
CE

## ■ Features

•Charger forlithium 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

• 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 2 and 3 stage charging curve,The different curves are suitable for different batteries,such as Lead- acid batteries (gel,floodedand AGM) and Lithium batteries(Li-ion,LiFePO4 and Lithium manganese).

## ■ Mode Encoding

**GaN085-XXXYYY**

Rated current

Rated voltage

Series name

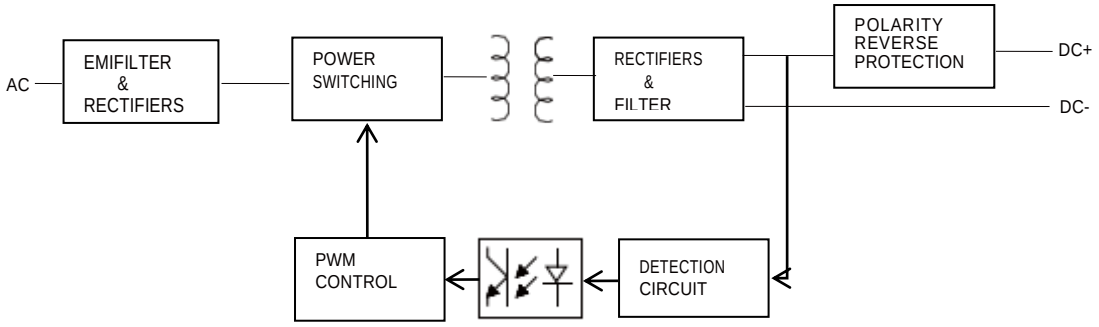
## SPECIFICATION (Lead-Acid battery charger)

| MODEL | | GaN085-148050 | GaN085-296028 | GaN085-592015 |
|---|---|---|---|---|
| OUTPUT | Charge voltage (High voltage) | 14.8V±1% | 29.6V±1% | 59.2V±1% |
| | Charge voltage range | 10-14.8V | 20-29.6V | 40-59.2V |
| | Float charge (Low voltage) | 13.8V±1% | 27.6V±1% | 55.2V±1% |
| | Charge current | 5.0A±10% | 2.8A±10% | 1.5A±10% |
| | Charge-end current | ≤1.0A ±20% | ≤0.56A ±20% | ≤0.3A ±20% |
| | Rated power | 74W | 82.88W | 88.8W |
| | Recommended battery capacity Note.3 | 20 - 55Ah | 12 - 28Ah | 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.) | 1.3@115VAC 0.8A@230VAC | | |
| | 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℃ (Refer to " Derating Curve") | | |
| | Working humidity | 0 - 90% RH | | |
| | Storage temperature,humidity | -40 - +70℃, 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℃ 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 | | |

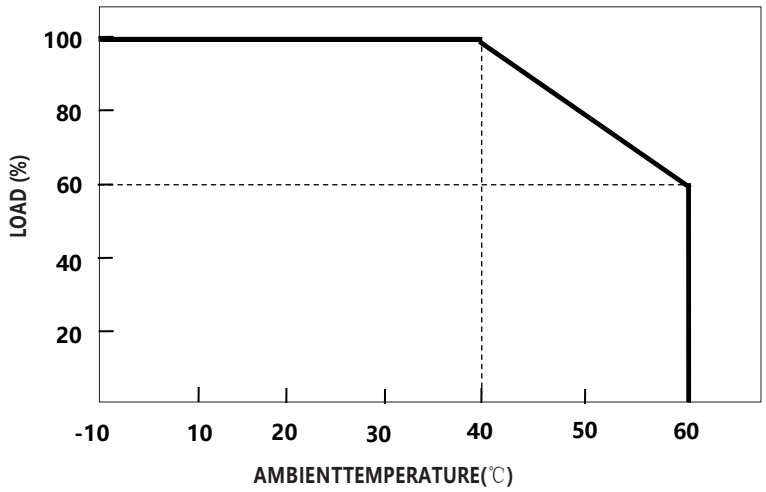
**NOTE**

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℃ 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.

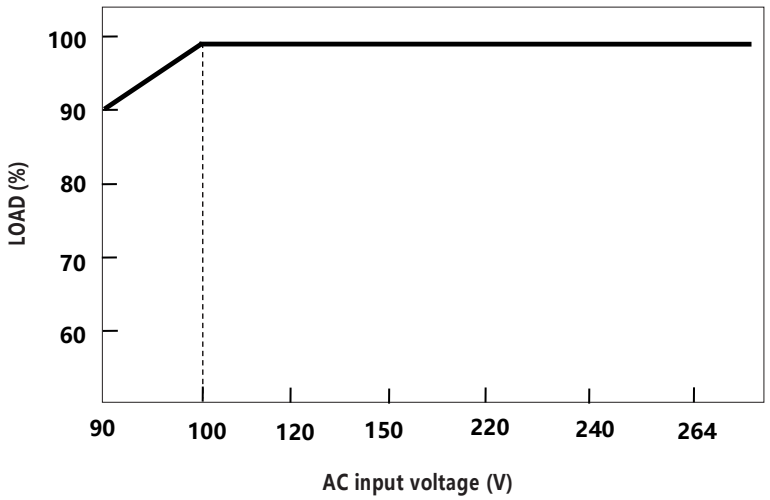
## Block Diagram




## Derating Curve

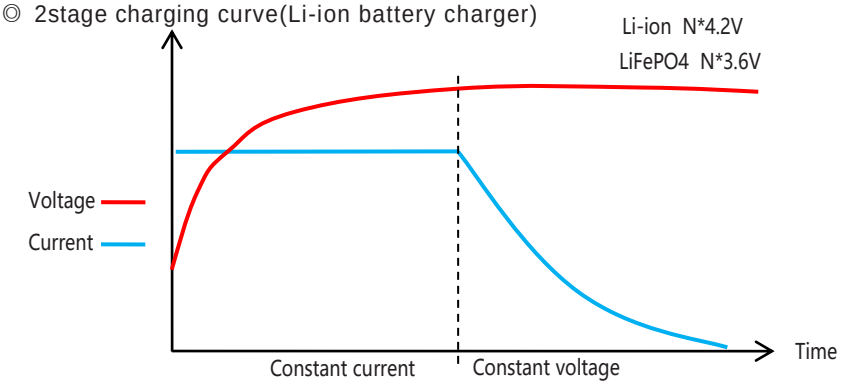



## static Characteristics

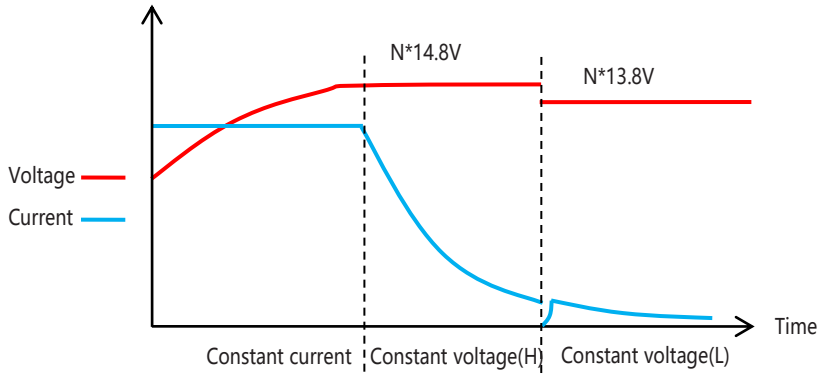


## ChargingCurve

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




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




## Mecanical specification