

BOLTRONZ

HIGH FREQUENCY **HYBRID SOLAR INVERTER** (ON/OFF GRID)

PRODUCT DESCRIPTION

BHF 11 EU is brand new three phase hybrid inverter with low battery voltage 48V, ensuring system safe and reliable. With compact design and high-power density, this series supports 1.3 DC/AC ratio, saving device investment. It supports three phase unbalanced output, extending the application scenarios. Equipped with CAN port (x2) BMS and parallel, x1 RS485 port for BMS, x1 RS232 port for remotely control, x1 DRM port, which makes the system smart and flexible.

PRODUCT FEATURES

- 100% unbalanced output, each phase max. output up to 50% rated power
- Max. 6 pcs parallel for on-grid and off-grid operation
- AC couple to retrofit existing solar system
- Support multiple batteries parallel
- Max. charging/discharging current of 240A
- Support storing energy from diesel generator
- 48V low voltage battery, transformer isolation design
- IP65 water-proof and dust-proof
- "Time of use" function: a maximum of 6 time segments can be set
- Wifi monitoring



RANGE - BHF 11-5KL3 EU
to BHF 11-16KL3-EU

PRODUCT SPECIFICATIONS

BHF11 ON/OFF GRID HYBRID SOLAR INVERTER					
Model	BHF 11-5KL3-EU	BHF 11-6.5KL3-EU	BHF 11-8KL3-EU	BHF 11-10KL3-EU	BHF 11-12KL3-EU
Rated power	5000W	6500W	8000W	10000W	12000W
BATTERY INPUT DATA					
Battery type	Lead-acid battery / Lithium battery				
Battery voltage	48V				
Battery voltage range	40-60V				
Charging curve	3-stage adaptive with maintenance/Equalization				
Charging Strategy for Li-Ion Battery	Self-adaption to BMS				
Over-current protection/ Over-temperature protection	Yes / Yes				
Maximum charging/discharging power	5000W	6500W	8000W	10000W	12000W
Maximum charging/discharging current	120A	150A	190A	210A	240A
PV STRING INPUT DATA					
Max. DC Input Power	6500W	8450W	10400W	13000W	15600W
Maximum DC voltage	800V				
Start-up Voltage	160V				
MPPT voltage range	200-650V				
Maximum input current	15A/15A			26A/13A	
No.of MPP Tracker/ No.of Strings per MPP Tracker	2/1+1			2/1+1	
AC INPUT/OUTPUT DATA					
Rated AC Input/ Output Power	5000W	6500W	8000W	10000W	12000W
Max AC Input/ Output Power	5500W	7150W	8800W	11000W	13200W
AC Input/ Output Rated Current	7.6/7.2A	9.8/9.42A	12.1/11.6A	15.2/14.5A	18.2/17.4A
Max AC Input/ Output Current	8.4/8A	10.8/10.4A	13.4/12.8A	16.7/15.9A	20/19.1A
Max. Three-phase Unbalanced Output Current	11.4/10.9A	14.7/14.1A	18.2/17.4A	22.7/21.7A	27.3/26.1A
Power Factor Adjustment Range	0.8 leading to 0.8 lagging				
Rated Input/Output Voltage	3P-220/380,230/400Vac				
Rated Input/Output Grid Frequency/Range	50/60;45-55/55-65				
Total Harmonics Current Distortion (THDi)	<3% (of nominal power)				
DC Current Injection	<0.5% In				
EFFICIENCY					
Max. Efficiency/Euro Efficiency	≥97.5%/97%				
PROTECTION					
Integrated	PV Arc Fault Detection, Anti-islanding Protection, PV String Input Reverse Polarity Protection, Insulation Resistor Detection, Residual Current Monitoring Unit, Output Over Current Protection, Output Shorted Protection				
Surge Protection	DC Type III/AC Type III				
GENERAL DATA					
Operating Temperature Range (°C)	-20°C to +60°C, >45°C Derating				
Cooling	Smart cooling				
Noise (dB)	≤55dB				
Communication with BMS	Wi-Fi/USB/GPRS/RS485/CAN				
Machine Dimension (W*H*D)(mm)	444*654.2*259.2				
N.W(kg)	35				
Protection Degree	IP65				
Installation Style	Wall-mounted				
Warranty	5Yrs the Warranty Period Depends the Final Installation Site of Inv.				
CERTIFICATION & STANDARDS					
CE-EMC+LVD (EN6100-6-3, EN6100-6-1+EN IEC 62109-1, EN IEC 62109-2); CE-LVD(EN 62477-1) ; IEC 60529; EN50549-1; Poland Type A, (NC RfG:2016, PSE:2018, PTPIREE:2021)C10/C11; UNE217001-2020; UNE217002-2020, NTS-631 (Type A); G98+G99					

*The technical specifications of this document are subject to change without any notice

BHF 11 ON/OFF GRID HYBRID SOLAR INVERTER

MODEL	BHF 11-13KL3-EU	BHF 11-14.2KL3-EU	BHF 11-15KL3-EU	BHF 11-16KL3-EU
Rated power	13000W	14200W	15000W	16000W
BATTERY INPUT DATA				
Battery type	Lead-acid battery / Lithium battery			
Battery voltage	48V			
Battery voltage range	40-60V			
Charging curve	3-stage /Equal Charging			
Charging Strategy for Li-Ion Battery	AdaptiveBMS System			
Over-current protection/ Over-temperature protection	Yes / Yes			
Maximum charging/discharging power(W)	13000W	14200W	15000W	16000W
Maximum charging/discharging current(A)	260A	280A	300A	320A
PV STRING INPUT DATA				
Max. DC Input Power	26000W	28400W	30000W	32000W
Maximum Input Power of each PV (PV1/PV2)	18300W/10100W	20000W/11100W	21100W/11700W	22500W/12500W
Rated PV Input Voltage 9V)	500V			
Maximum DC Voltage	800V			
Start-up Voltage	160V			
MPPT voltage range	200-650V			
Full load MPPT Voltage range(V)	464V-650V	507V-650V	536V-650V	571-650V
PV Maximum input current (A)	36A+20A			
PV Maximum Short Circuit current (A)	54A+30A			
No.of MPP Tracker/ No.of Strings per MPP Tracker	2/2+1			
Generator Input Data				
Rated AC Input active Power (W)	13000W	14200W	15000W	16000W
Max. AC Input apparent Power (VA)	14300VA	15620VA	16500VA	17600VA
Rated AC Input Current (A)	18.8A	20.6A	21.7A	23.2A
Smart Load Output Data				
Rated AC Output active Power (W)	13000W	14200W	15000W	16000W
Max. AC Output apparent Power (VA)	14300VA	15620VA	16500VA	17600VA
Rated AC Output Current (A)	18.8A	20.6A	21.7A	23.2A
Mico Inv. Input Data				
Rated AC Input active Power (W)	13000W	14200W	15000W	16000W
Max. AC Input apparent Power (VA)	14300VA	15620VA	16500VA	17600VA
Rated AC Input Current (A)	18.8A	20.6A	21.7A	23.2A

BHF 11 ON/OFF GRID HYBRID SOLAR INVERTER

MODEL	BHF 11-13KL3-EU	BHF 11-14.2KL3-EU	BHF 11-15KL3-EU	BHF 11-16KL3-EU
AC INPUT/OUTPUT DATA				
Rated AC Input/ Output Power	13000W	14200W	15000W	16000W
Max AC Input/ Output Power	14300VA	15620VA	16500VA	17600VA
AC Input/ Output Rated Current	18.8A	20.6A	21.7A	23.2A
Max AC Input/ Output Current	20.6A	22.6A	23.8A	25.5A
Maximum Output Short Circuit current (A)	100A			
Grid bypass current (A)	60A			
Peak Power (off-grid)	2 Times eated power, 10 Second			
Power Factor Adjustment Range	0.8 leading to 0.8 lagging			
Rated Input/Output Voltage	3P-220/380,230/400Vac			
Rated Input/Output Grid Frequency/Range	50/60; 45-55/55-65			
Total Harmonics Current Distortion	THD<3% (Linear Load)			
DC Current Injection	<0.5% In			
EFFICIENCY				
Max. Efficiency/Euro Efficiency	≥97.6%/97%			
MPPT Efficiency	>99%			
PROTECTION				
Integrated	PV Arc Fault Detection, Anti-islanding Protection, PV String Input Reverse Polarity Protection, Insulation Resistor Detection, Residual Current Monitoring Unit, Output Over Current Protection, Output Shorted Protection			
Surge Protection	DC Type III/AC Type III			
GENERAL DATA				
Operating Temperature Range (°C)	-20°C to +60°C, >45°C Derating			
Cooling Method	Intelligent Air Cooling			
Noise (dB)	≤56dB			
Communication with BMS	RS485/CAN			
Machine Dimension (W*H*D)(mm)	446*656*285 (Excluding Connectors and rack)			
Package Dimension (W*H*D)(mm)	567*816*404			
N.W(kg)	43kg			
Protection Degree	IP66			
Installation Style	Wall-mounted			
Warranty	5Yrs the Warranty Period Depends the Final Installation Site of Inv.			
CERTIFICATION & STANDARDS				
CE-EMC+LVD (EN6100-6-3, EN6100-6-1+EN IEC 62109-1, EN IEC 62109-2); CE-LVD(EN 62477-1) ; IEC 60529; EN50549-1; Poland Type A, (NC RfG:2016, PSE:2018, PTPIREE:2021)C10/C11; UNE217001-2020; UNE217002-2020, NTS-631 (Type A); G98+G99				
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