



■ 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

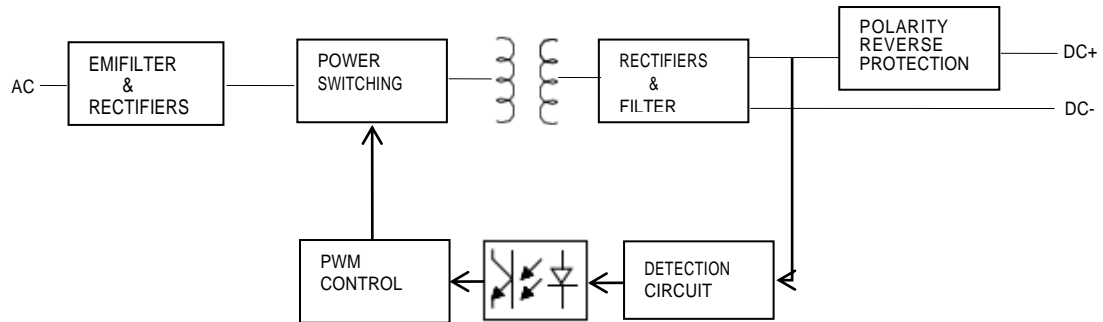
GaN085-XXXXYY



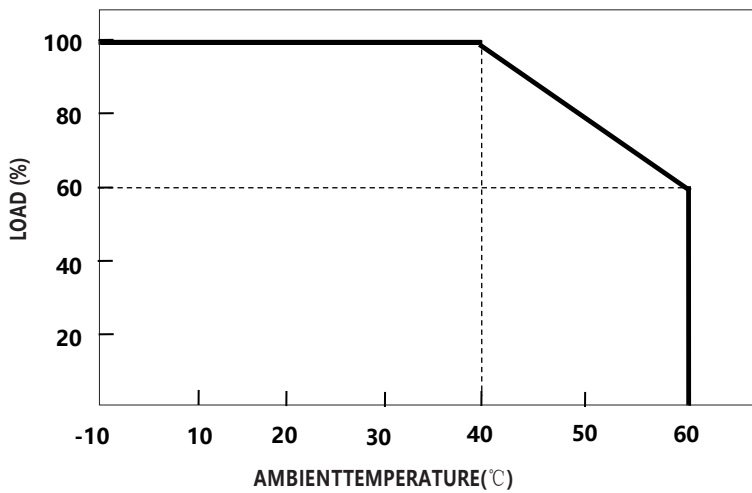
SPECIFICATION(Li-ion battery charger)

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%	58.8V ± 1%	
	Charge voltage range	7.5-12.6V	10-16.8V	12.5-21.0V	17.5-29.4V	25-42.0V	35-58.8V	
	Charge current	6.0A ± 10%	5.0A ± 10%	4.0A ± 10%	2.8A ± 10%	2.0A ± 10%	1.5A ± 10%	
	Pre-charge current	-	-	-	-	-	-	
	Charge-end current	≤ 0.6A ± 20%	≤ 0.5A ± 20%	≤ 0.4A ± 20%	≤ 0.28A ± 20%	≤ 0.2A ± 20%	≤ 0.15A ± 20%	
	Rated power	75.6W	84W	84W	82.32W	84W	88.2W	
	Recommended battery capacity Note.3	6 - 50Ah	5 - 40Ah	4 - 30Ah	3 - 20Ah	2 - 15Ah	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%	93.5%	93.5%	93%	92%	92%	
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	EN55032FCCPART15				Class B	
		Radiated	EN55032FCCPART15				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>							

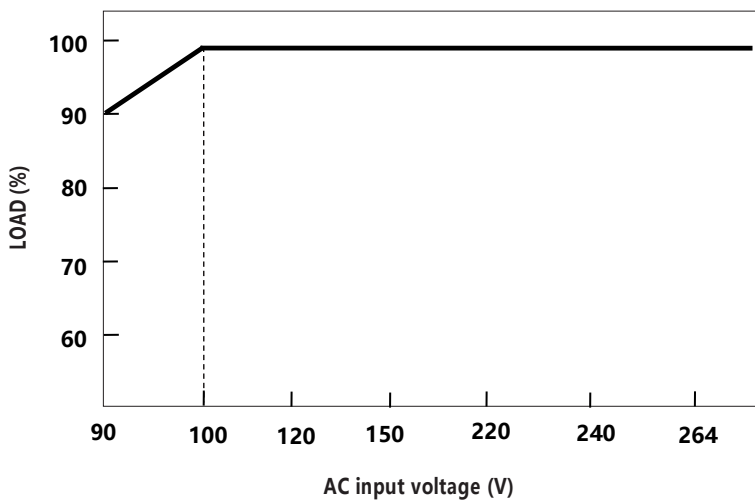
■ Block Diagram



■ Derating Curve

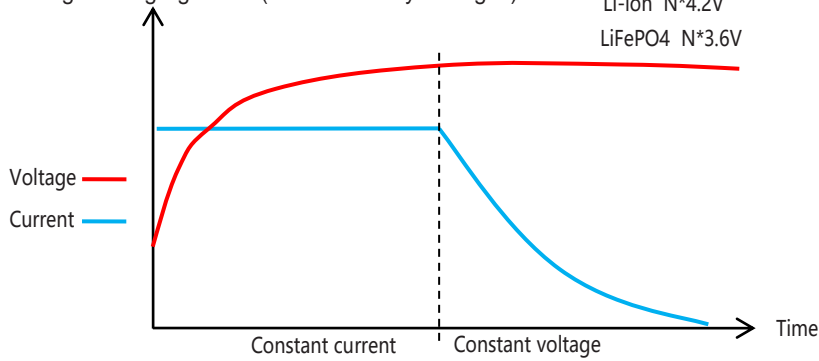


■ static Characteristics

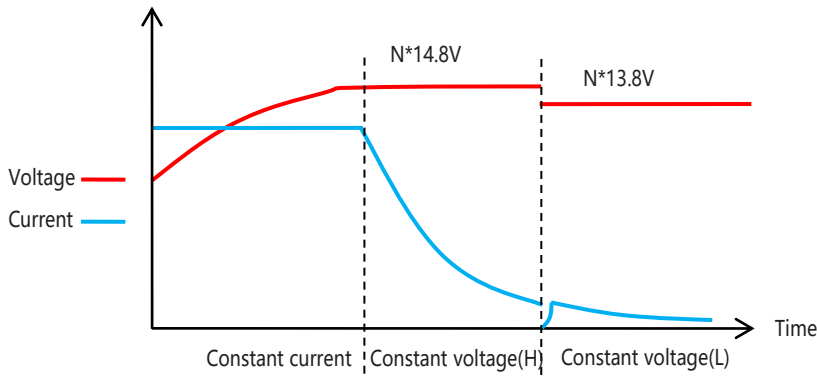


■ **ChargingCurve**

◎ 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							

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TITLE:						MATERIAL:					
MODEL:						WEIGHT:					
DES BY: Jann			CAD FILE:			UNIT:			TEXTURE NO.:		
CHECK:			COLOR:			FINISH/TREATMENT:			SCALE: Fit		
APP:			DATE:								

PART NO:	CUSTOMER:	DATE:
P/N: 6		