



### ■ Features

- Charger for lithium batteries (Li-ion, LiFePO4 and lithium manganese) and Lead-Acid batteries
- Built-in 2-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 2 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

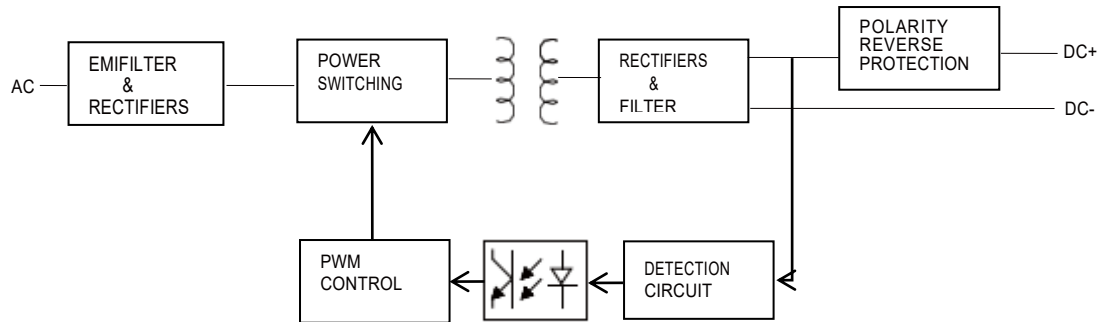
GaN085-XXXXYY



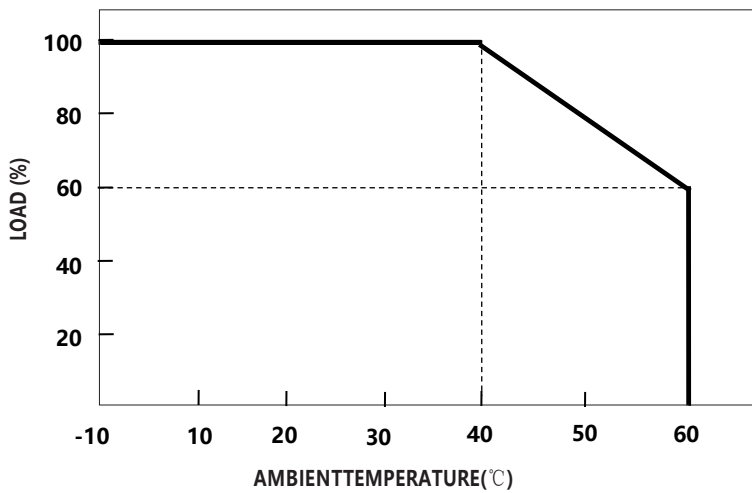
## SPECIFICATION (Lead-Acid battery charger)

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	Red: Charging. Green: Full or Idle				
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 I 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>					

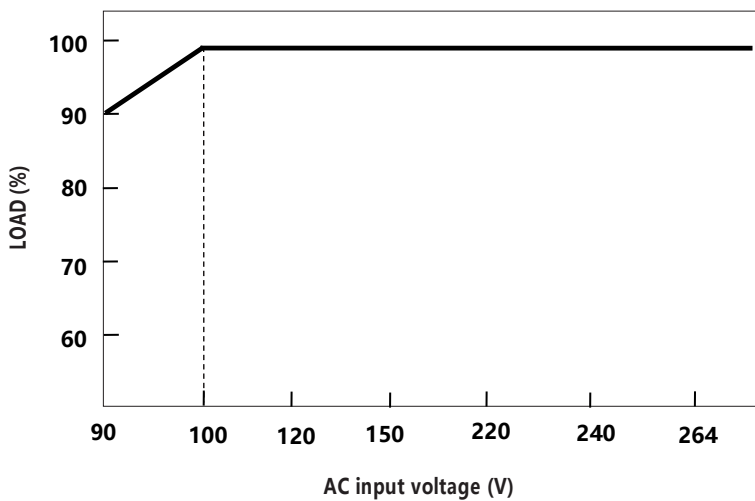
■ Block Diagram



■ Derating Curve

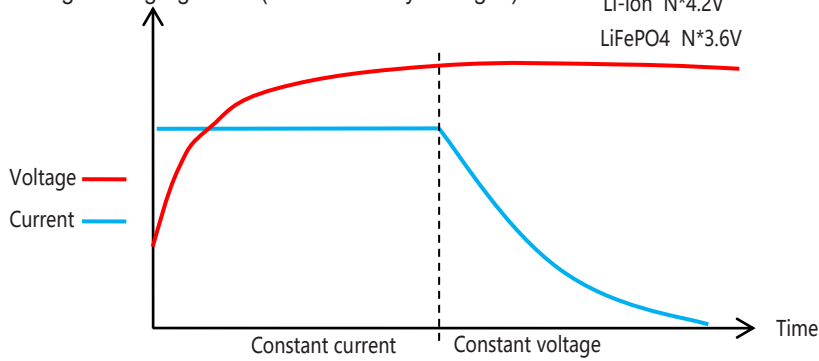


■ static Characteristics

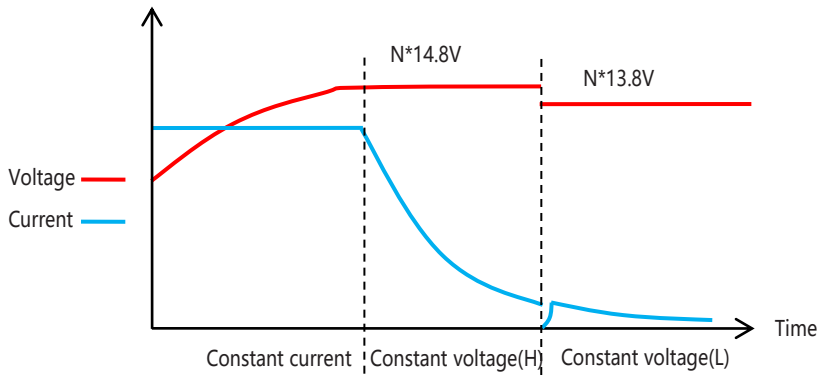


■ **ChargingCurve**

◎ 2stage charging curve(Li-ion battery charger)



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



■ **Mecanical specification**

1	2	3	4	5	6	7	8	9	10			
TOLERANCE FOR METAL		DIVISION		DIMENSION		TOLERANCE		CUSTOMER REV	REV ZONE	DESCRIPTION	CHA BY/DATE	APP BY/DATE
A		-10				±0.08						
		10-30				±0.11						
		30-50				±0.13						
		50-80				±0.15						
		80-120				±0.18						
B		120-180				±0.20						
		180-250				±0.25						
		250-400				±0.30						

GaN085W

114

68.4

29

深圳市谷润数字电源有限公司											
TITLE:						MATERIAL:					
MODEL:						WEIGHT:					
DES BY: Jann			CAD FILE:			UNIT:			TEXTURE NO.		
CHECK:			COLOR:			FINISH/TREATMENT:			SCALE: Fit		
APP:			DATE:			DATE:			DATE:		

PART NO.	CUSTOMER	DATE