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V&T
蓝海华腾

储能产品及解决方案

Energy Storage Products and Solutions

51.2V 6.656KWH LiFePO4 Battery-BYD blade cell

Villa

Residential electricity

Nomadic farm

Base station

Product Features

Flexible

- Scalable battery design for easy expansion, max. 16pcs in parallel

Easy Installation

- Stylish, ultra-thin
- Easy connection, saving installation time and cost

Safe & Reliable

- BYD blade lithium cell, vehicle grade and higher quality
- More safety, longer life cycle and more usable energy
- Good temperature performance, wide operating temperature range

Perfect Compatibility

- Compatible to residential 48V hybrid inverter, and off grid inverter
- Compatible with CAN / RS485 communication interface
- Matching with leading inverter brands

LiFePO4 Energy Storage Battery

model	VTE5126LFP-BL
Performance	
Battery type	BYD Blade Lithium-iron phosphate (LiFePO4)
Battery energy(KWH)	6.656KWH
Nominal capacity(AH)	130AH
Nominal voltage(V)	51.2V
Operating voltage Range(V)	43.2V-57.6V
Standard charging mode	Constant current charging (CC)
Standard charging current(A)	30A @ 25°C
Max. constant charging current(A)	130A@25°C
Charge limit voltage(V)	60.8V
Standard discharging mode	Constant current discharging (CC)
Standard discharging current(A)	30A @ 25°C
Max. constant discharging current(A)	130A@25°C
Discharge cut-off voltage (V)	32V
Scalability	Max. 16 strings in parallel
Depth of discharge(DOD)	80%
Design life	>5000 times(25°C/77F)
Compatible hybrid inverters	VTE5K-D1/VTE6K-D1/VTE8K-D1/VTE8K-DA and other brands in the market
Protection function	
Protection	Over-temperature, over charge, under-voltage, over-current, short circuit alarm function
Display and Communication	
Display	LED indicator
Communication	CAN/RS485
General data	
Dimension(H*W*D)	1075*420*140MM
Weight	About 82KG
Installation	Wall Mount
Shipping status SOC	20%~40%
Charging temperature	-20~+55°C
Discharging temperature	-30~+60°C
Short term storage ambient temperature	-20~+35°C (<3 months,20~60% SOC)
Long term storage ambient temperature	-20 ~+30°C (<1 year,30~60% SOC)
Max. operating altitude	4,000m(Derating above 2,000m)
Protection degree	IP21, indoor installation
Relative humidity	5%-95%
Cooling	IP21, indoor installation
Noise emission	<29db
Certificate	CE, IEC62619, UN38.3, UL

51.2V Household LiFePO4 Battery

Villa

Residential electricity

Nomadic farm

Base station

Product Features

Flexible

- Scalable battery design for easy expansion Max. 6pcs in parallel

Safe & Reliable

- Lithium Iron Phosphate (LFP) Cell, more safety, longerlife cycle and more usable energy
- life up to 15 years

Easy Installation

- Easy connection, saving installation time and cost

Perfect Compatibility

- Compatible to residential 48V hybrid inverter, and off grid inverter
- Compatible with CAN / RS485 communication interface
- Matching with leading inverter brands

LiFePO4 Energy Storage Battery

model	LFPB4805	LFPB4810
Performance		
Battery type	lithium-iron phosphate (LiFePO4)	
Battery energy(KWH)	5.12KWH	10.24KWH
Nominal capacity(AH)	100AH	200AH
Nominal voltage(V)	51.2V	
Operating voltage range(V)	43.2V-57.6V	
Shipping voltage requirements(V)	50V-53V	
Standard charging mode	Constant current discharging (CC)	
Standard charging current(A)	30A	
Max. constant charging current(A)	100A	
Charge limit voltage(V)	57.6V	
Standard discharging mode	Constant current discharging (CC)	
Standard discharging current(A)	30A	
Max. constant discharging current(A)	100A	
Discharge cut-off voltage (V)	43.2V	
Depth of discharge(DOD)	80%	
Design life	>5000 times(25°C/77F)	
Scalability	Max. 6 strings in parallel	
Compatible hybrid inverters	VTE5K-D1/VTE6K-D1/VTE8K-DA and other hybrid inverter brands	
Protection function		
Protection	Over-temperature, over charge, under-voltage, over-current, short circuit alarm function	
Display and Communication		
Display	LED indicator	
Communication	CAN/RS485/RS232	
General data		
Dimension(H*W*D)	580*415*150MM	680*485*200MM
Weight	55KG	92KG
Installation	Wall Mount	
Charging temperature	0~+50°C	
Discharging temperature	-20~+60°C	
Short term storage ambient temperature	-20~+45°C (<1 month,20~60% SOC)	
Long term storage ambient temperature	-20 ~+35°C (<6 months,30~60% SOC)	
Max. operating altitude	4,000m(Derating above 2,000m)	
Protection degree	IP21, indoor installation	
Relative humidity	5%-75%	
Cooling	Natural cooling	
Noise emission	<29db	
Certificate	CE, IEC62619, UN38.3, UL	

Small Commerical LiFePO4 Battery (BYD cell)

Villa | C&I energy | Nomadic farm | Base station

Product Features

Flexible

- Low voltage LiFePO4 lithium iron phosphate battery solution
- Single layer 51.2V 200Ah 10.24kWh
- Stacked modular design for easy transportation and installation
- 1-6 layer stacking

Perfect Compatibility

- Matching with leading inverter brands
- Compatible with CAN / RS485 communication interface.
- Applicable on hybrid and off-grid solar energy storage system

Safe & Reliable

- BYD lithium iron phosphate (LFP) battery cell
- High safety, long service life, high effective power
- Good temperature performance, battery operating temperature range is wide
- Optimization of self-consumption electricity for industrial and commercial applications
- Equipped with high-power emergency backup and off-grid functions

LiFePO4 Energy Storage Battery

Modal	VTE51.2FL200-1LFP	VTE51.2FL200-2LFP	VTE51.2FL200-3LFP	VTE51.2FL200-4LFP	VTE51.2FL200-5LFP	VTE51.2FL200-6LFP
Performance						
Battery type	Lithium-iron phosphate (LiFePO4)					
Nominal energy(KWH)	10.24KWH	20.48KWH	30.72KWH	40.96KWH	51.2KWH	61.44KWH
Nominal capacity(AH)	200AH	400AH	600AH	800AH	1000AH	1200AH
Nominal voltage(V)	51.2V	51.2V	51.2V	51.2V	51.2V	51.2V
Operating voltage range(V)	43.2~57.6V	43.2~57.6V	43.2~57.6V	43.2~57.6V	43.2~57.6V	43.2~57.6V
Stacking layer number	1	2	3	4	5	6
Module number	1	2	3	4	5	6
Standard charging current(A)	80A@ 25°C	160A@ 25°C	240A@ 25°C	320A@ 25°C	400A@ 25°C	480A@ 25°C
Standard charging protection voltage	60.8V					
Max. continuous	90A@ 25°C	180A@ 25°C	270A@ 25°C	360A@ 25°C	450A@ 25°C	540A@ 25°C
discharge current (A)	32V					
discharge cut-off voltage	80%					
Depth of discharge (DOD)	car grade BYD blade cell					
Cell	>5000 times					
life cycle	5 years					
warranty	Yes					
Warranty documents	Low voltage hybrid inverter					
Protect						
Protect function	Overtemperature, overcharge, low voltage, overload, short circuit alarm protection					
Communication						
Communication interface	CAN/RS485					
General data						
product size (L*W*H MM)	1250x500x731mm(with base, base:140mm)					
Weight(KG)	158KG	299.5KG	441KG	632KG	790KG	948KG
Color	White					
Shipping status voltage(V)	3.20-3.30V/CELL					
SA	20%-30%					
Charging temperature	0~+55°C					
Discharging temperature	-30~+60°C					
Short-term storage ambient temperature	-25~+35°C(<3月, SOC: 20%-60% SOC)					
long-term storage ambient temperature	-20 ~+30°C(<1年, SOC: 30%-60% SOC)					
Altitude	4,000M(> 2,000Mderating)					
Protection degree	IP21, Indoor installation					
Noise	<29 DB					
Relative humidity	5%-95%					
Cooling	Natural heat dissipation					
Certifications	IEC/UN38.3					

High Voltage Residential LiFePO4 Battery (BYD cell)

Villa

Residential electricity

Nomadic farm

Base station

Product Features

Flexible

- High-voltage LiFePO4 battery module single module is 51.2V 50Ah
- Stackable design, easy installation

Perfect Compatibility

- Matching with leading inverter brands
- Compatible with CAN / RS485 communication interface
- Applicable on hybrid and off-grid solar energy storage system

Safe & Reliable

- BYD vehicle grade (LFP) battery: more safety, longer life cycle, more usable energy
- Applicable for residential and commercial system applications
- Flexible scalable from 10KWH to 20 KWH
- Optimization of high-powered emergency-backup and off-grid function

LiFePO4 Energy Storage Battery

model	VTE1024LFP	VTE1536LFP	VTE2048LFP
Performance			
Battery type	lithium-iron phosphate (LiFePO4)		
Nominal battery energy(KWH)	10.24KWH	15.36KWH	20.48KWH
Nominal capacity(AH)	50AH	50AH	50AH
Nominal voltage(V)	204.8V	307.2V	409.6V
Operating voltage range(V)	172.8V~230.4V	259.2V~345.6V	345.6~460.8V
Number of battery Modules	4	6	8
MAX. constant charging current(A)	50A (@25°)		
Recommend charge current(A)	10~25A		
Max.constant discharging current(A)	50A (@25°)		
Depth of discharge(DOD)	80%		
Cell technology	BYD lithium-iron phosphate (LiFePO4)		
Design life	>5000 times @80%DOD		
Warranty	5 years		
Warranty document supplied	Yes		
Compatible hybrid inverters	VTE8K-G3/VTE10K-G3/VTE12K-G3 or other hybrid inverters		
Protection function			
Protection	Over-temperature, over charge, under-voltage, over-current, short circuit alarm Function		
Communication			
Communication	CAN/RS485		
General data			
Dimension (L*W*H)(MM)	1150*220*805MM	1150*220*1030MM	1150*220*1255MM
Weight(KG)	183.5KG	258KG	332.5KG
Shipping status SOC	20%~40%		
Charging temperature	0~+50℃		
Discharging temperature	-20~+55℃		
Short term storage ambient temperature	-10~+55℃ (<3 months, 20~60% SOC)		
Long term storage ambient temperature	-10~+40℃ (<1 year, 30~60% SOC)		
Max. operating altitude	4,000m(Derating above 2,000m)		
Protection degree	IP21, indoor installation		
Relative humidity	5%-95%		
Cooling	Natural convection		
Noise emission	<29db		
Certification	TUV/CE/IEC/UN38.3/UL1973....		

High Voltage Residential LiFePO4 Battery(BYD blade cell)

Villa

Residential electricity

Nomadic farm

Base station

Product Features

Flexible

- High-voltage LiFePO4 battery module,single module is 51.2V 130Ah.
- Stackable design, easy installation.

Perfect Compatibility

- Matching with leading inverter brands
- Compatible with CAN / RS485 communication interface
- Applicable on hybrid and off-grid solar energy storage system

Safe & Reliable

- BYD blade battery cell (LFP) : more safety, longer life cycle ,more usable energy
- Applicable for residential and commercial system applications
- Flexible scalable from 13.312KWH to 39.936KWH
- Optimization of high-powered emergency-backup and off-grid function.

LiFePO4 Energy Storage Battery

model	VTE1228BL-LFP	VTE1843BL-LFP	VTE2457BL-LFP	VTE3072BL-LFP	VTE3686BL-LFP
Performance					
	Lithium-iron phosphate (LiFePO4)				
Nominal battery energy(KWH)	13.312KWH	19.968KWH	26.624KWH	33.28KWH	39.936KWH
Nominal capacity(AH)	130AH	130AH	130AH	130AH	130AH
Nominal voltage(V)	102.4V	153.6V	204.8V	256V	307.2
Operating voltage Range(V)	86.4V~115.2V	129.6V~172.8V	172V~230.4V	216V~288V	259.2V~345.6V
Module number	2	3	4	5	6
Standard charging current(A)	60A @ 25°C				
Max. constant charging current(A)	65A @ 25°C				
Standard discharging current(A)	60A @ 25°C				
Max. constant discharging current(A)	65A @ 25°C				
Cell technology	80%				
Max. constant discharging current(A)	BYD Blade Lithium-iron phosphate (LiFePO4)				
Design life	>5000次@80%DOD				
Warranty	5 years				
Warranty Document Supplied	Yes				
Compatible hybrid inverters	High voltage hybrid inverters				
Protection function					
Protection	Over-temperature, over charge, under-voltage, over-current, short circuit alarm Function				
Communication					
Communication	CAN/RS485				
General data					
Dimension (L*W*H)(MM)	1150*220*845MM	1150*220*1070MM	1150*220*1295MM	1150*220*1520MM	1150*220*1745MM
Weight(KG)	118KG	165KG	215KG	268KG	325KG
Shipping state voltage(V)	3.20~3.30V/CELL				
Shipping status SOC	20%~30%				
Charging temperature	-20~+55°C				
Discharging temperature	-30~+60°C				
Short term storage ambient temperature	-20~+35°C(<3 months, SOC: 20%~60%)				
Long term storage ambient temperature	-20 ~+30°C(<1 year, SOC: 30%~60%)				
Max. operating altitude	4,000m(Derating above 2,000m)				
Protection degree	IP21, indoor installation				
Relative humidity	5%-95%				
Cooling	Natural convection				
Noise emission	<29db				
Certification	TUV/CE/IEC/UN38.3/UL1973.....				

High Voltage Small Commerical LiFePO4 Battery (BYD blade cell)

Villa

C&I energy storage

Nomadic farm

Base station

Product Features

Flexible

- High-voltage LiFePO4 battery module,single module is 51.2V 130Ah
- Stackable design, easy installation

Perfect Compatibility

- Matching with leading inverter brands.
- Compatible with CAN / RS485 communication interface.
- Applicable on hybrid and off-grid solar energy storage system.

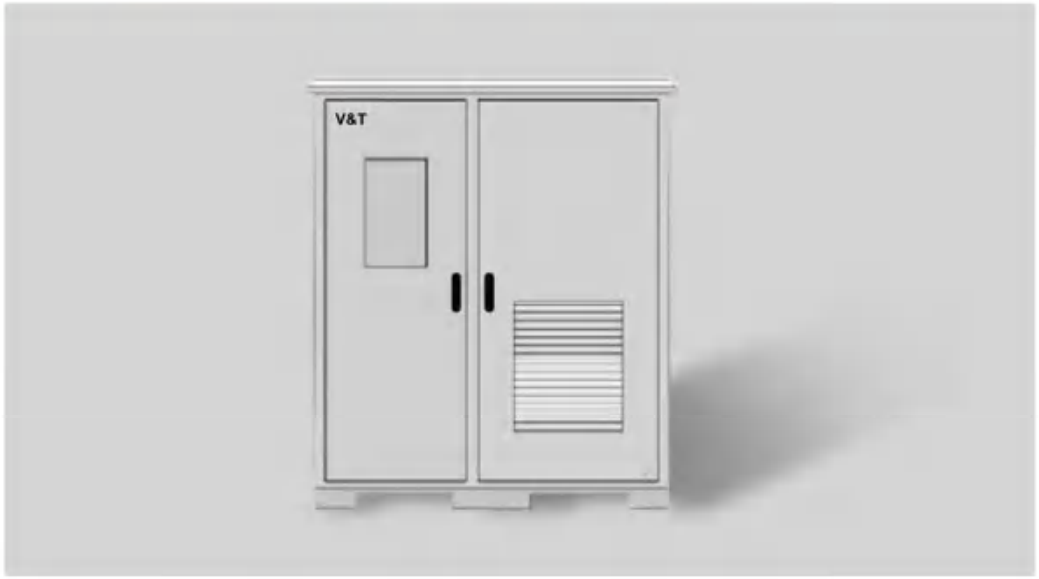
Safe & Reliable

- BYD blade battery cell (LFP) : more safety, longer life cycle more usable energy
- Applicable for commercial system applications.
- Flexible scalable from 13.312KWH to 66.56KWH
- Optimization of high-powered emergency-backup and off-grid function

LiFePO4 Energy Storage Battery

Model	VTE102.4BL-1LFP	VTE204.8BL-2LFP	VTE307.2BL-3LFP	VTE409.6BL-4LFP	VTE512.0BL-5LFP
Performance					
Battery type	Lithium-iron phosphate (LiFePO4)				
Nominal battery energy(KWH)	13.312KWH	26.624KWH	39.936KWH	53.248KWH	66.56KWH
Nominal capacity(AH)	130AH	130AH	130AH	130AH	130AH
Nominal voltage(V)	102.4V	204.8V	307.2V	409.6V	512.0V
Operating voltage Range(V)	86.4V – 115.2V	172.8V – 230.4V	259.2–345.6V	345.6V – 406.8V	432V – 576V
Stacking layer number	1	2	3	4	5
Module number	2	4	6	8	10
Standard charging current(A)	50A@25℃				
Max. constant charging current(A)	100A @ 25℃				
Standard discharging current(A)	50A@25℃				
Max. constant discharging current(A)	100A @ 25℃				
Cell technology	BYD Blade Lithium-iron phosphate (LiFePO4)				
Depth of discharge(DOD)	80%				
Design life	>5000 times @80%DOD				
Warranty	5 years				
Warranty Document Supplied	Yes				
Compatible hybrid inverters	High voltage hybrid inverters				
Protection function					
Protection	Over-temperature, over charge, under-voltage, over-current, short circuit alarm Function				
Communication					
Communication	CAN/RS485				
General Specification					
Dimension (L*W*H)(MM)	1120*420*57(mm) 44.09*16.54*22.4(inch)	1120*420*800(mm) 44.09*16.54**31.5(inch)	1120*420*1030(mm) 44.09*16.54*40.55(inch)	1120*420*1260(mm) 44.09*16.54*49.61(inch)	1120*420*1490(mm) 44.09*16.54*58.66 (inch)
Weight(KG)	184.28kg (406.26 lb)	314.38kg (693.11 lb)	444.48kg (979.95lb)	574.58kg (1266.78 lb)	704.68kg (1553.60 lb)
Shipping state voltage(V)	3.20~3.30V/CELL				
Shipping status SOC	20%~30%				
Charging temperature	0~+55℃(32°F-131°F)				
Discharging temperature	-30~+60℃ (-22°F-140°F)				
Short term storage ambient temper«	-20~+35℃(<3 months, SOC: 20%~60%)				
Long term storage ambient temper«	-20 ~+30℃ (<1 year, SOC: 30%~60%)				
Max. operating altitude	4,000m(Derating above 2,000m)				
Protection degree	IP21, indoor installation				
Relative humidity	5%-95%				
Cooling	Natural convection				
Noise emission	<29 dB				
Certification	TUV/CE/IEC/UN38.3/UL1973				

Small and medium-sized C&I LiFePO4 BESS



C&I energy storage

Rural power shortage

Off-grid island

Nomadic farm

Mine off-grid

Product Features

Flexible

- Simple structure, small footprint, flexible layout, easy installation, operation and maintenance
- Modular design, power and capacity can be expanded

Perfect Compatibility

- Matching with leading invertar brands
- Compatible with CAN / RS485 communication interface
- Applicable on hybrid and off-grid solar energy storage system

Safe & Reliable

- BYD vehicle grade battery cell (LFP) : more safety longer life cycle more usable energy
- Applicable for small and medium-sized industrial and commercial system applications
- Optimization of high-powered emergency-backup and off-grid function
- Built-in fire control, temperature control and warning system function for multiple security
- IP54 protection grade, stronger environmental adaptability

Small and medium-sized C&I LiFePO4 ESS

Model	VTE116LFP	VTE206LFP
Performance		
Battery type	Lithium-iron phosphate (LiFePO4)	Lithium-iron phosphate (LiFePO4)
Nominal battery energy(KWH)	116.736KWH	206KWH
Nominal capacity(AH)	190AH	310AH
Nominal voltage(V)	614.4V	665.6V
Operating voltage Range(V)	480V~ 700.8V	561.6V~ 790.4V
Module number	24	26
Standard charging current(A)	Rated current 80A	Rated current 102A
Max. constant charging current(A)	100A	155A
Standard discharging current(A)	Rated current 90A	Rated current 102A
Max. constant discharging current(A)	100A	310A
Cell technology	BYD vehicle grade Lithium-iron phosphate (LiFePO4)	
Depth of discharge(DOD)	80%	
Design life	>5000 times @80%DOD	
Warranty	5 years	
Warranty Document Supplied	Yes	
Compatible hybrid inverters	30/50KW/100KW C&I Energy storage inverters	100/150KW C&I Energy storage inverters
Protection function		
Protection	Over-temperature, over charge, under-voltage, over-current, short circuit alarm Function	
Communication		
Communication	CAN/RS485	
General Specification		
Dimension (L*W*H)(MM)	1560*700*2150	1950*1000*2180
Weight(KG)	customization	
Cabinet color	white	
Fire extinguishing system	support	
Air conditioner system	support	
Shipping status	SOC: 30%~40%	
Charging temperature	-10~+40C	0~+50C
Discharging temperature	-20 ~+40C	-20 ~+55C
Short term storage ambient temperatu	-28~+40C(<3 months,SOC: 20%~80% SOC)	-10~+45C(<3 months,SOC: 20%~60% SOC)
Long term storage ambient temperatu	-20~+40C(1 year, SOC: 20%~50% SOC)	-10~+35C(1 year, SOC: 30%~60% SOC)
Max. operating altitude	4,000m(Derating above 2,000m)	4,000m(Derating above 2,000m)
Protection degree	IP54	
Relative humidity	5%-95%	
Battery cooling way	Air conditioning cooling	
Certification	TUV/CE/IEC/UN38.3/UL1973	

Small and medium-sized C&I ESS

C&I energy storage | Rural power shortage | Off-grid island | Nomadic farm | Mine off-grid

Product Features

Simple and flexible

- Simple structure, small footprint, flexible layout easy installation, operation and maintenance
- Modular design, power and capacity can be expanded

Perfect Compatibility

- Matching with leading inverter brands
- Compatible with CAN / RS485 communication interface
- Applicable on hybrid and off-grid solar energy storage system

Safe & Reliable

- BYD blade battery cell (LFP) : more safety, longer life cycle ,more usable energy
- Applicable for small and medium-sized industrial and commercial system applications
- Flexible scalable from 53KWH to 173KWH
- Optimization of high-powered emergency-backup and off-grid function
- Built-in fire control, temperature control and warning system function for multiple security
- IP54 protection grade, stronger environmental adaptability

Small and medium-sized C&I ESS

Model	VTE53BL-LFP	VTE106BL-LFP	VTE173BL-LFP
Performance			
Battery type	Lithium-iron phosphate (LiFePO4)		
Nominal battery energy(KWH)	53.248KHW	106.496KHW	173.056KHW
Nominal capacity(AH)	130AH	260AH	260AH
Nominal voltage(V)	409.6	409.6	665.6
Operating voltage Range(V)	345.5V~473.6V	345.5V~473.6V	561.6V~769.6V
Modules number	8	16	26
Standard charging current(A)	30A @25°C	60A @25°C	60A @25°C
Max. constant charging current(A)	100A @25°C	200A @25°C	200A @25°C
Standard discharging current(A)	30A @25°C	60A @25°C	60A @25°C
Max. constant discharging current(A)	100A @25°C	200A @25°C	200A @25°C
Cell technology	BYD Blade Lithium-iron phosphate (LiFePO4)		
Depth of discharge(DOD)	80%		
Design life	>5000 times @80%DOD		
Warranty	5 years		
Warranty Document Supplied	Yes		
Compatible hybrid inverters	30/50KW/100KW C&I Energy storage inverters		
Protection function			
Protection	Over-temperature, over charge, under-voltage, over-current, short circuit alarm Function		
Communication			
Communication	CAN/RS485		
General Specification			
Dimension(L*W*H)(MM)	1250*1000*2050		
Weight(KG)	Customization		
Cabinet color	White		
Fire extinguishing system	support		
Air conditioner system	support		
Working temperature range	-30°C~+55°C		
Shipping state voltage(V)	3.20~3.30V/CELL		
state of charge SOC	20%~30%		
Charging temperature	0~+55°C(32°F-131°F)		
Discharging temperature	-30~+60°C(-22°F-140°F)		
Short term storage ambient tempera	20~+35°C(<3months,SOC:20%~60%)		
Long term storage ambient tempera	-20~+30°C(<1 year, SoC:30%~60%)		
Max. operating altitude	4,000m(Derating above 2,000m)		
Protection degree	IP54		
Relative humidity	5%-95%		
Battery cooling way	Air conditioning cooling		
Noise emission	<29 dB		
Certification	TUVICE/IEC/UN38.3/UL1973		

Single-phase Energy Storage System

Villa

Residential electricity

Nomadic farm

Base station

Product Features

Safe & reliable

- Passed IEC/EN62109-1/-2, IEC/EN62477-1, South Africa NRS097-2-1:2017, IEC/EN 61000-6-1, IEC/EN 61000-6-3 test certification
- LiFePO4 cell, longer service life, more safety and higher quality
- Supporting off-grid and emergency power supply, and seamless switching

Friendly & flexible

- Integrated hybrid inverter and LiFePO4 battery in a cabinet, intelligent energy storage system solution
- Modular design, stacked installation, simple appearance design

Economical & practical

- Supporting full power discharge,automatic management of battery charge and discharge.
- Supporting GPRS/WIFI/RS485/CAN, LCD design
- Supporting multiple operating modes, can flexibly realize the intelligent dispatch and distribution of energy.
- Balance the proportion of self-use electricity and backup electricity, improve the self-use rate and reduce the cost of electricity consumption.

Residential Energy Storage System

model	VTE3K-D1-A	VTE3.6K-D1-A	VTE4K-D1-A	VTE6K-D1-A	
Input (PV)					
Max. power(KW)	4.6KW	4.6KW	6KW		7KW
Max. DC voltage(V)	550V				
MPPT voltage range(V)	125~550V				
Max input current of single MPPT(A)	14A				
MPPT Tracker/Strings	2/1				
AC Output					
Rated output power(KVA)	3KVA	3.6KVA	4KVA		6KVA
Max. output current(A)	13A	16A	17.4A		26A
Grid voltage/range(V)	3KVA				
Grid voltage/range(V)	50 /60				
PF	0.99lagging-0.99leading				
THDi	<3%				
AC output topology	L+N+PE				
EPS Output					
Rated power (KVA)	3KVA	3.6KVA	4KVA		6KVA
Rated output current(A)	13A	16A	17.4A		26A
Rated output voltage(V)	230				
Rated frequency (HZ)	<20				
Automatic switching time (MS)	50 /60				
THDU	<2%				
Overload capacity	110%, 30S/120%, 10S/150%, 0.02S				
Battery Technical Parameters					
Battery module	Customization				
Battery capacity(KWH)	2.4~14.4KWH				
MAX. parallel batteries	6				
Design life time	>10years (25°C/77F)				
Max. charge/discharge current(A)	95/62.2A	95/75A	95/83.3A		95/110A
General data					
Protection class	IP20				
MPPT efficiency	99.9%				
Max. efficiency	97.6%				
Self-consumption	< 3W				
Interface:rs485/WiFi/can/dm	yes /opt/opt/yes/yes				
Display	LCD				
Operating temperature	-10°C~60°C				
Relative Humidity	15%~85% (non-condensing)				
Dimensions (W/D/H) MM	580/350/1800MM				
Weight(KG)	92				
Safety standard	IEC/EN62109-1/-2, IEC/EN62477-1				
EMC	IEC/EN 61000-6-1, IEC/EN 61000-6-3				
On-grid	South Africa NRS097-2-1:2017, UK G98,G99				

Three-phase Energy Storage System

Villa

Residential electricity

Nomadic farm

Base station

Product Features

Safe & reliable

- Passed European countries, Germany, UK and South Africa IEC/EN and on grid test certification
- BYD original LiFePO4 cell, vehicle grade, longer service life, more safety and higher quality
- Supporting off-grid and emergency power supply, and seamless switching

Friendly & flexible

- Integrated hybrid inverter and LiFePO4 battery in a cabinet, intelligent energy storage system solution
- Modular design, stacked installation, simple appearance design

Economical & practical

- Supporting full power discharge,automatic management of battery charge and discharge
- Supporting GPRS/WIFI/RS485/CAN, LCD design
- Supporting multiple operating modes, can flexibly realize the intelligent dispatchand distribution of energy
- balance the proportion of self-use electricity and backup electricity, improvethe self-use rate and reduce the cost of electricity consumption

Residential Energy Storage System

model	VTE8K-G3-AIN	VTE10K-G3-AIN	VTE12K-G3-AIN
DC Input			
Max. power(KW)	12KW	15KW	18KW
Max. DC voltage(V)	1000V		
MPPT voltage range(V)	180V-850V		
Max.input current of singleMPPT(A)	13		
MPPT tracker/strings	2/1		
AC Output			
Rated output power(KVA)	8KVA	10KVA	12KVA
Max. output current(A)	12.7A	15.9A	19.1A
Grid voltage/range(V)	400V /360V~440V		
Frequency (HZ)	50/60HZ		
PF	1(0.8lagging-0.8leading)		
THDI	<3%		
AC output topology	3W+N+PE		
EPS Output			
Rated power (KVA)	8.8KVA	11KVA	13.2KVA
Rated output current(A)	12.7A	15.9A	19.1A
Rated output voltage(V)	400Vac		
Automatic switching time (MS)	<20ms		
Rated frequency (HZ)	50/60HZ		
THDU	<2%		
Overload capacity	110%, 30S/120%, 10S/150%, 0.02S		
Battery Technical Parameters			
Battery type	LiFePO4 battery (BYD original)		
Battery voltage(V)	204.8V	307.2V	409.6V
Operating Voltage Range(V)	172.8V~224.64V	259.2V~336.96V	345.6~449.28V
Battery module(AH)	50AH	50AH	50AH
Battery Capacity(KWH)	10.24KWH	15.36KWH	20.48KWH
Module number	4	6	8
Rated charge/discharge current(A)	10~25A		
Max. charge/discharge current(A)	50A		
Communication interface	CAN/RS485		
Service Life	3500次 @80%DOD (25°C/77F)		
General Data			
MPPT Efficiency	97.2%	97.5%	97.5%
Euro Efficiency	99.5%	99.5%	99.5%
Protection class	IP20		
Noise Emission (Typical)	<60dB		
Operation Temperature	-10~+60°C		
Cooling	forced air cooling		
Relative Humidity	15%~85% (non-condensing)		
Altitude	2000m(>2,000 Derating)		
Dimensions (W/D/H) MM	690*460*1314	690*460*1482	690*460*1650
Weight(KG)	193.6	252.1	312.6KG
Inverter Topology	transformerless		
Self-Consumption	<3W		
Display and communication			
Display	LCD		
InterfaceRS485/WiFi/LANCAN/DRM	yes /opt/opt/yes/yes		
Safety standard	IEC/EN62109-1/-2, IEC/EN62477-1		
EMC	IEC/EN 61000-6-1, IEC/EN 61000-6-3		
On-grid	Europe:EN50549-1, Germany:VDE4105/0124, UK:G99, South Africa:NRS097-2-1:2017		

30/50KW Outdoor Cabinet Type Energy Storage System

PV charging station

Residential electricity

Nomadic farm

Back up power

Grid-side storage

Product Features

Simple and flexible

- Integrate PV, PCS and LiFePO4 Battery in one cabinet, support multiple battery access, and integrate EMS smart energy management system
- Wide PV input voltage range, wide battery voltage range
- With grid-connected charging and discharging, off-grid independent inverter function
- Simple structure, small footprint, flexible layout, easy installation operation and maintenance
- Modular design, power and capacity can be expanded
- Communication is flexible, can accept BMS instructions in real time, communication methods are RS485, CAN

Economical & Intelligent

- The highest efficient power density, max. efficiency is 97.6%
- Low power consumption fan, with intelligent temperature control system

Safe & Reliable

- Use of high performance DSP, optimized control circuit design, better performance, more stable and safe system
- BYD blade battery cell (LFP) : more safety, longer life cycle ,more usable energy
- Built-in fire control, temperature control and warning system function for multiple security
- IP54 protection grade, stronger environmental adaptability
- Off-grid cold start function

C&I Energy Storage System

Model	VTE-ESS30KH60C	VTE-ESS50KH106C
PV Input		
Max. Power(KW)	39KW	65KW
Max. DC Voltage(V)	1000V	
MPPT Voltage Range(V)	150-850V(Full Load: 360-850V)	150-850V(Full Load: 450-850V)
Rated DC Input Voltage (V)	600V	
MPPT Tracker/Strings	3/6	4/8
	518.4V-729.6V	
Max. PV Input Current(A)	36+36+36	36+36+36+36
Short-circuit Current of PV Input(A)	55+55+55	55+55+55+55
Battery Input		
Battery Type	Lithium Iron Phosphate(LiFePO4)	
Battery Module	51.2V 130AH BYD Blade Battery Module	
Battery Capacity(KWH)	60KWH	106KWH
Nominal Voltage(V)	460.8V	409.6V
Battery Voltage Range(V)	388.8-547.2V	345.6-486.4V
Number of Battery Clusters	1	2
Cycle Life	>6000(@25°C, 0.5C/0.5C)	
AC Output		
Rated Output Power(KW)	30KW	50KW
Max. Output Power(KW)	33KW	55KW
Rated Output Current(A)	45.5A/43.5A	75.8A/72.5A
Max. Output Current(A)	50A/47.8A	83.4A/79.7A
Off Grid Peak Power	1.5 Time of Rated Power, 10S	
Grid Voltage/Range(V)	220/380, 230/400Vac, 3L/N/PE	
Frequency (Hz)	50 /60Hz	
PF	0.8 Lagging-0.8 Leading	
THDI	<3% (Rated Power)	
DC Current Injection	<0.5% In	
Protection		
AC Over-current Protection	Yes	
Ground Fault Detection Protection	Yes	
Power Grid Monitoring Protection	Yes	
Residual Current Detection Protection	Yes	
General Data		
Euro Efficiency	97%	
Max Efficiency	97.6%	
MPPT Efficiency	99.9%	
Noise Emission (Typical)	≤65 dB	
Relative Humidity	5~95% (Non-condensing)	
Altitude	4000m(>2,000 Derating)	
Dimensions (DWH) mm	1250*1000*2050MM	
Weight(KG)	About 1000KG	About 1460KG
Inverter Topology	Transformerless	
Ingress Protection	IP54/IP65(Inverter)	
Fire Extinguishing System	Support	
Operating Temperature	-20°C~40°C	
PCS Cooling Way	Intelligent Fan	
Battery Cooling Way	Air Conditioning Cooling	
General Data		
Display	LCD	
Battery Communication	CAN/RS485	
Interface: WiFi/GPRS	yes /opt	
General Data		
Inverter Grid Regulation	VDE4105,IEC61727/62116,VDE0126,AS4777.2,CEI021,EN50549-1, G98,G99,C10-11,UNE217002,NBR16149/NBR16150	
Standards	MSDS/UN38.3/IEC 62619:2022	

American Version Energy Storage System

Photovoltaic energy storage

Wind energy storage

Combined frequency modulation of thermal power

Grid measurement energy storage

Product features

Friendly & flexible

- Various working modes can be set flexibly
- PV controller modular design, easy to expand
- Flexible Battery Type(li-ion,lead-acid)

Intelligent & efficient

- Support battery capacity and discharge time prediction
- Smooth switching between on and off grid, uninterrupted supply of load
- Operate with EMS to monitor system status in real time

Safe & reliable

- Built-in isolation transformer for high load adaptability
- Perfect protection function for inverter and battery

Abundant configuration

- Support simultaneous access of load,battery,power grid , diesel and PV
- Built-in maintenance bypass switch, improve system availability

American Version C&I Energy Storage System

Model	VTE-ESS30KR50C-NA	VTE-ESS60KR106C-NA	VTE-ESS90KR159C-NA
PV Input			
Max Power(KW)	45KW	90KW	
Max DC Voltage(V)	830VDC		
MPPT Voltage Range(V)	200~750 (430~750 @Full Load) V		
MPPT Tracker	1	2	
MPPT Strings	3	3+3	
Max.Input Current of Each MPPT(A)	35A/35A/35A		
Battery Input			
Battery Type	Lithium Iron Phosphate(LiFePO4)		
Battery Module	51.2V 130AH BYD Blade Battery Module		
Battery Capacity(KWH)	53.248KWH	106.496KWH	159.744KWH
Nominal Voltage(V)	409.6V		614.4V
Battery Voltage Range(V)	345.6-486.4V		518.4-729.6V
Number of Battery Clusters	1	2	
Max. Power(KW)	33KW	66KW	99KW
Max. Charge/Discharge Current (A)	90A	180A	
AC(on-grid)			
Max Output Power(KVA)	33KVA	66KVA	99KVA
Rated Power(KW)	30KW	60KW	90KW
Rated Grid Voltage(V)	3P3W+PE, 480 (±15%) Vac		
Rated Frequency (Hz)	60 (±2.5) Hz		
THDI	<3%		
Power Factor	Listed：0.8~1 Leading or Lagging Actual：0.1~1 Leading or Lagging		
AC(Off Grid)			
Max Output Power(KVA)	33KVA	66KVA	99KVA
Rated Power(KW)	30KW	60KW	90KW
Rated Voltage(V)	3P3W+PE, 480 (±5% Configurable) Vac		
Rated Frequency(Hz)	60 (±5 Configurable) Hz		
Overload Capacity	110%~120% 10 mins 120%——130%，1min 130%~150%,200 ms ：>150%，100 ms		
General data			
Dimension W*D*H(mm)	1360*1300*1950		1360*1300*2200
Weight(KG)	About 1000KG	About 1450KG	About 1980KG
Operation Temperature	-30℃ to +55℃		
Relative Humidity	0 ~95% Non-condensing		
Ingress Protection	IP54		
Noise Emission(dB)	<70dB		
Altitude	5,000m(>3,000 Derating)		
Fire Extinguishing System	Support		
PCS Cooling Way	Intelligent Fan		
Battery Cooling Way	Air Conditioning Cooling		
Display and Communication			
Display	LCD Touch-screen		
BMS Communication	RS485/CAN		
EMS Communication	RS485, TCP/IP		
Standard			
Inverter Grid Regulation	IEEE1547; UL1741SA; RULE 21		
Safety Certification	UL1741; UL9540		
EMC Standard	FCC		

Outdoor Cabinet Type Energy Storage System

C&I energy storage

Rural power shortage

Off-grid island

Nomadic farm

Mine off-grid

Product Features

Simple and flexible

- Wide battery voltage range, support multiple battery access
- Reactive power, active power adjustable
- Off-grid cold start function, support multimachine parallel function
- Simple structure, small footprint, flexible layout, easy installation, operation and maintenance
- Modular design, power and capacity can be expanded
- Communication is flexible, can accept BMS instructions in real time, communication methods are RS485, CAN

Economical & Intelligent

- Highest power density, maximum efficiency of 97.5%
- With grid-connected charging and discharging, off-grid ndependent inverter function
- Supporting peak shaving and valley filling, and dynamic expansion of transformers

Safe & Reliable

- Built-in isolation transformer, high load adaptability
- AC/DC dual backup for auxiliary power supply
- Ac and DC dual power backup to ensure the control system power supply
- Built-in fire control, temperature control and warning system function for multiple security:IP54 protection grade, stronger environmental adaptability

Outdoor Cabinet Type Energy Storage System

Model	VTE-ESS30KS50C	VTE-ESS50KS100C	VTE-ESS100KS159C
PV Input			
Max. Input Voltage (V)	1000VDC		
Max. Power (KW)	60/120KW		120/180/240KW
MPPT Voltage Range (V)	200VDC-850VDC		
Battery Input			
Battery Type	Lithium Iron Phosphate(LiFePO4)		
Battery Module	51.2V 130AH BYD Module		
Battery Capacity(KWH)	53.248KWH	100KWH	159.744KWH
Nominal Voltage(V)	409.6V	768V	614.4V
Battery Voltage Range(V)	345.6V-486.4V	648V-912V	518.4V-729.6V
Number of Battery Clusters	1		2
Max. Charge/Discharge Current (A)	100A		200A
AC(on-grid)			
Max Output Power(kVA)	33kVA	55kVA	110kVA
Rate Output Power(kW)	30KW	50KW	100KW
Rated Current(A)	43A	72A	144A
Rated Voltage(V)	400V		
Voltage Range(V)	320V-460V		
Frequency (Hz)	50/60Hz		
Frequency Range (Hz)	45-55/55-65Hz		
THDI	<3%		
Power Factor	1Lagging-1Leading (Settable)		
AC Connection	3W+N+PE		
Transformer Ratio	100/400	200/400	270/400
AC(off grid)			
Max. Output Power (KVA)	33KVA	55KVA	110KVA
Rated Output Power (KW)	30KW	50KW	100KW
Rated Voltage (V)	400V		
THDU	<1% Linear <5% Non-linear		
Frequency(Hz)	50/60Hz		
Overload Capacity	110% Long-term		
General data			
Ingress Protection	IP54		
Noise Emission(dB)	<70dB		
Operating Temperature	-30~+55℃		
PCS Cooling Way	Intelligent Fan		
Battery Cooling Way	Air Conditioning Cooling		
Relative Humidity	0-95% Non Condensing		
Altitude	5000m(>3000m Derating)		
Dimension W*D*H (mm)	2400*1300*2352		
Weight(KG)	About 1700KG	About 2200KG	About 3100KG
Display and communication			
Display	LCD Touch-screen		
BMS Communication	RS485/CAN		
EMS Communication	RS485, TCP/IP		
Certificates			
Inverter Grid Regulation	IEC61727&IEC62116&IEC61683, NRS 097-2-1:2017, AS/NZS 4417.1, CEI 0-21, G99: 2022 Type B, EN50549-1		
Battery Standards	UN38.3/MSDS/IEC 62619:2022		

50KW Outdoor Cabinet Type Energy Storage System

C&I energy storage | Rural power shortage | Off-grid island | Nomadic farm | Mine off-grid

Product Features

Simple and flexible

- Integrate PV, PCS and LiFePO4 Battery in one cabinet, support multiple battery access, and integrate EMS smart energy management system
- Wide PV input voltage range, wide battery voltage rang
- With grid-connected charging and discharging, off-grid independent inverter function
- Simple structure, small footprint, flexible layout, easy installation operation and maintenance
- Modular design, power and capacity can be expanded
- Communication is flexible, can accept BMS instructions in real time, communication methods are RS485, CAN

Safe & Reliable

- Use of high performance DSP, optimized control circuit design, better performance, more stable and safe system
- BYD blade battery cell (LFP) : more safety, longer life cycle ,more usable energy
- BBuilt-in fire control, temperature control and warning system function for multiple security
- IP54 protection grade, stronger environmental adaptability
- Off-grid cold start function

Economical & Intelligent

- The highest efficient power density, max. efficiency is 98.5%
- Low power consumption fan, with intelligent temperature control system

C&I Energy Storage System

Model	VTE-ESS50KR100C
PV Input	
Max. Power(KW)	50KW
Max. DC Voltage(V)	1000V
MPPT Voltage Range(V)	300V-1000V (450V-850V Full Load)
MPPT Tracker/Strings	1/1
Max. Input Current of Single MPPT(A)	80A
Battery Input	
Battery Type	Lithium Iron Phosphate(LiFePO4)
Battery Module	51.2V 130AH BYD Blade Battery Module
Battery Capacity(KWH)	100KWH
Nominal Voltage(V)	768V
Battery Voltage Range(V)	648V-912V
Number of Battery Clusters	1
Max. Input/Output Power(KW)	55KW
Max. Charge/Discharge Current (A)	82A
AC Output	
Rated Output Power(KW)	50KW
Max. Apparent Power(KVA)	55KVA
Max. Output Current(A)	80A
Grid voltage/range(V)	230V/400V, 230/400, 3W/N+PE
Frequency (Hz)	40050/60HzV
PF	< 1% Linear, < 5% No1 Lagging-1 Leadingn-linear
THDI	<3% (Rated Power)
EPS Output	
Rated Output Power(KW)	50KW
Max. Apparent Power(KVA)	55KVA
Max. Output Current(A)	80A
Rated Output Voltage(V)	230V/400V
Rated Frequency (Hz)	50/60HZ
THDU	<3% (Linear Load)
Overload Capacity (AC)	110%, Long-term
Protection	
Anti-Island Protection	Yes
DC Reverse Connection Protection	Yes
DC Surge Protection	Yes
AC Surge Protection	Yes
AC Overcurrent Protection	Yes
AC Short-circuit Protection	Yes
AC Overvoltage Protection	Yes
General Data	
Euro Efficiency	97%
Max. Efficiency	98.5%
Relative Humidity	5 ~95% (Non-condensing)
Altitude	4000m(>2,000 Derating)
Dimensions (W/D/H) mm	1360*1300*1950
Weight(KG)	About 1500KG
Inverter Topology	Transformerless
Ingress Protection	IP54
Fire Extinguishing System	Support
Operating Temperature	-30°C~55°C
PCS Cooling Way	Intelligent Fan
Battery Cooling Way	Intelligent Fan
Display and Communication	
Display	7 Inch Touch Screen
Battery Communication	CAN/RS485
Standards	
Inverter Grid Regulation	EN IEC 62109-1, EN IEC 62109-2, IEC 62116, G99
Battery Standards	UN38.3/MSDS/IEC62619/CE

100KW Outdoor Cabinet Type Energy Storage System(Liquid Cooling)

C&I energy storage | Rural power shortage | Off-grid island | Nomadic farm | Mine off-grid

Product Features

Simple and flexible

- Integrate PV, PCS and LiFePO4 Battery in one cabinet, support multiple battery access, and integrate EMS smart energy management system
- Wide PV input voltage range, wide battery voltage range
- With grid-connected charging and discharging, off-grid independent inverter function
- Simple structure, small footprint, flexible layout, easy installation operation and maintenance
- Modular design, power and capacity can be expanded
- Communication is flexible, can accept BMS instructions in real time, communication methods are RS485, CAN

Economical & Intelligent

- The highest efficient power density, max. efficiency is 98.5%
- Low power consumption safer liquid cooling system

Safe & Reliable

- Use of high performance DSP, optimized control circuit design, better performance, more stable and safe system
- More safety, longer life cycle ,more usable energy
- Built-in fire control, temperature control and warning system function for multiple security
- IP54 protection grade, stronger environmental adaptability;
- Off-grid cold start function

C&I Energy Storage System

Model	VTE-ESS100KR215C
PV Input	
Max. Power(KW)	100KW
Max. DC voltage (V)	1000V
MPPT voltage range(V)	300V-1000V (450V-850V Full Load)
MPPT Tracker	2
MPPT Strings	1/1
Max.Input Current of Single MPPT(A)	80A
Battery Input	
Battery type	Lithium Iron Phosphate(LiFePO4)
Battery Module	153.6V 280AH Lithium Liquid Cooling Battery Module
Battery Capacity(KWH)	215KWH
Nominal Voltage(V)	768V
Battery Voltage Range(V)	648V-912V
Number of Battery Clusters	1
AC Output	
Rated Output Power(KW)	105KW
Max. Apparent Power(KVA)	115.5KW
Max. Output Current(A)	167A
Grid Voltage/Range(V)	230V/400V, 230/400,3W/N+PE
Frequency (Hz)	50 /60Hz
PF	1 Lagging-1 Leading
THDI	<3% (Rated Power)
EPS Output	
Rated Output Power(KW)	105KW
Max. Apparent Power(KVA)	115.5KVA
Rated Output Voltage(V)	230/400V
Max. Output Current(A)	167A
Rated Frequency (Hz)	50/60HZ
THDU	<3% (Linear Load)
Overload Capacity (AC)	110%, Long-term
Protection	
Anti-Island Protection	Yes
DC Reverse Connection Protection	Yes
DC Surge Protection	Yes
AC Surge Protection	Yes
AC Overcurrent Protection	Yes
AC Short-circuit Protection	Yes
AC Overvoltage Protection	Yes
General Data	
Euro Efficiency	97%
Max Efficiency	98.5%
Relative Humidity	5 ~95% (Non-condensing)
Altitude	4000m(>2,000 Derating)
Dimensions (W/D/H) mm	Customize
Weight(KG)	Customize
Inverter Topology	Transformerless
Ingress Protection	IP54
Fire Extinguishing System	Support
Operating Temperature	-30°C~55°C
PCS Cooling Way	Air Cooling
Battery Cooling Way	Liquid Cooling
Display	7-inch Touch Screen
Battery Communication	CAN/RS485
Inverter Grid Regulation	EN IEC 62109-1, EN IEC 62109-2, IEC 62116, G99
Battery Standards	UN38.3/MSDS/IEC62619/CE

10ft Container Type Energy Storage system

C&I energy storage

Rural power shortage

Off-grid island

Nomadic farm

Mine off-grid

Product Features

Simple & flexible

- Standardized design, easy to expand and maintain
- Integrated monitoring system
- Independent air duct design, more stable operation

Economical & friendly

- Reduce the maximum demand cost and have considerable economic benefits
- Supports peak shaving and valley filling, dynamic expansion of transformers, etc

Safe and reliable

- Supports battery management system and comprehensive thermal management
- Improve fault classification protection mechanism
- BYD Blade Iron Phosphate (LFP) battery cell: High safety, long service life and high effective power
- BYD original BMS, all-round protection
- Built-in fire protection, temperature control, and early warning systems provide multiple safety guarantees
- Built-in isolation transformer, strong load adaptability
- Complete protection functions to protect the inverter and battery

C&I Energy Storage System

Model	VTE-ESS150KT300C
Battery	
Battery Type	Lithium Iron Phosphate(LiFePO4)
Battery Module	25.6V 310AH BYD Module
Battery Capacity(KWH)	317.44KWH
Nominal Voltage(V)	512V
Battery Voltage Range(V)	432V-608V
Number of Battery Clusters	2
Max. Charge/Discharge Current (A)	310A
AC （on-grid）	
Max Output Power(KVA)	165KVA
Rated Power(KW)	150KW
Rated Voltage(V)	400V
Voltage Range(V)	320V-460V
Rated Current(A)	216A
Max. Output Current(A)	238A
Frequency (Hz)	50/60Hz
Frequency Range(Hz)	45~55/55~65
THDI	<3%
Power Factor	1 Lagging-1 Leading
AC Connection	3W+N+PE
AC (Off Grid)	
Rated Voltage(V)	400V
THDU	< 1% Linear, < 5% Non-linear
Rated Frequency(Hz)	50/60Hz
Overload Capacity	110% Long-term
General Data	
Max Efficiency	97.1%
Ingress Protection	IP54
Fire Extinguishing System	Yes
Operating Temperature	-30~+55℃
PCS Cooling Way	Intelligent Fan
Battery Cooling Way	Air Conditioning Cooling
Relative Humidity	0-95% No Condensation
Altitude	4000m(>3,000 Derating)
Dimensions (L/W/H) MM	3210*2440*2600MM
Weight(kg)	About 4900KG
Transformer Ratio	270/400
On/ Off Grid Switching	Automatic
Display and Communication	
Display	LCD
BMS Communication	CAN/RS485
EMS Communication	RS485, TCP/IP
Certificates	
Inverter Grid Regulation	IEC/EN62109-1/-2;EN62477-1;IEC/EN61000-6-2/-6-4; EN50549-1;NRS 097-2-1:2017
Battery Standards	UN38.3/MSDS/IEC 62619:2022

20ft Container Energy Storage System

C&I energy storage | Rural power shortage | Off-grid island | Nomadic farm | Mine off-grid

Product Features

Simple and flexible

- High integration, small size, easy installation, operation and maintenance
- IP54 protection grade, stronger environmental adaptability
- Off-grid cold start function, support multimachine parallel function
- Simple structure, small footprint, flexible layout, easy installation, operation and maintenance
- Modular design, power and capacity can be expanded
- Communication is flexible, can accept BMS instructions in real time, communication methods are RS485, CAN

Economical & Intelligent

- Highest power density, maximum efficiency of 97.5%
- Reducing the maximum demand electricity cost, with considerable economic benefits
- Supporting peak shaving and valley filling, and dynamic expansion of transformers

Safe & Reliable

- built-in isolation transformer, high load adaptability
- Built-in fire protection, temperature control, and early warning systems provide multiple safety guarantees
- Supports battery management system and comprehensive thermal management
- Intelligent control system, which can be connected to the local monitoring system for unified management and control

Outdoor C&I Energy Storage System

Model	VTE-ESS250KT500C	VTE-ESS500KT1000C
Battery Input		
Battery Type	Lithium Iron Phosphate(LiFePO4)	
Battery Module	25.6V 310AH BYD Battery Module	
Battery Capacity (KWH)	523.776KWH	1047.552KWH
Nominal Voltage(V)	563.2V	
Battery Voltage Range(V)	475.2V~668.8V	
Number of Battery Clusters	3	6
AC data		
Max Output Power(KVA)	275KVA	550KVA
Rated Power(KW)	250KW	500KW
Rated Current(A)	361A	722A
Max. Output Current(A)	397A	794A
THDI	<3%	
Rated Voltage(V)	400V	
Voltage Range(V)	320V~460V	
Frequency (Hz)	50/60Hz	
Power Factor	1 Lagging~1 Leading	
AC Connection	3W+N+PE	
AC (Off Grid)		
Rated Voltage(V)	400V	
THDU	< 1% Linear, < 5% Non-linear	
Rated Frequency(Hz)	50/60Hz	
Overload Capacity	110%,Long-term	
General Data		
Display	LCD	
BMS Communication Mode	CAN, RS485	
EMS Communication Mode	RS485, TCP/IP	
Ingress Protection	IP54	
Fire Extinguishing System	Support	
Operating Temperature	-30~+55℃	
Dimension W*D*H (mm)	6058x2591x2896mm	
Weight (KG)	About 10540KG	About 15600KG
PCS Cooling Way	Temperature Control Intelligent Air Cooling	
Battery Cooling Way	Air Conditioning Cooling	
Altitude	4,500m (>3,000 Derating)	
Relative Humidity	0 ~95% Non-condensing	
Standard		
Inverter Grid Regulation	IEC/EN62109-1/-2; EN62477-1; IEC/EN61000-6-2/-6-4; EN50549-1;NRS 097-2-1:2017	
Battery Standards	UN38.3/MSDS/IEC 62619:2022	

20ft Container Energy Storage System(Liquid Cooling)

PV charging station

Wind power storage

Combined thermal power FM

Grid-side storage

Product Features

Simple & flexible

- IStandardized design, easy to expand and maintain
- Integrated monitoring system
- Independent air duct design, more stable operation

Economical & friendly

- Reduce the maximum demand cost and have considerable economic benefits
- Supports peak shaving and valley filling, dynamic expansion of transformers, etc

Safe and reliable

- Supports battery management system and comprehensive thermal management
- Perfect fault classification and protection mechanism
- Built-in fire protection, temperature control, and early warning systems provide multiple safety guarantees
- Built-in isolation transformer, strong load adaptability
- Complete protection functions to protect the inverter and battery

C&I Energy Storage System

Model	VTE-ESS500KT2MWH
Battery Input	
Battery Type	Lithium Iron Phosphate(LiFePO4)
Battery Module	153.6V 280AH Lithium Module
Battery Capacity(KWH)	2064.384KWH
Nominal Voltage(V)	614.4V
Battery Voltage Range(V)	518.4V-729.6V
Number of Battery Clusters	12
Max. Charge/Discharge Current (A)	160A
AC（on-grid）	
Max Output Power(KVA)	550KVA
Rated Power(KW)	500KW
Rated Voltage(V)	400V
Voltage Range(V)	320V-460V
Rated Current(A)	722A
Max. Output Current(A)	794A
Frequency (Hz)	50/60Hz
THDI	<3%
Power Factor	1 Lagging-1 Leading
AC Connection	3W+N+PE
AC (Off Grid)	
Rated voltage(V)	400V
THDU	< 1% Linear, < 5% Non-linear
Rated frequency(Hz)	50/60Hz
Overload capacity	110% Long-term
General Data	
Max Efficiency	97.5%
Ingress Protection	IP54
Fire Extinguishing System	Yes
Operating Temperature	-30~+55℃
PCS Cooling Way	Intelligent Fan
Battery Cooling Way	Liquid Cooling
Relative Humidity	0-95% No Condensation
Altitude	4000m(>3,000 Derating)
Dimensions (W/D/H) MM	6058*2438*2896MM
Weight(T)	About 23T
Transformer Ratio	315/400
On/ Off Grid Switching	Automatic
Display and Communication	
Display	LCD
BMS Communication	RS485/CAN
EMS Communication	RS485, TCP/IP
Standard	
Inverter Grid Regulation	IEC/EN62109-1/-2;EN62477-1;IEC/EN61000-6-2/-6-4; EN50549-1;NRS 097-2-1:2017
Battery Standards	UN38.3/MSDS/IEC 62619:2022

40ft Container Energy Storage system

C&I energy storage | Rural power shortage | Off-grid island | Nomadic farm | Mine off-grid

Product Features

Simple and flexible

- High integration, small size, easy installation, operation and maintenance
- IP54 protection grade, stronger environmental adaptability
- Off-grid cold start function, support multimachine parallel function
- Simple structure, small footprint, flexible layout, easy installation, operation and maintenance
- Modular design, power and capacity can be expanded
- Communication is flexible, can accept BMS instructions in real time, communication methods are RS485, CAN

Economical & Intelligent

- Highest power density, maximum efficiency of 97.5%
- Reducing the maximum demand electricity cost, with considerable economic benefits
- Supporting peak shaving and valley filling, and dynamic expansion of transformers

Safe & Reliable

- built-in isolation transformer, high load adaptability
- Built-in fire protection, temperature control, and early warning systems provide multiple safety guarantees
- Supports battery management system and comprehensive thermal management
- Intelligent control system, which can be connected to the local monitoring system for unified management and control

Outdoor C&I Energy Storade Systeys

Model	VTE-ESS1000KT1000C
Battery Input	
Battery Type	Lithium Iron Phosphate(LiFePO4)
Battery Module	25.6V 310AH BYD Battery Module
Battery Capacity (KWH)	1047.552KWH
Nominal Voltage(V)	563.2V
Battery Voltage Range(V)	475.2V~668.8V
Number of Battery Clusters	6
AC data	
Max Output Power(KVA)	550KVA*2
Rated Power(KW)	500KW*2
Rated Current(A)	722A*2
Max. Output Current(A)	794A*2
Rated Voltage(V)	400V
Voltage Range(V)	320V~460V
Frequency (Hz)	50/60Hz
THDI	<3%
Power Factor	1 Lagging~1 Leading
AC Connection	3W+N+PE
AC (Off Grid)	
Rated Voltage(V)	400V
THDU	< 1% Linear, < 5% Non-linear
Rated Frequency(Hz)	50/60Hz
Overload Capacity	110%,Long-term
General Data	
Display	LCD
BMS Communication Mode	CAN, RS485
EMS Communication Mode	RS485, TCP/IP
Ingress Protection	IP54
Fire Extinguishing System	Support
Operating Temperature	-30~+55℃
Dimension W*D*H (mm)	12192x2591x2896MM
Weight (KG)	About 10540KG
PCS Cooling Way	Temperature Control Intelligent Air Cooling
Battery Cooling Way	Air Conditioning Cooling
Altitude	4,500m (>3,000 Derating)
Relative Humidity	0 ~95% Non-condensing
Standard	
Inverter Grid Regulation	IEC/EN62109-1/-2; EN62477-1; IEC/EN61000-6-2/-6-4; EN50549-1;NRS 097-2-1:2017
Battery Standards	UN38.3/MSDS/IEC 62619:2022

Single-phase Hybrid Inverter

Villa

Residential electricity

Nomadic farm

Base station

Product Features

PV & Storage System

- Integrated PV and energy storage,support for a variety of batteries,integrated EMS Smart energy management system
- Wide PV input voltage range 125V to 500V

Friendly & flexible

- Supporting multiple parallel connections, power and capacity can be expanded
- Support on/off-grid automatic switching function to ensure uninterrupted power when important loads are off-grid

Safe & Reliable

- IP65 protection,all-aluminum design,built-in lightning protection,high precision leakage protection
- Passed CE, IEC and grid connection test certification in Europe, South Africa, Germany and other countries

Smart & Simple

- Support intelligent EMS management function
- Support flexible access of diesel generator

Residential Hybrid Solar Inverter

model	VTE3K-D1	VTE3.6K-D1	VTE4K-D1	VTE4.6K-D1	VTE5K-D1	VTE6K-D1
Input (PV)						
Max. input power(KW)	4.6KW		6KW		7KW	
Max. DC voltage(V)	550V					
MPPT voltage range(V)	125~550V					
Max.input current of single MPPT(A)	14A					
MPPT tracker/strings	2/1					
AC output						
Rated output power(KVA)	3KVA	3.68KVA	4KVA	4.6KVA	5KVA	6KVA
Max. output current(A)	13A	16A	17.4A	20A	21A	26A
Grid voltage/range(V)	230/176~270V					
Frequency (HZ)	50 /60					
PF	0.8lagging-0.8leading					
THDI	<3%					
AC output topology	L+N+PE					
Battery						
Battery voltage range(V)	40~58V					
Max. charging voltage(V)	58V					
Max. charge/discharge current(A)	95A/52.2A	95A/75A	95A/83.3A	95A/95.8A	95A/104.2A	95A/110A
Battery type	Lithium /Lead-acid					
Communication interface	CAN/RS485					
EPS output						
Rated power (KVA)	3KVA	3.68KVA	4KVA	4.6KVA	5KVA	6KVA
Rated output voltage(V)	230Vac					
Rated output current(A)	13A	16A	17.4A	20A	21.7A	26A
Rated frequency (HZ)	50 /60Hz					
Automatic switching time (MS)	<20ms					
THDU	<2%					
Overload capacity	110%, 30S/120%, 10S/150%, 0.02S					
General data						
Battery charge/dischargeefficiency	95%					
DC Max. efficiency	97.6%					
Europe efficiency	97.7%					
MPPT efficiency	99.9%					
Ingress protection	IP65					
Noise emission (DB)	<35DB					
Operation temperature	-25~+60℃					
Cooling	Natural					
Relative humidity	0 ~95% (non-condensing)					
Altitude	2,000m(>2,000 Derating)					
Dimensions W*D*H (MM)	550/200/515mm					
Weight (KG)	25KG					
Self-consumption(W)	<3W					
Display and communication						
Display	LCD					
Interface RS485/WiFi/4G/ CAN/DRM	Yes/ Opt/ Opt/ Yes/ Yes					
Safety standard	IEC/EN62109-1/-2, IEC/EN62477-1					
EMC	IEC/EN 61000-6-1, IEC/EN 61000-6-3					
On-grid	South Africa NRS097-2-1:2017, UK G98,G99					

Single-phase Hybrid Inverter

Villa

Residential electricity

Nomadic farm

Base station

Product Features

Simple & flexible

- Complete functional protection measures

Intelligent & efficient

- Max.charging/discharging current up to 250A
- Multiple working modes are optional
- Support WIFI,GPRS,4G,APP

Friendly & flexible

- LCD or touch panel are optional
- Support diesel generator connection
- Support the parallel function
- 4 MPPT trackers

Residential Hybrid Solar Inverter

Model	VTE7.6K-D1	VTE8K-D1	VTE10K-D1	VTE12K-D1
Input (PV)				
Max. input power(KW)	12KW	12KW	13KW	15.6KW
Max. DC voltage (V)	500V			
MPPT voltage range(V)	120V-500V			
Max.input current of single MPPT(A)	12A			
MAX. short circuit current(A)	15A			
AC output				
Rated output power(KVA)	7.6KVA	8KVA	10KVA	12KVA
Max. output power(KVA)	8.4KVA	8.8KVA	11KVA	13.2KVA
Max. output current(A)	36.3A	38.3A	47.8A	57.4A
Ac output voltage(V)	220V, 230V, 240V			
Frequency(HZ)	50Hz/60Hz (45 ~ 55, 55 ~ 65)			
PF	0.8lagging-0.8leading			
THDi	< 2%			
EPS output				
Rated power (KVA)	7.6KVA	8KVA	10KVA	12KVA
Rated output voltage(V)	220V, 230V, 240V			
Rated frequency(HZ)	50 /60Hz			
THDu	< 2%			
Battery				
Battery voltage range(V)	40V~60V			
Nominal voltage (V)	48V			
Max. charge/discharge current(A)	190/190A	190/190A	210/210A	250/250A
Battery type	lithium /Lead-acid			
Charging strategy for Li-Ion battery	Self-adaption to BMS			
Protection				
Grounding detection	YES			
Arc fault protection	Optional			
Island protection	YES			
Battery reverse polarity	YES			
Insulation resistor detection	YES			
Residual current monitoring unit	YES			
Output over current protection	YES			
Back-up output short protection	YES			
Output over voltage/under voltage protection	YES			
General data				
Europe efficiency (PV)	⩾97.8%			
MAX. battery to load efficiency	⩾97.2%			
Ingress protection	IP65			
Noise emission(DB)	<38dB			
Operation temperature	-25℃ ~ 60℃			
Cooling	FAN Cooling			
Relative humidity	0 ~95% (non-condensing)			
Altitude	2,000m (>2,000 Derating)			
Dimensions W *D *H (MM)	430*220*710MM			
Weight(KG)	41KG			
Display	LCD, Touch panel (optional)			
Communication with BMS meter/EMS	RS485, CAN			
Communication interface	RS485, WLAN, 4G (optional)			
Self-consumption at night	< 2.5 W (with battery enabling < 5 W)			
Certificates	South Africa NRS, IEC 62109-1/-2, IEC 61000-6-1, IEC 61000-6-3			

Three-phase Hybrid Inverter

Villa

Residential electricity

Nomadic farm

Base station

Product Features

PV & Storage System

- Integrated PV and energy storage,support for a variety ofbatteries.Integrated EMS Smart energy management system

Safe & Reliable

- IP65 protection, all-aluminum design, built-in lightning protection, high precision leakage protection
- Passed CE, IEC and grid connection test certification in Europe, South Africa, Germany and other countries

Friendly & flexible

- Supporting multiple parallel connections, power and capacity can be expanded
- Wide PV input voltage range 180V to 850V
- Support diesel generator access

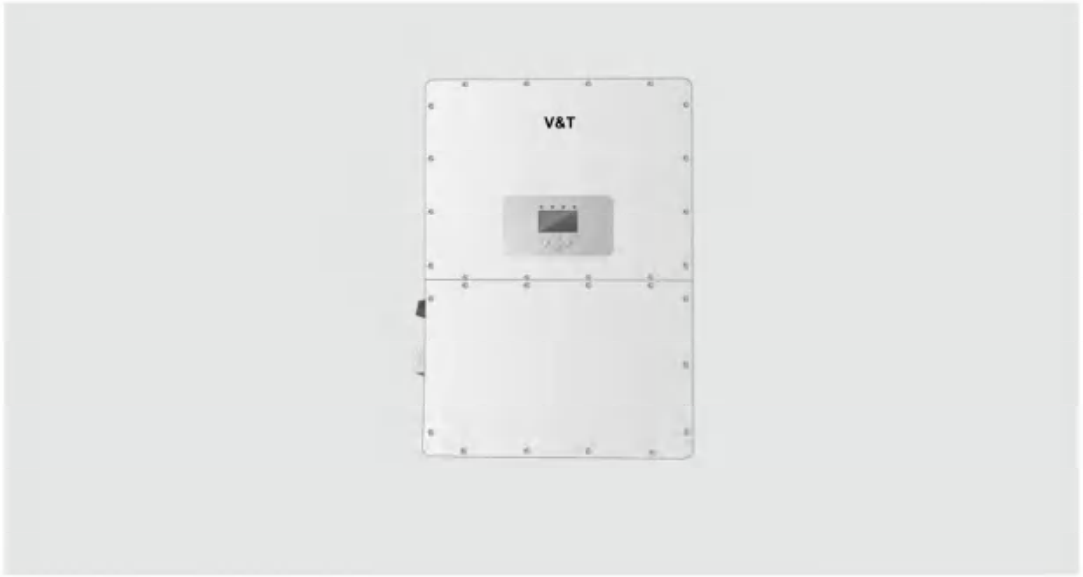
Smart & Simple

- Support intelligent EMS management function;
- Support on/off-grid automatic switching function to ensure uninterrupted power when important loads are off-grid

Residential Hybrid Solar Inverter

Model	VTE8K-G3	VTE10K-G3	VTE12K-G3	VTE15K-G3
Input (PV)				
Max. input power(KW)	12KW	15KW	18KW	22.5KW
Max. DC voltage (V)	1000V			
MPPT voltage range(V)	180V-850V			
Max.input current of single MPPT(A)	13A			
MPPT tracker/strings	2/1			2/2
AC output				
Rated output power(KVA)	8KVA	10KVA	12KVA	15KVA
Max. output current(A)	12.7A	15.9A	19.1A	23.8A
Ac output voltage(V)	400V /360V~440V			
Frequency(HZ)	50 /60HZ			
PF	0.8lagging-0.8leading			
THDI	<3%			
AC output topology	3W+N+PE			
Battery				
Battery voltage range(V)	125V~600V			
Max. charging voltage(V)	600V			
Full battery voltage(V)	210V	270V	300V	375V
Rated charge/discharge current(A)	50A			
Battery type	Lithium /Lead-acid			
Communication interface	CAN/RS485			
EPS Output				
Max. output power (KVA)	8.8KVA	11KVA	13.2KVA	16.5KVA
Rated output voltage(V)	400Vac			
Max. output current(A)	12.7A	15.9A	19.1A	23.8A
Rated frequency (HZ)	50Hz /60Hz			
Automatic switching time (MS)	<20ms			
THDU	<2%			
Overload capacity	110%, 30S/120%, 10S/150%, 0.02S			
General Data				
Battery Charge/Discharge	97.5%	97.5%	97.6%	97.8%
DC Max. Efficiency	97.9%	98.2%	98.2%	98.9%
Euro Efficiency	97.2%	97.5%	97.5%	97.6%
MPPT Efficiency	99.9%	99.9%	99.9%	99.9%
Protection class	IP65			
Noise Emission (Typical)	35dB			
Operation Temperature	-25~+60℃			
Cooling	Natural			
Operation Temperature	-35℃ ~ 60℃			
Relative Humidity	0~100% (non-condensing)			
Altitude	2000m(>2,000 Derating)			
Dimensions (W/D/H) MM	530*220*560mm			
Weight(KG)	30KG	30KG	31KG	32KG
Isolation transformer	No			
Self-Consumption	<3W			
General Data				
Display	LCD/APP			
Interface(RS485/WiFi/LAN/CAN/DRM	yes /opt/opt/yes/yes			
Safety standard	IEC/EN62109-1/-2, IEC/EN62477-1			
EMC	IEC/EN 61000-6-1, IEC/EN 61000-6-3			
On-grid	Europe:EN50549-1, Germany:VDE4105/0124, UK:G99, South Africa:NR5097-2-1:2017			

Three Phase Hybrid Inverter 30KW-60KW



PV charging station

Residential electricity

Nomadic farm

back up power

Grid-side storage

Product Features

Safe & reliable

- IP65 protection, aluminum housing, built-in lightning protection, high-precision leakage protection

Friendly & flexible

- Integrate PV and storage system modem
- Support full power discharge, automatic management of battery charge and discharge
- Wide PV and battery voltage input range
- Support multiple parallel connections

Economical & practical

- It is more economical to support multiple operating modes
- Can be as a UPS for the important loads when power off
- Support intelligent EMS management function
- Support on/off-grid automatic switching function to ensure uninterrupted power when important loads are off-grid

C&I Energy Storage Inverter

Model	VTE30K-G3	VTE38K-G3	VTE44K-G3	VTE55K-G3
Battery Input Date				
Battery Type	Li-Ion			
Battery Voltage Range(V)	160~800			
Max.Charging Current(A)	50+50			
Max.Discharging Current(A)	50+50			
Max.Charging/Discharging Power(W)	33000	38500	44000	55000
Number of battery input	2			
Charging Strategy for Li-ion Battery	Self-adaption to BMS			
PV String Input Data				
Max.DC Input Power(W)	39000	45000	52000	65000
Max.DC Input Voltage(V)	1000			
Start-up Voltage(V)	180			
MPPT Range(V)	150-850			
Full Load DC Voltage Range(V)	360-850	420-850	380-850	450-850
Rated DC Input Voltage (V)	600			
PV Input Current(A)	36+36+36		36+36+36+36	
Max.PV Isc(A)	55+55+55		55+55+55+55	
No.of MPPT Trackers	3		4	
No.of MPPT Trackers	2+2+2		2+2+2+2	
AC Output Data				
Rated AC Output and UPS Power(W)	30000	35000	40000	50000
Max. AC Output Power(W)	33000	38500	44000	55000
Peak Power(off grid)	1.5 time of rated power,10 S			
AC Output Rated Current(A)	45.5/43.5	53.1/50.8	60.7/58.0	75.8/72.5
Max. AC Current(A)	50/47.9	58.4/55.8	66.7/63.8	83.4/79.8
Max. Three-phase Unbalanced Output Current (A)	60	60	70	83.3
Max.Continuous AC Passthrough(A)	200			
Power Factor	0.8 leading to 0.8 lagging			
Output Frequency and Voltage	50/60Hz; 3L/N/PE 220/380, 230/400Vac			
Grid Type	Three Phase			
Total Harmonic Distortion(THD)	<3% (of nominal power)			
DC current injection	<0.5%In			
Efficiency				
Max. Efficiency	97.60%			
Euro Efficiency	97.00%			
MPPT Efficiency	>99%			
Protection				
PV Input Lightning Protection	Integrated			
Anti-islanding Protection	Integrated			
PV String Input Rewes Polarity Protection	Integrated			
Insulation Resistor Detection	Integrated			
Residual Current Monitoring Unit	Integrated			
Output Over Current Protection	Integrated			
Output Shorted Protection	Integrated			
Over Voltage Category	DC Type II / AC Type III			
Split Over Current Protection	Fuses			
Certifications and Standards				
Grid Regulation	[illegible]			
EMC/Safety Regulation	[illegible]			
General Data				
Operating Temperature Range(℃)	-40~60℃, >45℃ Derating			
Cooling	Smart cooling			
Noise(dB)	≤65 dB			
Communication with BMS	RS485; CAN			
Weight(kg)	80			
Control size(mm)	527W×894H×294D (Excluding connectors and brackets)			
Protection Degree	IP65			
Permissible Altitude	2000m			
Installation Style	Wall-mounted			
Warranty	5 years			

American Split Phase Hybrid Inverter
（battery voltage:48V）

Villa

Residential electricity

Nomadic farm

Base station

Product Features

Safe & reliable

- Passed UL 1741:2021, IEEE 1547.1, UL1699B, South Africa NRS097-2-1:2017 test certification

Friendly & flexible

- Support multi-machine parallel connection, the maximum parallel connection can reach 8
- Support multi-machine parallel mode sharing abattery pack; Single-machine load capacity 100A
- 4 independent MPPT design, making full use of light energy in different directions

Economical & efficient

- Support parallel SOC equalization control and parallel current sharing control;
- Using split-phase topology and eliminating the transformers, to make the system efficiency higher;
- Support the diesel generator and the grid access at the same time
- Maximum efficiency up to 98.2%

Residential Hybrid Solar Inverter

Model	VTE5K-DA	VTE6K-DA	VTE8K-DA	VTE10K-DA
Input (PV)				
Max. power(kW)	7.5kw	9kw	12kw	13kw
MPPT voltage range(V)	120 - 500V			
Max. DC voltage (V)	500V			
Max.input current of single MPPT(A)	12A			
MPPT tracker/strings	4/1			
AC output				
Rated output power(kVA)	5KVA	6KVA	8KVA	10KVA
Max. output current(A)	24A	28.8A	38.3A	47.8A
Ac output voltage(V)	120/240(split phase), 208(2/3 phase), 230 (single phase)			
Frequency (Hz)	50/60Hz			
Power factor	0.8leading...0.8lagging			
THDI	< 3%			
AC output topology	Split phase, 2/3 phase, single phase			
Battery				
Battery voltage range(V)	40V~58V			
Max. charging voltage(V)	58V			
Max. charge/discharge current(A)	120A/120A	135A/135A	190A/190A	210A/210A
Battery type	Lithium/Lead-acid			
Communication	CAN/RS485			
EPS output				
Rated power(kVA)	5KVA	6KVA	8KVA	10KVA
Rated output voltage(V)	120/240 (split phase), 208 (2/3 phase), 230 (single phase)			
Rated output current(A)	22.9A	27.5A	36.7A	45.8A
Rated frequency(Hz)	50/60Hz			
Automatic switching time(ms)	<20ms			
Output THDu	<2%			
Overload capacity	110%,30S/120%,10S/150%,0.02S			
General data				
Max efficiency	≥98.2%			
North American efficiency	≥97.2%			
Ingress protection	IP65/NEMA 3R			
Noise emission(dB)	<25dB	<29dB	<29dB	<29dB
Cooling	Natural			
Operation temperature	-25°C ~ 60°C			
Relative humidity	0-95% (non-condensing)			
Altitude	2,000m(>2,000 Derating)			
Weight(kg)	41kg			
Dimensions W *D *H (mm)	430*220*710MM			
Isolation transformer	No			
Self-consumption(W)	<3w			
Display and communication				
Display	LCD, touch screen			
Interface:RS485/Wi-Fi/GPRS/CAN	Yes			
Safety standard	UL1741SA all options, UL1699B, CSA 22.2			
EMC	FCC Part 15, Class B			
On-grid	IEEE 1547, IEEE 2030.5, Hawaii Rule 14H, Rule 21 Phase I,II,III,NRS			

American ESS Split Phase inverter
（battery voltage＞80V）

Residential electricity

Nomadic farm

Back up power

Product Features

Flexible & efficient

- ISupport full power charge and discharge, better charge and discharge efficiency
- Wide battery input range, compatible with a variety of lithium batteries and lead-acid
- Maximum efficiency up to 98.2%

Intelligent & friendly

- Customizable I / O interface, more flexible application
- Support remote monitoring, remote upgrade and automatic battery management

Safe & reliable

- Passed UL 1741:2021, IEEE 1547.1, UL1699B test certification With over-voltage, over-current, over-temperature protection, compatible with anti-zero export function
- Battery reverse connect protection, the charge and discharge are controlled by intelligent software to improve the battery life

Residential Hybrid Solar Inverter

Model	VTE6K-GA	VTE8K-GA	VTE10K-GA	VTE12K-GA
Input (PV)				
Max. input power(KW)	7.8KW	10.4KW	13KW	15.6KW
Max. DC voltage (V)	500V			
MPPT voltage range(V)	120 - 500V			
Max.input current of single MPPT(A)	12A			
MPPT tracker/strings	4/1			
AC output				
Rated output power(KVA)	6KVA	8KVA	10KVA	12KVA
Max. output power(KVA)	27.3A	36.4A	45.4A	50A
Max. output current(A)	240V/211V~264V			
Ac output voltage(V)	50 /60HZ			
Frequency(HZ)	0.8lagging-0.8leading			
AC output topology	<3%			
AC output topology	L+N+PE			
Battery				
Battery voltage range(V)	85V~400V			
Max. charging voltage(V)	400V			
Full battery voltage(V)	85V	110V	140V	160V
Rated charge/discharge current(A)	80 A / 80 A			
Battery type	lithium /Lead-acid			
Communication interface	CAN/RS485			
EPS Output				
Rated power(kVA)	6KVA	8KVA	10KVA	12KVA
Rated output voltage(V)	220-240 /110-120			
Rated frequency(HZ)	50/60HZ			
Automatic switching time(MS)	<20MS			
THDu	< 2%			
Overload capacity	110%,30S/120%,10S/150%,0.02S			
General Data				
Max. efficiency	⩾98.2%			
CEC efficiency	⩾97.2%			
Ingress protection	IP65/NEMA 3R			
Noise emission(DB)	<25DB	<25DB	<29DB	<29DB
Operation temperature	-25℃~60℃			
Cooling	Natural			
Relative humidity	0 ~95% (non-condensing)			
Altitude	2,000m(>2,000 Derating)			
Weight(KG)	32KG			
Dimensions W*D*H (MM)	530* 200* 660MM			
Display and communication				
Display	LCD			
Interface:RS485/WIFI 4G/CAN/DRM	Yes/ Opt/ Opt/ Yes/ Yes			
Standby power consumption at night(W)	< 2.5 w(With the battery < 5 W)			
Isolation transformer	yes			
Safety standard	UL1741SA all options, UL1699B, CSA 22.2			
EMI	FCC Part 15, Class B			
On-grid	IEEE 1547, IEEE 2030.5, Hawaii Rule 14H, Rule 21 Phase I,II,III			

VTE Hybrid Inverter

Rural power shortage

Off-grid island

Nomadic farm

Mine off-grid

Product Features

Safe & reliable

- Built-in isolation transformer for high load adaptability
- Perfect protection function for inverter and battery
- Redundancy design for important functions

Intelligent & efficient

- Support battery capacity and discharge time prediction
- Smooth switching between on and off grid, uninterrupted supply of load
- Operate with EMS to monitor system status in real time

Abundant configuration

- Integrated design, easy to integrate
- Support simultaneous access of load,battery,power grid , diesel and PV
- Built-in maintenance bypass switch, improve system availability

Friendly & flexible

- Various working modes can be set flexibly
- PV controller modular design, easy to expand
- Flexible Battery Type(Li-ion,lead-acid)

C&I Energy Storage Inverter

Model	VTE-30KS-CP	VTE-50KS-CP	VTE-100KS-CP	VTE-150KS-CP	VTE-250KS-CP	VTE-500KS-CP
AC(on-grid)						
Max output power(KVA)	33KVA	55KVA	110KVA	165KVA	275KVA	550KVA
Max output power(KVA)	30KW	50KW	100KW	150KW	250KW	500KW
Rated voltage(V)	400V					
Rated current (A)	43A	72A	144A	216A	361A	722A
Voltage range(V)	320V-460V					
Rated frequency (HZ)	50/60Hz					
Frequency range(HZ)	45-55/55-65HZ					
THDI	<3%					
Power factor	1lagging-1leading					
AC connection	3W+N+PE					
Transformer ratio	100/400	200/400	270/400	270/400	270/400	315/400
AC output						
Max output power(KVA)	33KVA	55KVA	110KVA	165KVA	275KVA	550KVA
Rated power(KW)	30KW	50KW	100KW	150KW	250KW	50KW
Rated voltage(V)	400V					
Rated current(A)	43A	72A	144A	217A	361A	722A
THDU	≤1% linear; or≤5% nonlinear					
Rated frequency(HZ)	50/60HZ					
Overload capacity	110% long-term					
Photovoltaic input						
Max.PV input voltage(V)	1000VDC					
Max.PV power(KW)	60/120KW		120/180/240KW		300/360KW	600/660/720KW
MPPT voltage range(V)	200VDC-850VDC					
MPPT voltage range@full load (V)	450VDC-850VDC					
Battery						
Battery voltage range(V)	250V-850V	320V-850V	420V-850V	420VDC-850VDC	420VDC-850VDC	500VDC-850VDC
Max. charging power(KW)	60/120KW		120/180/240KW		300/360KW	600/660/720KW
General data						
Dimension W*D*H(MM)	800/800/1900MM		1200/800/2050MM		(600*720*2050)*1+ 1200*800*2050	(600*720*2050)*2+ 1600*1050*2050
Weight(KG)	620kg/650kg	720kg/750kg	1120kg/1150k/1180kg	1250kg/1280kg/1310KG	1980kg/2010KG	2265kg/2295kg/2325kg
Operation temperature	-30℃ to +55℃					
Relative humidity	0 ~95% non condensing					
Ingress protection	IP20					
Noise emission(dB)	<70dB					
Altitude	5,000m(>3,000 Derating)					
Cooling	Air Cooling					
Display and communication						
Display	LCD touch-screen					
BMS communication	RS485/CAN					
EMS communication	RS485, TCP/IP					
Certificates	EN62109-1/-2, EN62477-1, EN61000-6-2, EN61000-6-4, South Africa NRS097-2-1:2017, Pakistan & India IEC61727, IEC62116,IEC 61683					

Power Conversion System（with transformer）

C&I energy storage

Mirco grid energy storage

PV charging system

Product Features

Friendly & flexible

- Wide battery voltage range, support multiple battery access
- Reactive power, active power adjustable
- Off-grid cold start function, support multi-machine parallel function

Intelligent & efficient

- Highest power density, maximum efficiency of 97.5%
- With grid-connected charging and discharging, off-grid independent inverter function

Safe & reliable

- built-in isolation transformer, high load adaptability
- AC/DC dual backup for auxiliary power supply

C&I Energy Storage Inverter

Model	VTE-30KT-CP	VTE-50KT-CP	VTE-100KT-CP	VTE-150KT-CP	VTE-250KT-CP	VTE-500KT-CP
DC(battery)						
Voltage range (V)	250V-850V	320V-850V	420V-850V	420V-850V	420V-850V	500V-850V
Max. Current (A)	137A	178A	270A	405A	673A	1128A
AC(on-grid)						
Max output power(KVA)	33KVA	55KVA	110KVA	165KVA	275KVA	550KVA
Rate output power(KW)	30KW	50KW	100KW	150KW	250KW	500KW
Rated voltage(V)	400V					
Voltage range(V)	320V-460V					
Rated current(A)	43A	72A	144A	216A	361A	722A
Max. output current(A)	48A	80A	159A	238A	397A	794A
Rated frequency (HZ)	50/60HZ					
Frequency range (HZ)	45-55/55-65HZ					
THDI	<3%					
Power factor	1lagging-1leading (Settable)					
AC connection	3W+N+PE					
AC(off grid)						
Rated current(A)	400V					
THDU	<1% Linear <5% Nonlinear					
Rated frequency(HZ)	50/60HZ					
Overload capacity	110% long-term					
General data						
Max efficiency	96.3%	96.5%	97.1%	97.1%	97.3%	97.5%
Ingress protection	IP21					
Noise emission(DB)	<70DB					
Operating temperature	−30~+55℃					
Cooling	Temperature control intelligent air cooling					
Relative humidity	0 ~95% non-condensing					
Altitude	5000m(>3000m Derating)					
Dimension W*D*H (MM)	800×800×1900MM	800×800×1900MM	800×800×2050MM	800×800×2050MM	1200×800×2050MM	1600×1050×2050MM
Weight(KG)	605KG	676KG	936KG	1057KG	1582KG	2665KG
Transformer ratio	100/400	200/400	270/400	270/400	270/400	315/400
Self-consumption (W)	<10W					
On Off grid switching	Automatic					
Display and communication						
Display	LCD touch-screen					
BMS communication	RS485/CAN					
EMS communication	RS485, TCP/IP					
Certificates	IEC/EN62109-1/-2, IEC/EN 62477-1, IEC/EN 61000-6-2, IEC/EN 61000-6-4,CGC					

Power Conversion System（without transformer）

PV powerstation energy storage

Wind power storage

Combined thermal power FM

Grid-side storage

Product Features

Friendly & flexible

- Wide battery voltage range, support multiple battery access
- Reactive power, active power adjustable
- Off-grid cold start function, support multi-machine parallel function

Intelligent & efficient

- Highest power density, maximum efficiency of 98.7%
- Low power consumption fan, with intelligent temperature control system
- With grid-connected charging and discharging off-grid independent inverter function

Safe & reliable

- High performance DSP, optimized control circuit design, high reliable system
- Patented control detection algorithm to ensure equipment failure diagnose
- AC/DC dual backup for auxiliary power supply

C&I Energy Storage Inverter

Model	VTE-500K-CP	VTE-630K-CP
DC(battery)		
Voltage range(V)	600V-900V	
Max. current (A)	935KW	1179KW
AC(on-grid)		
Max output power(KVA)	550A	693A
Rate output power(KW)	500KW	630KW
Rated voltage(V)	400V	
Voltage range(V)	320V-460V	
Rated current(A)	722A	909A
Max. output current (A)	800A	1000A
Rated frequency (HZ)	50/60HZ	
Frequency range(HZ)	45-55/55-65HZ	
THDI	<3%	
Power factor	1lagging-1leading (Settable)	
AC connection	3W+PE	
AC(off grid)		
Rated voltage(V)	400V	
THDU	<1% Linear <5% Nonlinear	
Rated frequency(HZ)	50/60HZ	
Overload capacity	110% long-term	
General data		
Max.efficiency	98.7%	
Ingress protection	IP21	
Noise emission(DB)	<70DB	
Operating temperature	-30~+55℃	
Cooling	Forced air	
Relative humidity	0 -95% non-condensing	
Altitude	5000m(>3000 Derating)	
Dimension W*D*H (MM)	1200×800×2050MM	
Weight(KG)	950KG	
Transformer	No	
Self-consumption(W)	<10W	
Display and communication		
Display	LCD touch screen	
BMS communication	RS485/CAN	
EMS communication	RS485, TCP/IP	
Certificate	IEC/EN62109-1/-2, IEC/EN 62477-1, IEC/EN 61000-6-2, IEC/EN 61000-6-4,CGC	

51.2V 120AH/130AH/140AH BYD Blade LiFePO4 Battery Module

Low-voltage household energy storage

High-voltage household energy storage

C&I energy storage

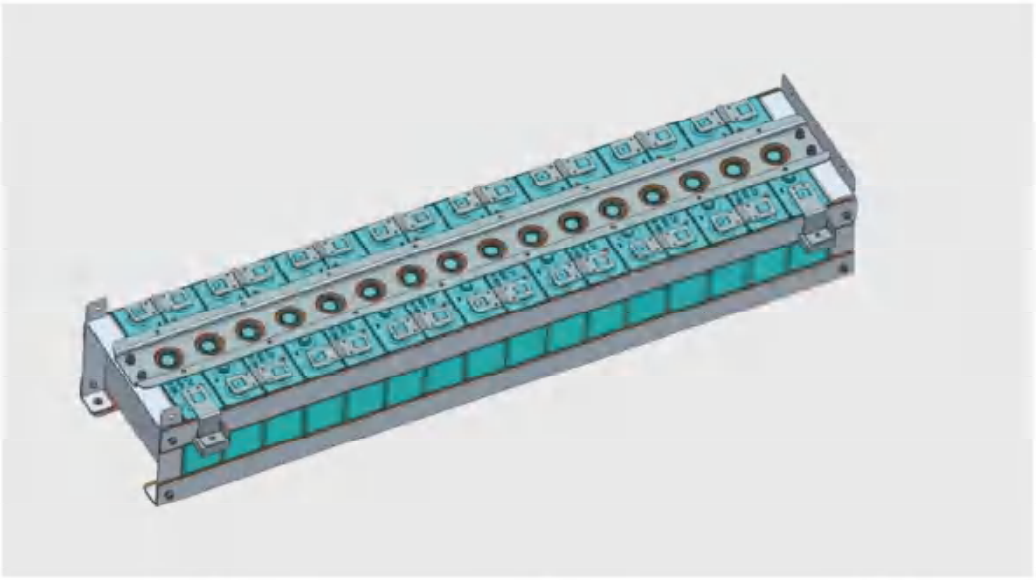
Product Features

- Vehicle grade blade cell, higher quality
- Lithium iron phosphate system, higher safety
- Good temperature performance, wide operating temperature range
- High energy density and environment-friendly
- Extremely simplified design, high flexibility

BYD LiFePO4 Battery Module

Model	51.2V 120AH	51.2V 130AH	51.2V 140AH
Basic Specification			
Nominal Voltage(V)	51.2V		
Nominal capacity(AH)	120AH	130AH	140Ah
Structure Specification			
Length(MM)	1006.8±3MM		1020±3MM
Width(MM)	260.0±3MM		266.7±3MM
Height(MM)	94.7±3MM		95.2±3MM
Weight(KG)	About 46KG		About 46.5KG
Electrical Specification			
Standard charging mode	CC/CP/VP		
Charging current	100A(Maximum continuous charging current) @25°C		
Charge limit voltage(V)	3.8V/CELL		
Standard discharging mode	CC/CP/VP		
Max. constant discharging current(A)	100A (Maximum continuous discharge current) @25°C		
Discharge cut-off voltage (V)	2.7V/CELL		
Operating conditions			
Working temperature	charging :0~+50°C		
	discharging: -20~+55°C		
Storage temperature	Short term storage: -10~+55°C (<3 months, SOC: 20%~60%)		
	Long term storage :-10~+40°C (<1year, SOC:30%~60%)		
Storage humidity	5%~95%		
Shipping status	Shipping state voltage(V):3.20~3.30V/CELL		
	SOC:20%~40%		
Output connection	Hexagon head bolt, Spring washer, Flat washer assembly-M6*12		
Sampling line terminal	CJT C3030HF-2*13P		CJT C3030HF-2*10P C3030HF-2*9P
Output nominal torque	6.0-6.5 N.M		
Requirements for storage and power supply	Charge and discharge once every 6 months and then recharge to 25% SOC(Room temperature environment)		

51.2V 50AH BYD LiFePO4 Battery Module



Low-voltage
household energy storage

High-voltage
household energy storage

C&I energy storage

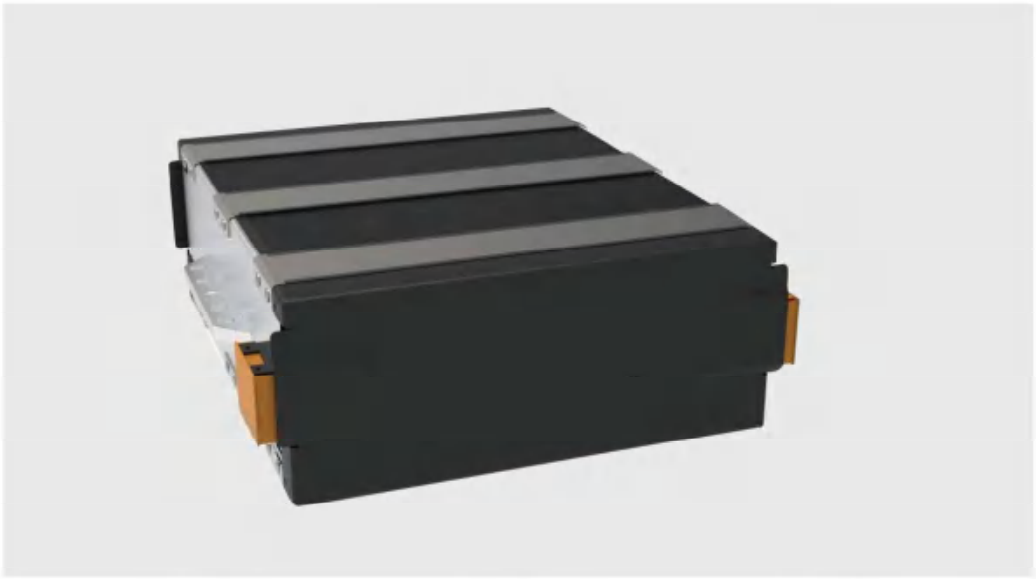
Product Features

- Vehicle grade blade cell, higher quality
- Lithium iron phosphate system, higher safety
- Extremely simplified design, high flexibility

BYD LiFePO4 Battery Module

Model	51.2V 50AH
Data sheet	
Nominal Voltage(V)	51.2V
Nominal capacity(AH)	50AH
Structure Specification	
Length(MM)	810.0±3MM
Width(MM)	205.0±3MM
Height(MM)	145.0±3MM
Weight(KG)	About30KG
Electrical Specification	
Standard charging mode	CC/CP/VP
Charging current	50A @25℃
Charge limit voltage(V)	3.8V/CELL
Max. constant discharging current(A)	CC/CP/VP
Discharge cut-off voltage（V）	50A @25℃
Operating conditions	2.7V/CELL
Working temperature	Charging:: 0~+50℃
	Discharging: -20~+55℃
Storage temperature	Short term storage: -10~+55℃(<3 months, SOC: 20%~60%)
	Long term storage :-10~+40℃ (＜1year, SOC：30%~60%)
Storage humidity	5%~95%
Shipping status	Voltage(V): 3.20~3.30V/CELL
	SOC:20%~40%
Output connection	Hexagon head bolt and spring washer and plain washer assembly _M6x12
Sampling line terminal	CJT C3030HF-2*13P
Output nominal torque	6.0-6.5 N.M
Storage requirements	Charge and discharge once every 6 months, and then recharge to 25% SOC(Room temperature environment)

25.6V 190AH/310AH BYD LiFePO4 Battery Module



Low-voltage household energy storage

High-voltage household energy storage

C&I energy storage

BYD LiFePO4 Battery Module

Model	FMCB15R	
Basic Specification		
Nominal Voltage(V)	25.6V	
Nominal capacity	190AH	310AH
	4864WH	7936WH
Basic Specification		
Thickness（MM)	555±3MM	
Width（MM)	442±3MM	
Length（MM)	155±3MM	
Weight（KG)	60±5KG	
Electrical Specification		
Charging mode	0.33C	
Charging current(A)	3.8V/CELL	
Charging cut-off voltage(V)	CELL	
Discharge mode	Continuous/Intermittent/Constant Current/Pulse	
Discharge cut-off voltage(V)	2.7V/CELL	
Discharge current(A)	Rated current 0.33C	
	Peak current 1C [10 S]	
General data		
Operating temperature	Charging ambient temperature: 0 ~ 50 °C	
	Discharge ambient temperature: -20 ~ + 55 °C	
Storage ambient temperature	Short-term storage: -10 ~ +45 (<3 month, SOC: 20%~60%)	
	Long-term storage: -10 ~ +35 (<6 month, SOC: 30%~60%)	
Storage humidity	5%~95%	
Shipment status	SOC: 20%~40%	

Product Features

- Lithium iron phosphate is used as cathode material, with excellent safety characteristics and long cycle life
- Low cost and pollution-free
- Super discharge rate and good temperature performance
- With monomer voltage monitoring and monomer temperature monitoring function