



### ■ Features

- Charger for lithium batteries (Li-ion, LiFePO4 and lithium manganese), Lead-Acid batteries and NiMH
- Built-in 4 stage charging curve (For Lithium batteries) and 3 stage charging curve (For Lead-Acid batteries)
- Universal AC input, wide range cover 90-264V
- Small size
- High efficiency, >90% at AC 90V input
- Protection: Short circuit, OCP, OVP & reverse polarity
- 1 years warranty

### ■ Applications

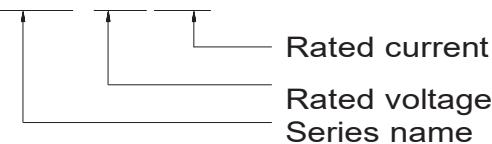
- Power tools & Drones
- Electric scooter
- Surveillance system
- Consumer electronic devices

### ■ Description

GaN085 is a single output 85W AC/DC desktop type charger with 4 and 3 stage charging curve. The different curves are suitable for different batteries, such as Lead-acid batteries (gel, flooded and AGM) and Lithium batteries (Li-ion, LiFePO4 and Lithium manganese).

### ■ Mode Encoding

**GaN085-XXXXYY**





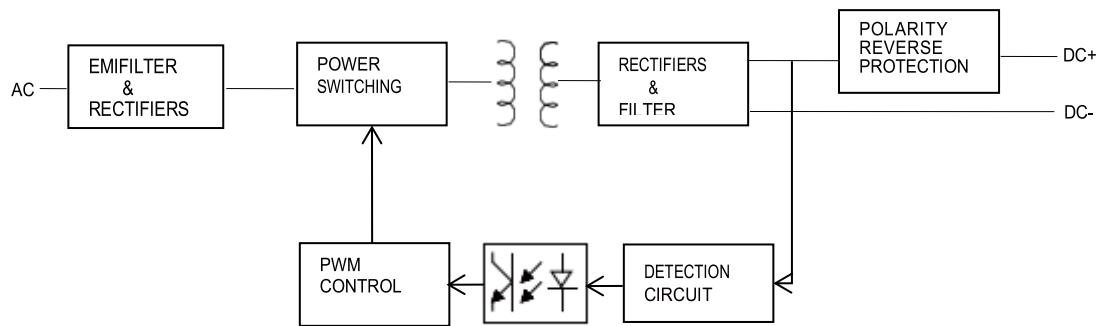
85W GaN Battery Charger

GaN085 series

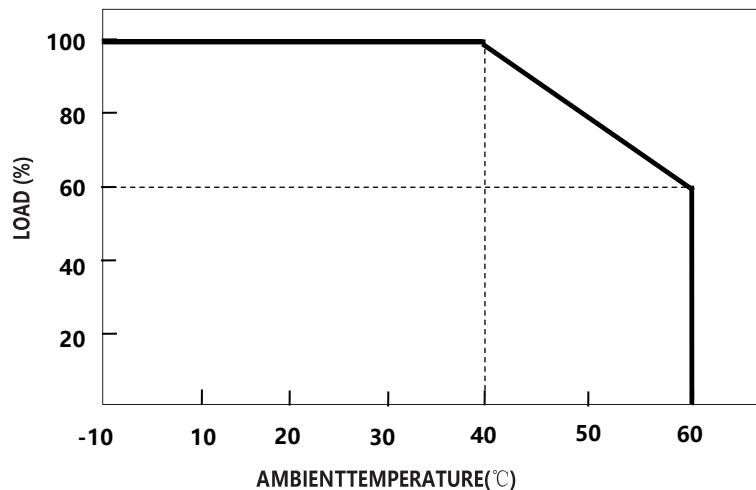
## SPECIFICATION(Li-ion battery charger)

MODEL	GaN085-126060	GaN085-168050	GaN085-210040	GaN085-294028	GaN085-420020	GaN085-588015							
OUTPUT	Charge voltage	12.6V±1%	16.8V±1%	21.0V±1%	29.4V±1%	42.0V±1%							
	Charge voltage range	7.5-12.6V	10-16.8V	12.5-21.0V	17.5-29.4V	25-42.0V							
	Charge current	6.0A±10%	5.0A±10%	4.0A±10%	2.8A±10%	2.0A±10%							
	Pre-charge current	1.2A±10%	1.0A±10%	0.8A±10%	0.56A±10%	0.4A±10%							
	Charge-end current	≤0.6A ±20%	≤0.5A ±20%	≤0.4A ±20%	≤0.28A ±20%	≤0.2A ±20%							
	Rated power	75.6W	84W	84W	82.32W	84W							
	Recommended battery capacity Note.3	6 - 50Ah	5 - 40Ah	4- 30Ah	3 -20Ah	2 - 15Ah							
	Leakage current from battery (Typ.)	≤2mA											
CHARGE INDICATOR	LED indication	LED1 on:25% Capacity; LED1 - LED2 on: 50% Capacity; LED1 – LED3 on: 75% Capacity; LED1 – LED4 on: 100% Capacity; LED1 – LED4 flashing : error											
INPUT	Rated input voltage	100 - 240VAC 50 / 60Hz											
	Input voltage range Note.4	90 - 264VAC											
	Power factor (Typ.)	PF>0.55@AC100V, full load											
	Input current (Typ.)	1.7A@100VAC											
	Inrush current (Typ.)	Cold start 75A @230VAC											
PROTECTION	Standby input power	<1W											
	Efficiency (Typ.)	93%	93.5%	93.5%	93%	92%							
	Short circuit	Yes											
	Over voltage	Yes											
ENVIRONMENT	Reverse polarity	Yes											
	Over temperature	-											
	Working temperature	-10 - +40°C (Refer to "Derating Curve")											
	Working humidity	0 - 90% RH											
	Storage temperature, humidity	-40 - +70°C, 0 - 95% RH											
SAFETY&MC( Note.6 )	Cooling	Natural convection											
	Vibration resistance	10 - 50Hz, 2G 10min. 1cycle, 60min. each along X, Y, Z axes											
	Max. temperature rise	< 40°C on casing											
	Hi-Pot Insulation	i/p to o/p: 3000V (1 min)											
	Safety approval	CE/PSE/cETLus/ SAA/CB /FCC/UK											
	EMC Emission	Parameter	Standard			Test Level I Note							
		Conducted	EN55032FCCPART15			Class B							
		Radiated	EN55032FCCPART15			Class B							
		Harmonic Current	EN61000-3-2			.....							
OTHERS	Voltage Flicker	EN61000-3-3			.....								
	EMC IMMUNITY	EN61000-4-2, EN61000-4-3, EN61000-4-4, EN61000-4-5, EN61000-4-6, EN61000-4-8, EN61000-4-11											
	MTBF	30000H											
	Dimension	114*68.4*29mm(L*W*H)											
NOTE	Weight	250g											
	1. Modification for charger specification may be required for different battery specification. Please contact battery vendor and Green digital power for details.												
	2. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C of ambient temperature.												
	3. This is Green suggested range. Please consult your battery manufacturer for their suggestions about maximum charging current limitation.												
	4. Derating may be needed under low input voltages. Please check the derating curve for more details.												
	5. This protection mechanism is specified for the case the short circuit occurs after the charger is turned on.												
	6. The battery charger is considered as an independent unit, but the final equipment still need to re-confirm that the whole system complies with the EMC directives.												
7. AC Inlet is ICE320-C8, DC cord is 1.5m 2*18AWG wires, DC terminal is defined when order.													

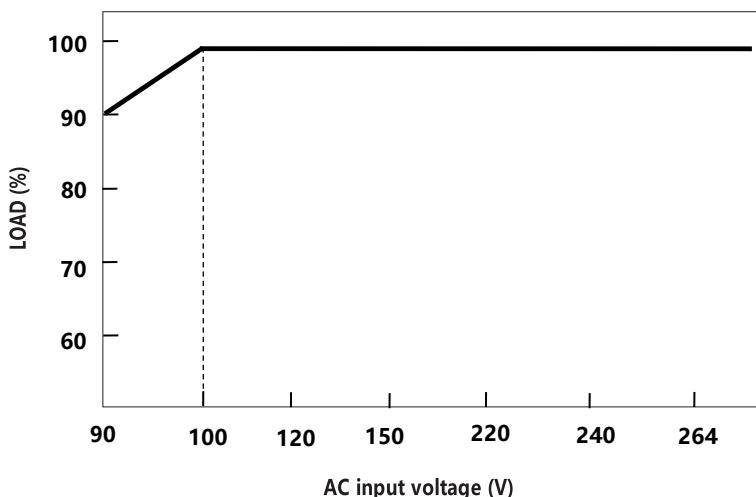
## ■ Block Diagram



## ■ Derating Curve

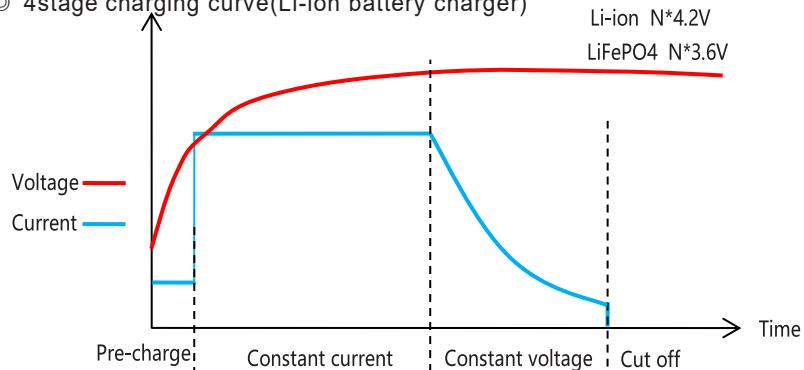


## ■ Static Characteristics

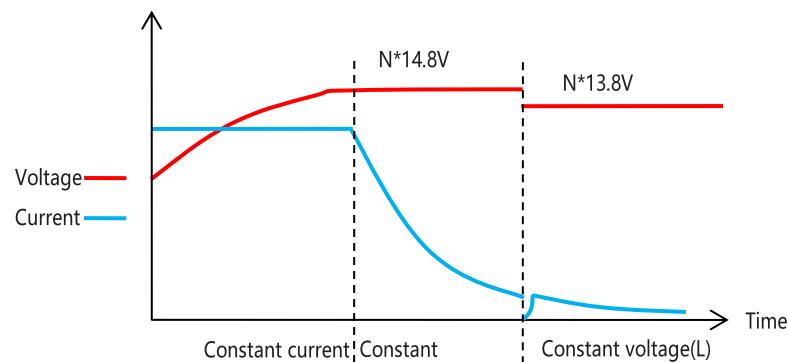


### ■ Charging Curve

◎ 4stage charging curve(Li-ion battery charger)



◎ 3stage charging curve(Lead-Acid battery charger)



### ■ Mechanical specification

