



■ **Features**

- Charger for lithium batteries (Li-ion,LiFePO4and lithium manganese) and Lead-Acid batteries
- GaN-based solution, compact and lightweight, high efficiency and energy saving
- Built-in 4 stage charging curve(For Lithium batteries) and 3 stage charging curve(For Lead-Acid batteries )
- Universal AC input /( 110 / 220Vac)
- Protection: Output Short Circuit / Output Over Voltage / Over Current / Battery Reverse Polarity Protection
- 1 years warranty

■ **Applications**

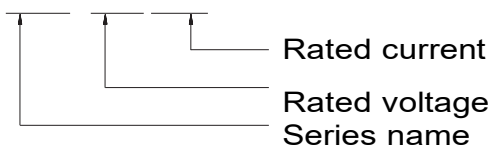
- Radio system backup solution
- Electric scooter charger
- Surveillance system
- Electric motorcycle\Electric sweeper

■ **Description**

The GaN170 series is a single output, desktop AC to DC charger with a maximum power of 168W. It is compact, lightweight, and highly efficient. It features 4 stage and 3 stage charging modes suitable for Lithium batteries (Li-ion, LiFePO<sub>4</sub>, Lithium Manganese) and Lead-Acid batteries (Gel, Liquid, AGM) respectively.

■ **Model Encoding**

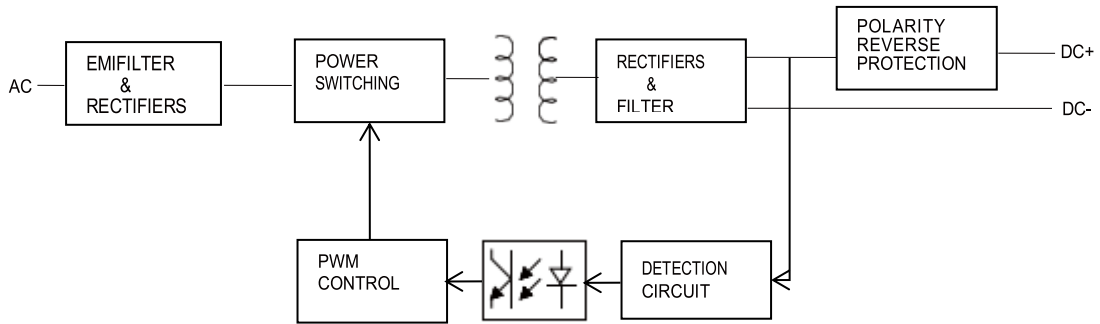
GaN170-XXXYYY



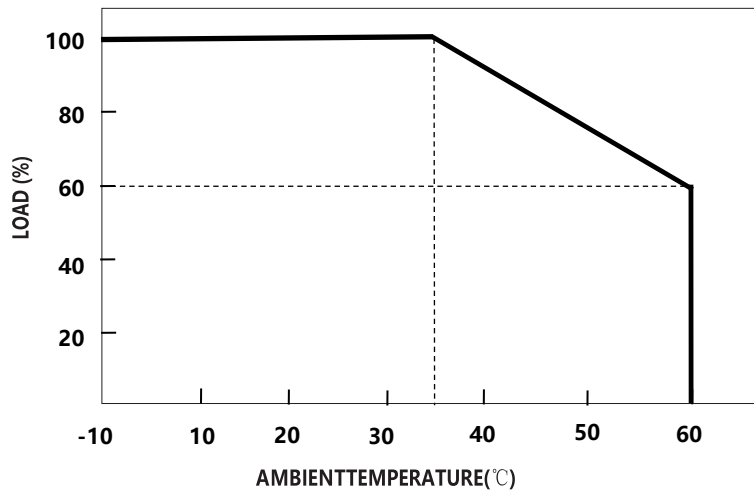
## SPECIFICATION(Li-ion battery charger)

MODEL		GaN170-126120	GaN170-168090	GaN170-294057	GaN170-420040	GaN170-546030	GaN170-588028	
OUTPUT	Charge voltage	12.6V±1%	16.8V±1%	29.4V±1%	42.0V±1%	54.6V±1%	58.8V±1%	
	Charge voltage range	7.5-12.6V	10.0-16.8V	17.5-29.4V	25.0-42.0V	32.5-54.6V	35-58.8V	
	Charge current	200-240VAC	12.0A±10%	9A±10%	5.7A±10%	4.0A±10%	3.0A±10%	2.8A±10%
		100-120VAC	9.5A±10%	7.1A±10%	4.9A±10%	3.5A±10%	2.7A±10%	2.5A±10%
	Pre-charge current	2.4A±10%	1.8A±10%	1.14A±10%	0.8A±10%	0.6A±10%	0.56A±10%	
	Charge-end current	≤1.2A ±20%	≤0.9A ±20%	≤0.57A ±20%	≤0.4A ±20%	≤0.3A ±20%	≤0.28A ±20%	
	Rated power@AC220V	151.2W	151.2W	167.58W	168W	163.8W	164.64W	
	Recommended battery capacity (Note.3)	30 - 100Ah	20 - 100Ah	10 - 50Ah	8 - 40Ah	6 - 30Ah	5 - 30Ah	
Leakage current from battery (Typ.)	≤2mA							
Charging Indication	LED indication	Red: Charging. Green: Full or Idle						
INPUT	Rated input voltage	110 / 240VAC 50 / 60Hz						
	Input voltage range(Note.4)	100-120VAC / 200-240VAC						
	Power factor (Typ.)	PF>0. 98@AC100Vfull load						
	Input current (Typ.)	100-120VAC / 200-240VAC						
	Inrush current (Typ.)	Cold start <75A @230VAC						
	Standby input power	<1W						
	Efficiency (Note.2)	93%	93%	93%	94%	94%	94%	
PROTECTION	Short circuit ( Note.5)	Yes						
	Over voltage	105% of the rated output voltage						
	Reverse polarity	Yes						
	Over temperature	Yes						
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 approval	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	350g						
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℃ 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>							

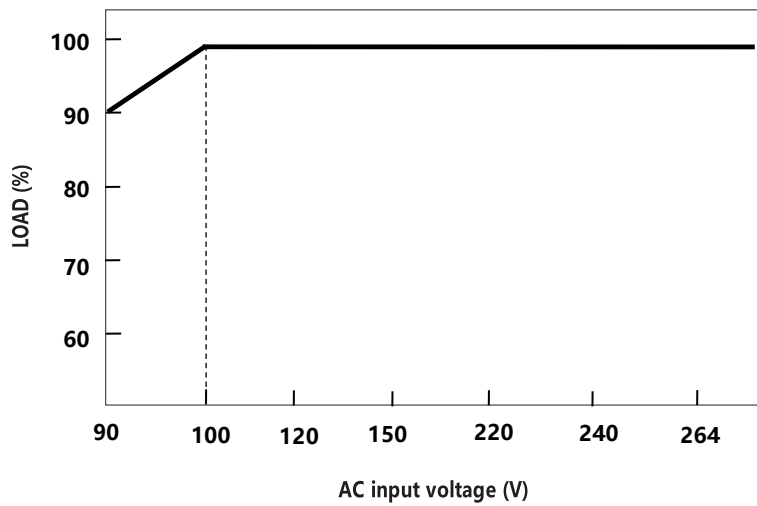
■ **Block Diagram**



■ **Derting Curve**

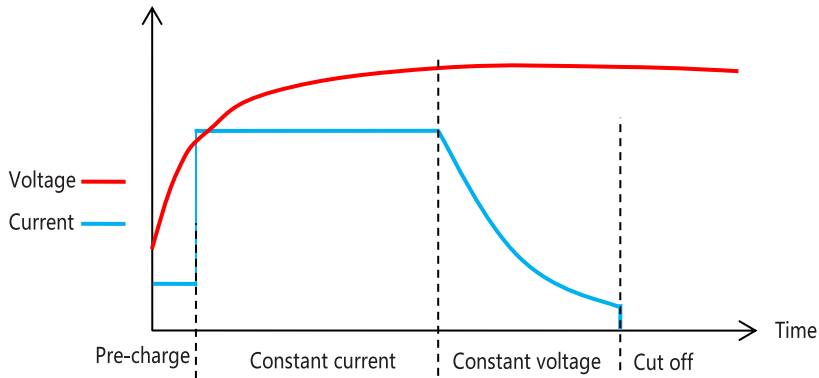


■ **Static Characteristics**

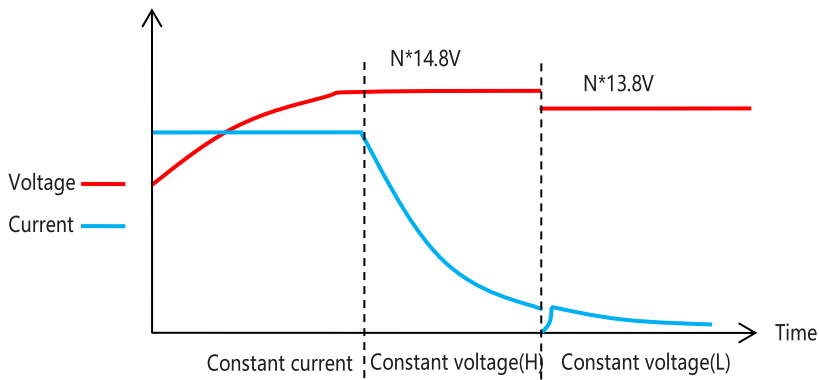


■ **Charging Curve**

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



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



■ **Mechanical specification**

