

BTC Series

50 kW | Three Phase AC-Coupled HV Retrofit Inverter

GoodWe BTC Series is a three-phase AC retrofit inverter suitable for distributed PV systems and can be connected with high-voltage batteries ranging from 200 to 865V. Its simple and Plug & Play modular design consisting of four sections (DC/DC, DC/AC, STS & EMS modules). It can switch to backup mode in less than 10ms and ensures continuous power supply for critical loads. It does not require perfect balance when operating in backup mode, allowing for each phase to supply power to the loads individually. The active, reactive power and power factor of this inverter is fully adjustable, which makes it suitable for application on micro-grids and ensures grid stability for the whole PV system. It offers 110% continuous AC overloading on the backup side for maximum power output and remote shutdown function for system safety.



Modular design, quick plug & play



100% unbalanced load



Built-in remote shutdown function



8 ms UPS-level switching



110% continuous AC overloading
on backup



Adjustable active, reactive power and
power factor

Technical Data		GW50K-BTC
Battery Input Data		
Battery Type	Li-Ion	
Nominal Battery Voltage (V) ^{*1}	422.4 / 499.2 / 576 / 652.8	
Battery Voltage Range (V)	200 ~ 865	
Max. Continuous Charging Current (A)	100	
Max. Continuous Discharging Current (A)	100	
Max. Charging Power (kW)	50	
Max. Discharging Power (kW)	55	
No. of Battery Input	1	
AC Output Data (On-grid)		
Nominal Apparent Power Output to Utility Grid (kVA)	50	
Max. Apparent Power Output to Utility Grid (kVA)	52.5	
Max. Apparent Power from Utility Grid (kVA)	55	
Nominal Output Voltage (V)	400, 3L / N / PE	
Output Voltage Range (V)	312 ~ 460 (AU); 318 ~ 497 (Germany)	
Nominal AC Grid Frequency (Hz)	50 / 60	
Max. AC Current Output to Utility Grid (A)	76	
Max. AC Current From Utility Grid (A)	100	
Nominal Output Current (A)	72.5	
Power Factor	~1 (Adjustable from 0.8 leading to 0.8 lagging)	
Max. Total Harmonic Distortion	<3%	
AC Output Data (Back-up)		
Back-up Nominal Apparent Power (kVA)	50	
Max. Output Apparent Power (kVA)	55	
Max. Output Current (A)	76	
Nominal Output Voltage (V)	400	
Nominal Output Frequency (Hz)	50 / 60	
Output THDv (@Linear Load)	<3%	
Efficiency		
Max. Efficiency	97.6%	
European Efficiency	97.3%	
Max. Battery to AC Efficiency	97.2%	
Protection		
Residual Current Monitoring	Integrated	
Battery Reverse Polarity Protection	Integrated	
Anti-islanding Protection	Integrated	
AC Overcurrent Protection	Integrated	
AC Short Circuit Protection	Integrated	
AC Overvoltage Protection	Integrated	
DC Switch	Integrated	
AC Switch	Integrated	
AC Surge Protection	Type II (Type I+ II Optional)	
Emergency Power Off	Integrated	
Rapid Shutdown	Optional	
Remote Shutdown	Integrated	
General Data		
Operating Temperature Range (°C)	-20 ~ +60 (>45°C derating)	
Relative Humidity	0 ~ 95% (Non-condensing)	
Max. Operating Altitude (m)	4000	
Cooling Method	Smart Fan Cooling	
User Interface	LED, LCD, WLAN + APP	
Communication with BMS	RS485	
Communication with Meter	RS485	
Communication with Portal	RS485, LAN / Bluetooth	
Weight (kg)	124	
Dimension (W × H × D mm)	585 × 1360 × 750	
Topology	Non-isolated	
Ingress Protection Rating	IP20	
Overvoltage Category	DC II / AC III	
Protective Class	I	
Mounting Method	Grounded	
Country of Manufacture	China	

*1: Nominal Battery Voltage (V): With GOODWE battery model: LXC101-10: 422.4V, LXC120-10: 499.2V, LXC138-10: 576V, LXC156-10: 652.8V.

*: Please visit GoodWe website for the latest certificates.