



■ 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

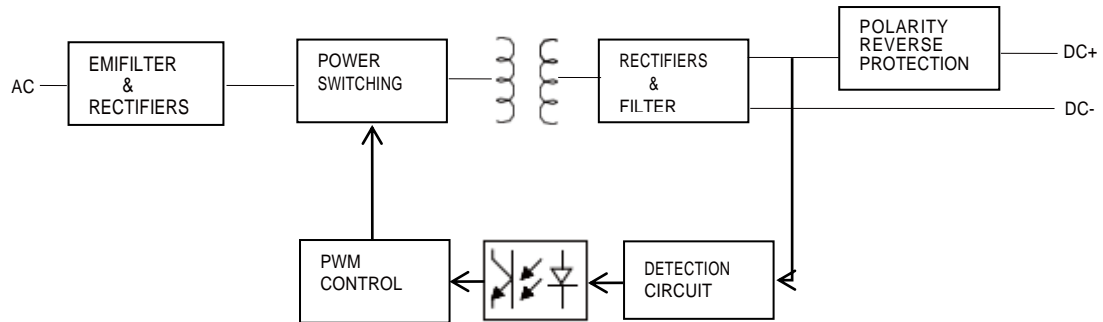
GaN085-XXXXYY



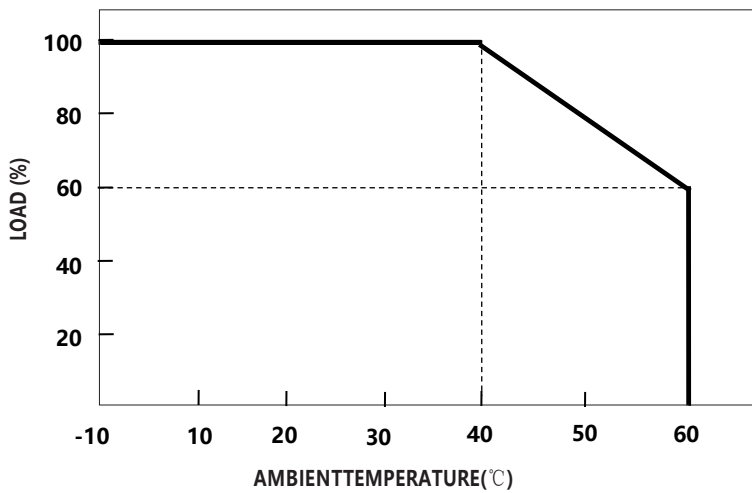
SPECIFICATION(Li-Fe battery charger)

MODEL		GaN085-144050	GaN085-288028	GaN085-576015	
OUTPUT	Charge voltage	14.4V±1%	28.8V±1%	57.6V±1%	
	Charge voltage range	10-14.4V	20-28.8V	40-57.6V	
	Charge current	5.0A±10%	2.8A±10%	1.5A±10%	
	Pre-charge current	-	-	-	
	Charge-end current	≤0.5A ±20%	≤0.28A ±20%	≤0.15A ±20%	
	Rated power	72W	80.64W	86.4W	
	Recommended battery capacity Note.3	5 - 40Ah	3 - 20Ah	1.5 -12Ah	
	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.)	1.5A@100VAC			
	Inrush current (Typ.)	Cold start 75A @230VAC			
	Standby input power	<1W			
	Efficiency (Typ.)	93%	93%	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>				

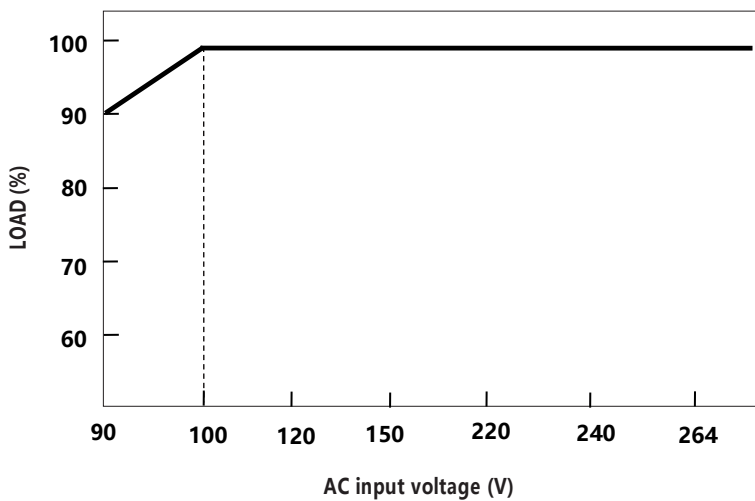
■ Block Diagram



■ Derating Curve

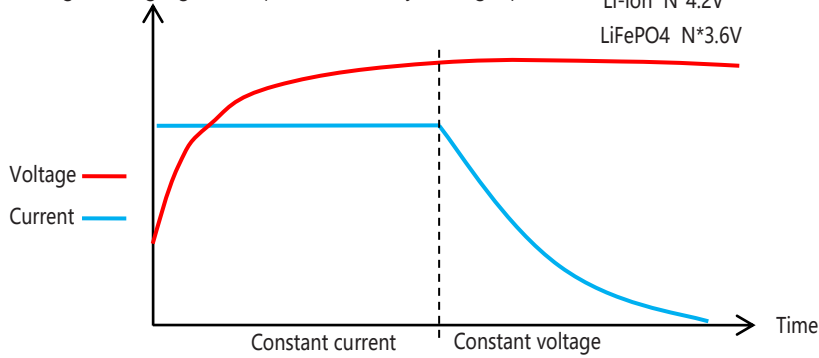


■ static Characteristics

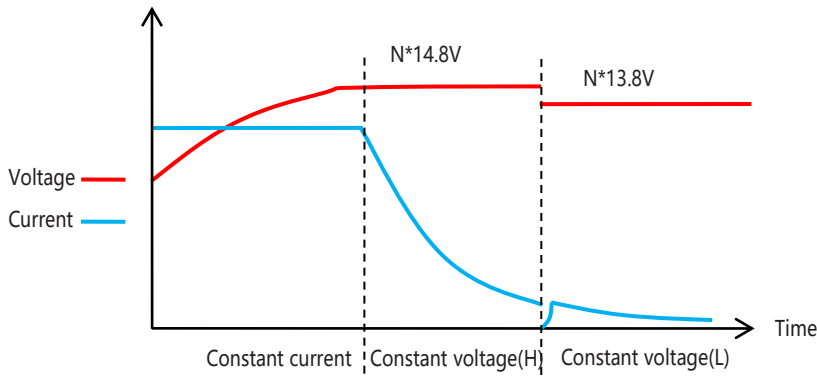


■ **ChargingCurve**

◎ 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							
		120-180				±0.20							
		180-250				±0.25							
		250-400				±0.30							
B													
C													
D													
E													
F													
G													
H													

114

68.4

29

PART NO:	CUSTOMER
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DES BY: Jann	CAD FILE:	UNIT: mm	TEXTURE NO:
CHECK BY:	COLOR:	PAPER: Paper	SCALE: Fit
APP BY:	FINISH/TREATMENT:	DATE:	

TITLE:	MATL:
MODEL:	WEIGHT:

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