



PowerSmart Duo Series

All-in-One Energy Storage System



VERSION: 20240911-01

ZHEJIANG BENYI NEW ENERGY CO.,LTD.

SHUANGHUANGLOU INDUSTRIAL ZONE, BEIBAIXIANG TOWN, YUEQING CITY, WENZHOU CITY, ZHEJIANG PROVINCE, CHINA.

TEL: +86-577-5717 7008 FAX: +86-577-5717 7007

✉ info@beny.com 🏠 Importer:xxxxxxx

🌐 www.beny.com 📍 Address:xxxxxxx

♻️ This catalogue has been printed on ecological paper .
© Zhejiang Benyi New Energy Co., Ltd. All rights reserved.
⚠️ If the models and specifications in this product catalogue change due to product updates, we will not provide prior notification.

Product Introduction

The PowerSmart Duo series uses lithium iron phosphate (LFP) batteries, which are safe, long-lasting, efficient, and have high power density. Intelligent BMS provides comprehensive protection. Integrated design, capable of integrating 5/10KW energy storage systems and 3.68/5/6KW hybrid inverters. Waterproof rating IP65, suitable for various household scenarios. Plug and play, no exposed power interface, safe and reliable.



	5 Year Warranty or 6,000 Charging Cycles
	Local &Remote Monitoring
	Plug and Play
	Expandable Storage
	IP65rating

Product Specifications

MODEL	BYAIO-3680/5300	BYAIO-5000/5300	BYAIO-6000/11000
PV STRING INPUT (DC)			
Max. input Power	600V	600V	600V
MPPT Voltage Range (V)	100V~550V	100V~550V	100V~550V
Max. Input Current (A)	16V	16V	16V
Max. Short Circuit Current (A)	24V	24V	24V
No.of MPP Trackers	2	2	2
Strings per MPP Tracker	1	1	1
Galvanic Isolation for PV Modules	Transformerless	Transformerless	Transformerless
Max. Backfeed Current to PV Array	0A	0A	0A
BATTERY INPUT SIDE			
Battery Type	LiFePO4 105Ah	LiFePO4 105Ah	LiFePO4 230Ah
Battery Capacity	5.3KWH	5.3KWH	10.5KWH
Nominal Battery Voltage	51.2V	51.2V	51.2V
Battery Voltage Range	40-58.4V	40-58.4V	40-58.4V
Galvanic Isolation for Battery	YES	YES	YES
Max. Charge Current**5	50A XN (MAX 80A)	50A XN (MAX 100A)	100A
Max. Charge Power	2.56KWxN(Max3.68KW)	2.56KWxN(Max 5KW)	5.12KW
Max. Discharge Current**5	80A	100A	100A
Max. Discharge Power	3.68KW	5.12KW	5.12KW
Rated DC Power	2.56KW Charge, 3.68KW Discharge	2.56KW Charge, 5.12KW	5.12KW Charge & Discharge
Max Short Circuit Current	330A	330A	330A
Protection	Over Voltage, Less Voltage, Over Current,Short Circuit, Over Temperature,Under temperature		
Depth Of Discharge	Lithium Ion: 0~90% DOD Adjustable		
GRID AC OUTPUT(ON-GRID)			
Nominal Apparent Power Output to Utility Grid (VA) ¹²	3.68KVA	5KVA	6KVA
Nominal Output Voltage (V)	230V		
Nominal Output Frequency (HZ)	50Hz/60Hz		
Max. AC Current Output to Utility Grid (A)* ³	16A	22.7A	27.3A
Output Power Factor	(Adjustable from 0.8 leading to 0.8 lagging)		
Output THDI (@Nominal Output)	<3%	<3%	<3%
EPSAC OUTPUT DATA(BACK-UP)			
Rated output power	3.68KVA	5KVA	6KVA
Max. Output Current(A) ¹³	16A	22.7A	27.3A
Rated output voltage, frequency	230V,50Hz		
THDv (@ rated power)	<3%	<3%	<3%



Switch Time	10ms (typical)	10ms (typical)	10ms (typical)
EFFICIENCY			
MPPT Efficiency	99.9%	99.9%	99.9%
Euro Efficiency	97.2%	97.2%	97.2%
Max.Efficiency	97.5%	97.5%	97.5%
Max. Battery to Load Efficiency	95%	95%	95%
Topology	High Frequency Isolation	High Frequency Isolation	High Frequency Isolation
PROTECTION			
Anti-islanding Protection	YES	YES	YES
PV String Input Reverse Polarity Protection	YES	YES	YES
Insulation Resistance Detection	YES	YES	YES
Residual Current Monitoring Unit	YES	YES	YES
Output Over Current Protection	YES	YES	YES
Output Short Protection	YES	YES	YES
Output Over Voltage Protection	YES	YES	YES
1-V curve scanning	YES	YES	YES
Ground Fault Detection	YES	YES	YES
Battery soft start protection	YES	YES	YES
GENERAL DATA			
DC Switch	Standard	Standard	Standard
Dimensions [W*H*D] [mm]	900*600*210	900*600*210	1150*600*210
Net Weight [KG]	75	75	116
Protection Degree	IP65	IP65	IP65
Mounting Information	Wall Mount	Wall Mount	Wall Mount
Operating Temperature Range	0-50°C charge/-20°C-50°C discharge	0-50°C charge/-20°C-50°C discharge	0-50°C charge/-20°C-50°C discharge
Noise Emission [typical [dB]	<25dB	<25dB	<25dB
User Interface	APP		
Communication with BMS	CAN		
Communication with Meter	RS 485		
Communication with Portal	Wi-Fi/ GPRS		
Relative Humidity [%]	95% no condensation		
Site Altitude [m]	<2000m		
Cooling Concept	Natural Convection		
Protective Class	I		
Over Voltage Category	DC type II/AC type II		



CERTIFICATIONS & STANDARDS	
Grid Regulation	EN50549,IEC61727/62116,G98/G99,VDE4105,C10/C11,NRS097-2-1,CEI0-21,UNE2170 01,UNE217002,RD647,NTS,BIS,AS4777.2
Safety Regulation	IEC/EN 62109-1/2
EMC Standard	IEC/EN 61000-1/3
Warranty	5 Years Standard Warranty

*1 N is the number of battery modules
*2 4600 for VDE-AR-N4105,4050 for CE10-21
*3 not exceed 21.7 A for more than 15 s.IAS NZS 4777.2-20201
*4 This value may be reduced by high/low ambient temperatures