



YOUR
SMART
ENERGY



SMILE-G3-T12~20

RESIDENTIAL SERIES

POWER

12 / 15 / 20 kW

CAPACITY

7.7 ~ 23.0 kWh with
3.8 kWh Battery Module

8.2 ~ 49.2 kWh with
8.2 kWh Battery Module



3 MPPT for Higher PV Input

Commercial Applications Compatibility

Elegant Design



SMILE-G3-T12~20



Model	SMILE-G3-T12	SMILE-G3-T15	SMILE-G3-T20
System Specifications			
Nominal Output Power	12000 W	15000 W	20000 W
Capacity Range	7.7 ~ 23.0 kWh / 8.2 ~ 49.2 kWh (95% DoD)		
Battery Chemistry	LFP (LiFePO ₄)		
IP Protection	IP21 (Indoor)		
Warranty	5 Years Product Warranty, 10 Years Battery Performance Warranty		
Inverter Technical Specifications			
Model	SMILE-G3-T12-INV	SMILE-G3-T15-INV	SMILE-G3-T20-INV
Coupling	Hybrid	Hybrid	Hybrid
Max. PV Input Power	24000 W	30000 W	40000 W*
Max. PV Input Current	18 A / 18 A / 18 A		
Max. PV Input Voltage	1000 V		
MPPT Number / Max. Input Strings Number per MPPT	3 / 1		
MPPT Voltage Range	200 ~ 850 V		
Max. PV Short-Circuit Current	22.5 A / 22.5 A / 22.5 A		
Max. Charging/Discharging Current	60 A		
Max. Charging/Discharging Power*	12000 W	15000 W	20000 W**
Rated Frequency	50 / 60 Hz		
Rated Voltage	400 V		
Phase	Three Phase		
Rated Output Apparent Power (Grid Port)	12000 W	15000 W	20000 W
Rated Output Apparent Power (Backup Port)	12000 W	15000 W	20000 W
Rated Input Power (Grid Port + Backup Port)	17000 W	20000 W	25000 W
Backup	UPS		
Communication	WIFI / LAN		
Relative Humidity	0 ~ 90% (No Condensation)		
Dimensions (W x D x H)	610 x 250 x 610 mm		
Weight	44 kg		
Safety	IEC 62109-1/-2		
EMC	IEC 61000-6-1/-3		
Overvoltage Category	DC II		
Grid Regulation	VDE-AR-N 4105:2018-11, EN 50549-1:2019		
Battery Technical Specifications			
Module Model	SMILE-G3-BAT-3.8S	SMILE-G3-BAT-8.2P	
Module Capacity	3.8 kWh	8.2 kWh	
Usable Capacity	3.6 kWh	7.8 kWh	
Depth of Discharge (DoD)	95%***	95%*	
Nominal Voltage	96 V	256 V	
Max. Charging/Discharging Current	40 A	32 A***	
Operating Temperature Range	-10 °C ~ 50 °C****	-10 °C ~ 50 °C*****	
Cycle Life	10000*****	10000*****	
Battery Modules Connection	2 ~ 6 in Series	1 ~ 6 in Parallel	
Dimensions (W x D x H)	610 x 212.5 x 435 mm	610 x 250 x 793 mm	
Weight	39.2 kg	78.3 kg	

* High wattage PV panel required.

** Only when using SMILE-G3-BAT-3.8S.

*** Test condition: Max. 0.5C charge/discharge at 25±2°C.

**** Max. charge/discharge current derating may occur with changes in temperature and SoC.

***** Under specific test conditions.



Alpha ESS Co., Ltd.

+86 513 8060 6891
 info@alpha-ess.com
 www.alphaess.com

Jiuhua Road 888, Nantong High-Tech Industrial Development Zone, Nantong, Jiangsu Province, China

Alpha ESS Europe GmbH

+49 610 3459 1601
 europe@alpha-ess.de
 www.alphaess.de

Paul-Ehrlich-SträÙe 1a, Langen, Hessen D-63225 Germany

Alpha ESS Australia Pty. Ltd.

+61 02 9000 7676
 Australia@alpha-ess.com
 www.alphaess.com

8/15-21 Gibbes Street, Chatswood, NSW 2067 Australia

Alpha ESS International Pte. Ltd.

+65 6513 1125 / +65 6513 1126
 Singapore@alpha-ess.com
 2 Corporation Road #01-06A Corporation Place 618494 Singapore

Alpha ESS Italy S.r.l.

+39 339 462 4288
 info@alpha-ess.it
 www.alphaess.com
 Via Don Minzoni, 17, Calenzano Firenze 50041 Italy

Alpha ESS UK Ltd.

+44 145 354 5222
 info@alpha-ess.com
 Drake house, Long street, Dursley, gl11 4hh UK

Alpha ESS USA, Inc.

+1 408 368 7828
 usa@alpha-ess.com
 Unit 5 2180 S Ivanhoe St, Denver, CO 80222 USA

Alpha ESS Korea Co., Ltd.

info@alpha-ess.com
 2F, 19-4, Nohyeong 11-gil, Jeju-si, Jeju-do, Republic of Korea