

# $C \in$

#### Features

- •Charger for lithium batteries (Li-ion,LiFePO4and 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, only 75\*43\*28mm
- •High efficiency, >91% at AC 90V input
- •Protection: Short circuit, OCP, OVP & reverse polarity
- 1 years warranty

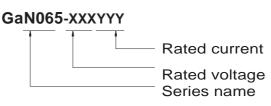
### Applications

- •Power tools & Drones
- Electric scooter
- Surveillance system
- •Consumer electronic devices

#### Description

GaN065 is a single output 65W 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).

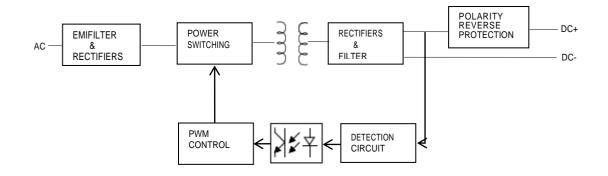
#### **■** Mode Encoding



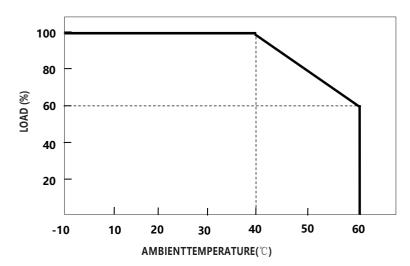
## **SPECIFICATION(Li-Fe battery charger)**

Charge voltage range		MODEL	GaN065-144033	GaN065-180028	GaN06	5-288017	
Charge vottage range		Charge voltage	14.4V±1%	18.0V±1%	28.8V±	1%	
Charge current	ОИТРИТ	Charge voltage range	10-14.4V	12.5-18V			
Pre-charge current   -   -   -   -   -   -   -   -   -			3.3A±10%	2.8A±10%	1.7A±1		
Rated power 47.52W 50.4W 48.96W Recommended battery capacity 5 - 40Ah 3 - 30Ah 2 - 20Ah Note 3 Lakaga current from battery (Typ-) 5 - 40Ah 3 - 30Ah 2 - 20Ah Note 3 Lakaga current from battery (Typ-) 5 - 40Ah 3 - 30Ah 2 - 20Ah Note 3 Lakaga current from battery (Typ-) 5 - 40Ah 3 - 30Ah 2 - 20Ah Note 3 Lakaga current from battery (Typ-) 5 - 40Ah 3 - 30Ah 2 - 20Ah Note 3 - 40Ah 3 - 20Ah 3 - 30Ah 2 - 20Ah 3 - 30Ah 2 - 20Ah 3 - 30Ah 2 - 20Ah 3 - 30Ah 3 3 -			-	-	-		
Rated power 47.520V 50.40V 48.96W Note. 3 Leakings current from battery (Typ.)  CHARGE RDPICATOR  RATE (Input voltage 10.0-240VAC 50.60Hz Input voltage cange Note.4 90.284VAC Power factor (Typ.) PF-50.558 PAC100V, full load Input current (Typ.) FF-50.558 PAC100V, full load Input current (Typ.) FF-50.558 PAC100V, full load Input current (Typ.) PS-50.558 PAC100V, full load Input current (Typ.) P		Charge-end current	≤0.33A ±20%	≤0.28A ±20%	≤0.17A	±20%	
Recommended battery capacity   S - 40Ah   3 - 30Ah   2 - 20Ah		Rated power	47.52W	50.4W	48.96W		
Note 3		•					
CHARGE NDICATOR  Rated Input voltage Rated charge Age 100 - 240VAC 50 / 60Hz Input voltage range Note.4 90 - 240VAC Power factor (Typ.) PF-0. 558 AC100V, full load Input current (Typ.) 1.1 A@115VAC 0.55A @230VAC Inrush current (Typ.) 1.1 A@115VAC 0.55A @230VAC Standby input power experiment (Typ.) 2.25% Standby input power experiment (Typ.) 2.25% Short circuit Yes Over rottage Yes Over temperature Working temperature Working humidity 0 - 90% RH Storage temperature, fundidity - 40 - 470°C, 0 - 95% RH Cooling Vibration resistance 10 - 50Hz, 2G 10min. 1cycle, 60min. sach along X, Y, Z axes  Max. temperature rise 4 - 40°C coasing Vibration resistance 10 - 50Hz, 2G 10min. 1cycle, 60min. sach along X, Y, Z axes  Max. temperature rise - 40°C coasing HP-or Insulation 10 pto oip: 30000V (1 min) Safety standards 1EC5238-1  Parameter Standard Test Level I Note Conducted EN55032 FCC PART15 Class B Hammonic Current EN61000-3-2  EMC Emission 75: 43°28.5mm (L*W*H) Weight 1209  MTBF 30000H  NTBF 30000H  NTBF 30000H  NTBF 30000H  NTBF 30000H  NTBF 30000H  NTBF 30000H  AMBF 30000H  NTBF 3000H  NTBF 30000H  NTBF 30000H  NTBF 30000H  NTBF 30000H  NTBF 3000H  NTBF 30000H  NTBF 30000H  NTBF 30000H  NTBF 30000H  NTBF 3000H  NTBF 30000H  NTBF 3000H		Note.3					
Rated input voltage			≤2mA				
INPUT  INPUT  Prower factor (Typ.)		LED indication	Red: Charging. Green: Full or Idle				
Power factor (Typ.)	INPUT	Rated input voltage					
INPUT Inrush current (Typ.) Efficiency (Typ.) Efficiency (Typ.)  20.5%  Short circuit  Yes  Over voltage Reverse polarity Ves  Over comperature Working humidity 0 - 90% RH  Storage temperature, humidity 2 - 40 - 70°C, 0 - 95% RH  Cooling Natural convection Vibration resistance 10 - 50Hz, 2G 10min, 1cycle, 60min, each along X, Y, Z axes  Max. temperature rise 4 - 40°C on casing Hi-Pot Insulation In 10 - 50Hz, 2G 10min, 1cycle, 60min, each along X, Y, Z axes  EMC Emission  EMC Emission  EMC Emission  EMC IMMUNITY  EN61000-42. EN61000-43. EN61000-32  Voltage Fillipsier  NoTEEN  MTEF 30000H  Dimension  75 '43'28.5mm (L'W'H)  Weight 1.00  In 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°C of ambient temperature 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 as independent unit, but the final equipment still need to re-confirm that the whole system complies with the EMC directives.							
Inrush current (Typ.) Cold start 75A @230VAC Standby input power < 0.50W Efficiency (Typ.) 92.5%  Short circuit Yes  Over voltage Yes Reverse polarity Yes  Over temperature - 1-0 - +40°C (Refer to "Derating Curve")  Working temperature   -10 - +40°C (Refer to "Derating Curve")  Working temperature   -10 - +40°C (Refer to "Derating Curve")  Working humidity   0 - 90% RH  Storage temperature, humidity   0 - 90% RH  Storage temperature, humidity   0 - 90% RH  Storage temperature rise   40°C on casing  Wibration resistance   10 - 50Hz, 26 10min. toycle, 60min. each along X, Y, Z axes  Max. temperature rise   40°C on casing  Hi-Pot Insulation   1/p to o/p: 3000V (1 min)  Safety standards   1EC62368-1  EMC Emission   Parameter   Standard   Test Level I Note   Conducted   EN55032 FCC PART15   Class B   Radiated   EN55032 FCC PART15   Class B   Harmonic Current   EN61000-3-3    Working humidity   EN61000-42, EN61000-43, EN61000-45, EN61000-4-6, EN61000-4-8, EN61000-4-8, EN61000-4-8, EN61000-4-8, EN61000-4-8, EN61000-4-8, EN61000-4-8, EN61000-4-8, EN61000-4-11   The manner of the parameter of the start of the start of the parameter of the start		Power factor (Typ.)	PF>0. 55@AC100V, full load				
Standby input power   Co.5W							
Efficiency (Typ.)   92.5%		Inrush current (Typ.)					
Short circuit   Yes							
PROTECTION  Over voltage Yes  Reverse polarity Yes  Working temperature -10 + 40°C (Refer to " Derating Curve")  Working humidity 0 - 90% RH  Storage temperature, humidity -40 + 470°C, 0 - 95% RH  Cooling Natural convection  Vibration resistance 10 - 50Hz, 2G 10min. 1cycle, 60min. each along X, Y, Z axes    Max. temperature rise   40°C on casing							
Reverse polarity Over temperature	PROTECTION	Short circuit					
Over temperature			Yes				
Working temperature			Yes				
BWIRONWENT   Storage temperature, humidity   40 - +70°C, 0 - 95% RH		•	•				
Storage temperature,humidity   -40 + +70°C, 0 - 95% RH			· ·	erating Curve")			
Natural convection			0 - 90% RH				
Vibration resistance   10 - 50Hz, 2G 10min. 1cycle, 60min. each along X, Y, Z axes	ENVIRONMENT	Storage temperature, humidity	•				
Max. temperature rise   < 40°C on casing     Hi-Pot Insulation   Vp to o/p: 3000V (1 min)     Safety standards   IEC62368-1			Natural convection				
Hi-Pot Insulation   i/p to o/p: 3000V (1 min)   Safety standards   IEC62368-1   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, EN61000-4-5, EN61000-4-6, EN61000-4-8, EN61000-4-11    MTBF   30000H   Dimension   75*43*28.5mm (L*W*H)   Weight   120g    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°C 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.			· ·				
SAFETY&EMC (Note.6)  EMC Emission  EMC Immunity  Immunity  EMC Immunity  EMC Immunity  EMC Immunity  Immunity  EMC Immunity  EMC Immunity  Immunity  EMC Immunity  Immunity  EMC Immunity  I		·	ÿ				
SAFETY&EMC (Note.6)  EMC Emission  EMC IMMUNITY  EN61000-4-2. EN61000-3-2  Voltage Flicker  EN61000-3-3  EN61000-4-3. EN61000-4-5. EN61000-4-6. EN61000-4-8. EN61000-4-11  MTBF  30000H  Dimension  75°43°28.5mm (L*W*H)  Weight  120g  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°C 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.							
EMC Emission   EMC Emission   EMC Emission   EMC Emission   EMC Emission   EMC Emission   EMC IMMUNITY   EN61000-3-2   EMC IMMUNITY   EN61000-3-2   EMC IMMUNITY   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		Safety standards	IEC62368-1				
(Note.6)  EMC Emission  EMC Emission  EMC IMMUNITY  EMC IMMUNITY  EN61000-4-2. EN61000-4-3. EN61000-4-4. EN61000-4-5. EN61000-4-6. EN61000-4-8. EN61000-4-11  MTBF  Dimension  75*43*28.5mm (L*W*H)  Weight  120g  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°C 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.	SVEETASEMO						
Harmonic Current EN61000-3-2  Voltage Flicker EN61000-3-3  EMC IMMUNITY EN61000-4-2, EN61000-4-3, EN61000-4-4, EN61000-4-6, EN61000-4-8, EN61000-4-11  MTBF 30000H  Dimension 75*43*28.5mm (L*W*H)  Weight 120g  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°C 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.							
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   30000H   Dimension   75*43*28.5mm (L*W*H)     120g     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°C 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.   NOTE   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.		EMC Emission				Class B	
EMC IMMUNITY  EN61000-4-2, EN61000-4-3, EN61000-4-4, EN61000-4-5, EN61000-4-6, EN61000-4-8, EN61000-4-11  MTBF  30000H  Dimension  75*43*28.5mm (L*W*H)  Weight  120g  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°C 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.  NOTE  NOTE  NOTE  NOTE  SNOTE  EN61000-4-3, EN61000-4-5, EN61000-4-6, EN61000-4-8, EN61000-4-8, EN61000-4-8, EN61000-4-11  30000H  75*43*28.5mm (L*W*H)  120g  1. Modification for charger specification may be required for different battery specification. Please contact battery vendor and Green digital power for details.  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.							
OTHERS    Dimension   75*43*28.5mm (L*W*H)				l			
OTHERS  Dimension 75*43*28.5mm (L*W*H) Weight 120g  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°C 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.  NOTE  NOTE  NOTE  NOTE  NOTE  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.							
Note      Note     Note      Note     Note      Note      Note      No							
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°C 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.	OTHERS						
and Green digital power for details.  2. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C 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.  NOTE  NOTE  NOTE  NOTE  NOTE  1. 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.		Weight					
	NOTE	<ul> <li>2.All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C of ambient tempe</li> <li>3. This is Green suggested range. Please consult your battery manufacturer for their suggestions about maximum charging current limitation.</li> <li>4. Derating may be needed under low input voltages. Please check the derating curve for more details.</li> <li>5. This protection mechanism is specified for the case the short circuit occurs after the charger is turned on.</li> <li>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.</li> </ul>					

#### **■** Block Diagram



#### Derating Curve



#### **■** static Characteristics

