



### ■ 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
- 1years warranty

### ■ Applications

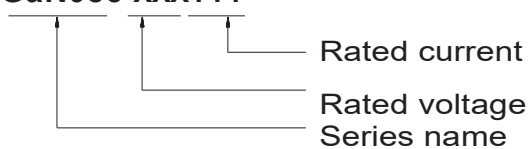
- Power tools & Drones
- Electric scooter
- Surveillance system
- Consumer electronic devices

### ■ 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

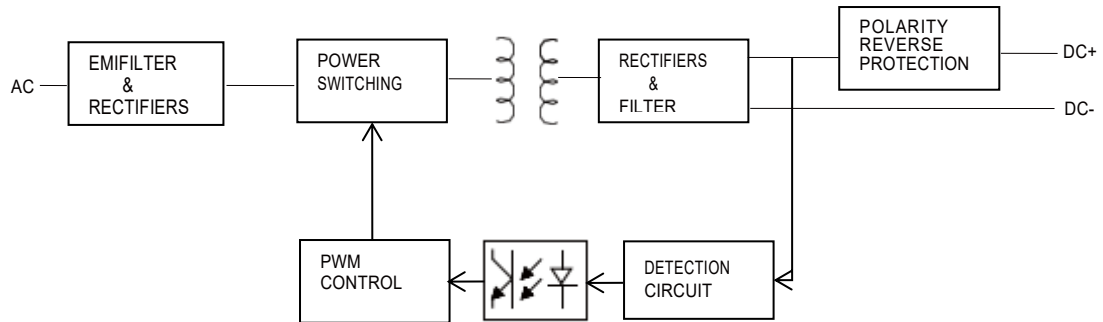
GaN085-XXXYYY



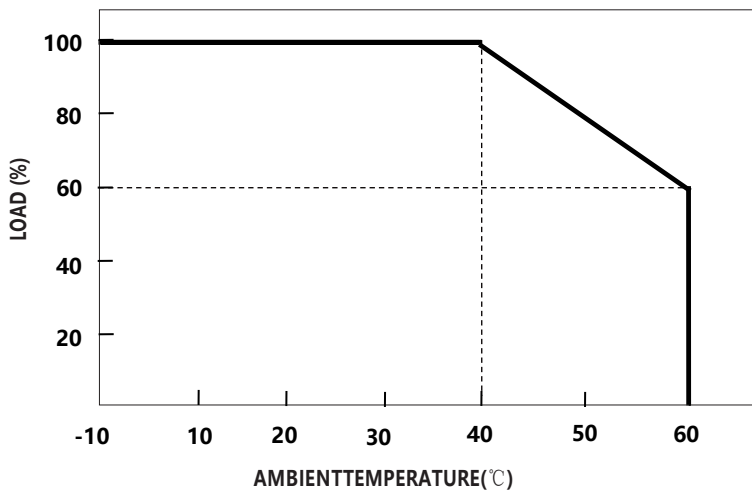
## SPECIFICATION (Lead-Acid battery charger)

MODEL		GaN085-148050	GaN085-296028	GaN085-444019	GaN085-592015
OUTPUT	Charge voltage (High voltage)	14.8V±1%	29.6V±1%	44.4V±1%	59.2V±1%
	Charge voltage range	10-14.8V	20-29.6V	30-44.4V	40-59.2V
	Float charge (Low voltage)	13.8V±1%	27.6V±1%	41.4V±1%	55.2V±1%
	Charge current	5.0A±10%	2.8A±10%	1.9A±10%	1.5A±10%
	Charge-end current	≤1.0A ±20%	≤0.56A ±20%	≤0.38A ±20%	≤0.3A ±20%
	Rated power	74W	82.88W	84.36W	88.8W
	Recommended battery capacity Note.3	20 - 55Ah	12 - 28Ah	10 - 20Ah	8 - 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.)	1.5@100VAC			
	Inrush current (Typ.)	Cold start 75A @230VAC			
	Standby input power	<1W			
	Efficiency (Typ.)	93%	93%	92%	92.5%
PROTECTION	Short circuit	Yes			
	Over voltage	Yes			
	Reverse polarity	Yes			
	Over temperature	-			
ENVIRONMENT	Working temperature	-10 - +40°C (Refer to " Derating Curve")			
	Working humidity	0 - 90% RH			
	Storage temperature, humidity	-40 - +70°C, 0 - 95% RH			
	Cooling	Natural convection			
	Vibration resistance	10 - 50Hz, 2G 10min. 1cycle, 60min. each along X, Y, Z axes			
SAFETY& EMC(Note.6)	Max. temperature rise	< 40°C on casing			
	Hi-Pot Insulation	i/p to o/p: 3000V (1 min)			
	Safety standards	IEC62368-1			
	EMC Emission	Parameter	Standard		Test Level   Note
		Conducted	EN55032 FCC PART15		Class B
		Radiated	EN55032 FCC PART15		Class B
		Harmonic Current	EN61000-3-2		.....
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				
OTHERS	MTBF	30000H			
	Dimension	114*68.4*29mm(L*W*H)			
	Weight	250g			
NOTE	<p>1. Modification for charger specification may be required for different battery specification. Please contact battery vendor and Green digital power for details.</p> <p>2. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C of ambient temperature.</p> <p>3. This is Green suggested range. Please consult your battery manufacturer for their suggestions about maximum charging current limitation.</p> <p>4. Derating may be needed under low input voltages. Please check the derating curve for more details.</p> <p>5. This protection mechanism is specified for the case the short circuit occurs after the charger is turned on.</p> <p>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.</p> <p>7. AC Inlet is ICE320-C8, DC cord is 1.5m 2*18AWG wires, DC terminal is defined when order</p>				

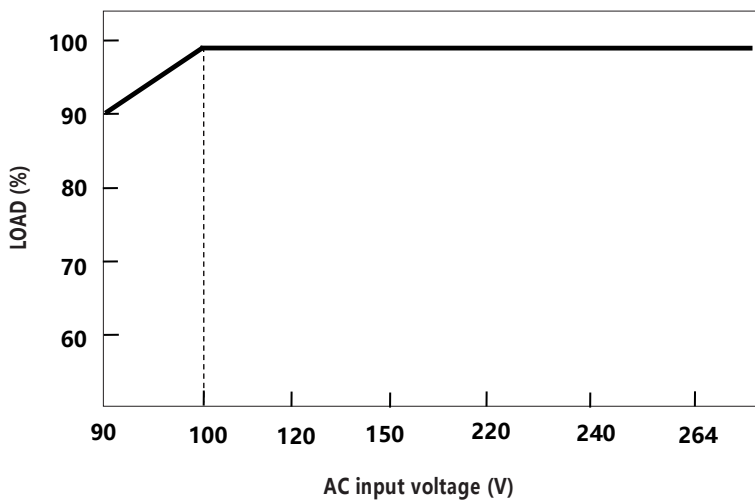
■ **Block Diagram**



■ **Derating Curve**

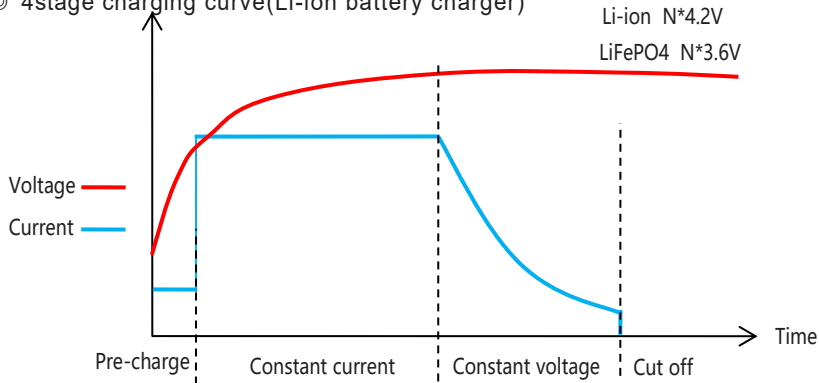


■ **static Characteristics**

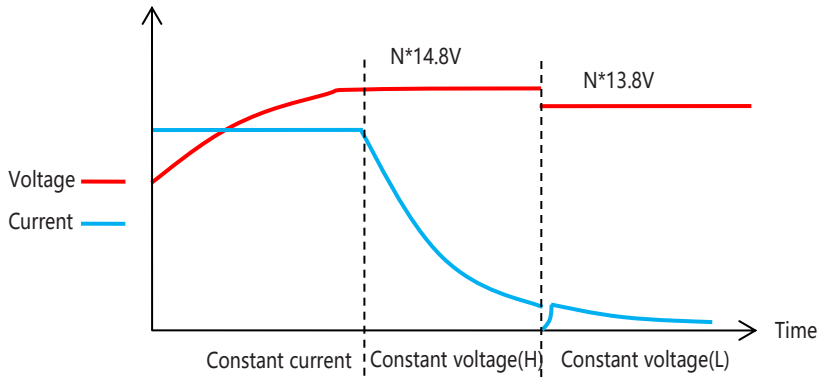


■ **Charging Curve**

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



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



■ **Mechanical specification**

