

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



<10ms 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.