Converter Chargers

These DC-DC converters can be used to run 12 V DC from 24 V, 36 V or 48 V DC battery systems, or 24 V DC from a 12 V DC battery system. All units are fitted with an overload and short circuit protection. It will automatically switch off the unit and re-start to operate if the overload or short circuit is removed.

Model	Input Voltage	Output Voltage	Continuous Current	Size(mm)	Weight (kg)
IPC-1205	8~16 V DC	27.6 V DC	5 A	100 x 115 x 70 mm	0.75
IPC-1210	8~16 V DC	27.6 V DC	10 A	140 x 115 x 70 mm	1.0
IPC-1215	8~16 V DC	27.6 V DC	15 A	160 x 115 x 70 mm	1.2
IPC-1220	8~16 V DC	27.6 V DC	20 A	250 x 115 x 70 mm	1.7
IPC-2110	20~32 V DC	13.8 V DC	10 A	100 x 115 x 70 mm	0.75
IPC-2120	20~32 V DC	13.8 V DC	20 A	140 x 115 x 70 mm	1.0
IPC-2130	20~32 V DC	13.8 V DC	30 A	160 x 115 x 70 mm	1.6
IPC-2140	20~32 V DC	13.8 V DC	40 A	250 x 115 x 70 mm	1.9
IPC-3110	30~48 V DC	13.8 V DC	10 A	110 x 115 x 70 mm	0.75
IPC-3120	30~48 V DC	13.8 V DC	20 A	140 x 115 x 70 mm	1.0
IPC-3130	30~48 V DC	13.8 V DC	30 A	210 x 115 x 70 mm	1.6
IPC-3140	30~48 V DC	13.8 V DC	40 A	240 x 115 x 70 mm	1.9
IPC-4110	40~60 V DC	13.8 V DC	10 A	110 x 115 x 70 mm	0.75
IPC-4120	40~60 V DC	13.8 V DC	20 A	140 x 115 x 70 mm	1.0
IPC-4130	40~60 V DC	13.8 V DC	30 A	210 x 115 x 70 mm	1.6
IPC-4140	40~60 V DC	13.8 V DC	40 A	240 x 115 x 70 mm	1.9

## 3-Stage DC-DC Charger

### FEATURES

- Three step charging
- High energy efficiency
- Ignition protected
- Galvanic isolated
- Overload protected
- Short circuit protected
- Over temperature protection
- Over charging protection - Maximum charged cycle @ absorption, 6 hours
- Low ripple and noise
- User friendly LED display
- EMC interference immunity
- Regulated output voltage
- Parallel operation
- Remote power on/off

**The smart DC-DC Booster Charger is a microprocessor time controlled three stage charging system, designed to protect your batteries from being over charged. Meaning that your batteries will perform better and last much longer**

Model	Input Voltage	Output Voltage	Bulk Absorption	Floating Charge	Continuous Current	Size (mm)	Weight (kg)
SDC-1110	10~16 V DC	14.2 V DC	14.6 V DC	13.2~13.8 V DC	10 A	130 x 150 x 70 mm	0.9
SDC-1120	10~16 V DC	14.2 V DC	14.6 V DC	13.2~13.8 V DC	20 A	150 x 150 x 70 mm	1.2
SDC-1130	10~16 V DC	14.2 V DC	14.6 V DC	13.2~13.8 V DC	30 A	180 x 150 x 70 mm	1.9
SDC-1140	10~16 V DC	14.2 V DC	14.6 V DC	13.2~13.8 V DC	40 A	220 x 150 x 70 mm	2.3
SDC-1150	10~16 V DC	14.2 V DC	14.6 V DC	13.2~13.8 V DC	50 A	220 x 150 x 70 mm	2.3
SDC-2210	20~32 V DC	28.4 V DC	29.2 V DC	26.4~27.6 V DC	10 A	150 x 150 x 70 mm	1.2
SDC-2220	20~32 V DC	28.4 V DC	29.2 V DC	26.4~27.6 V DC	20 A	180 x 150 x 70 mm	1.9
SDC-2225	20~32 V DC	28.4 V DC	29.2 V DC	26.4~27.6 V DC	25 A	220 x 150 x 70 mm	2.3

### Smart Battery Protector

**The smart battery protector has been designed with overload and short circuit protection capability. It will automatically disconnect a battery if it detects a battery voltage below 10.5 V DC of a 12 V DC battery and re-start if the battery voltage is back to normal.**



Model	Input Voltage	Battery Low Cut-Off:STD	Battery Low Cut-Off:LO	Battery Low Cut-Off:HI	Battery Re-Connect	Continuous Current	Size (mm)	Weight (kg)
SBP-12030	10.5~16 V DC	11 V DC $\pm$ 0.2 V	10.5 V DC $\pm$ 0.2 V	11.5 V DC $\pm$ 0.2 V	12.5 V DC $\pm$ 0.2 V	30 A	120 x 70 x 50 mm	0.4
SBP-12060	10.5~16 V DC	22 V DC $\pm$ 0.2 V	21.0 V DC $\pm$ 0.2 V	23 V DC $\pm$ 0.2 V	25 V DC $\pm$ 0.2 V	60 A	150 x 70 x 50 mm	0.6
SBP-24030	21~32 V DC	11 V DC $\pm$ 0.2 V	10.5 V DC $\pm$ 0.2 V	11.5 V DC $\pm$ 0.2 V	12.5 V DC $\pm$ 0.2 V	30 A	120 x 70 x 50 mm	0.4
SBP-24060	21~32 V DC	22 V DC $\pm$ 0.2 V	21.0 V DC $\pm$ 0.2 V	23 V DC $\pm$ 0.2 V	25 V DC $\pm$ 0.2 V	60 A	150 x 70 x 50 mm	0.6

### 273 V DC UPS Battery Charger

**The CHG1000 is used to charge larger A/h batteries for either 6K and 10K UPS systems to offer a longer backup solution.**



Model	Input Voltage	Input Current	DC Output Volts	DC Output Current	Power Capacity	Efficiency	Size (mm)	Weight (kg)
CHG 1000	160~280 V AC, 50 Hz	4.6 A	273 V DC $\pm$ 3 V (No load)	5 A	1000 W	> 0.85	282 x 167 x 95 mm	3.06

### Custom Output Battery Charger

Catering for special charging requirements, for example 72 V DC, 96 V DC, 110 V DC, 273 V DC output.

