

# V-TAC

Meaningful Innovation.

# 9.60kWh

# Rack Mounting Lithium Battery

**05** YEAR  
WARRANTY

# TELECOM LITHIUM BATTERY



V-TAC.EU

| VTACEXPORTS.COM

TUV NORD

CE RoHS

### LISTING DETAILS

Model No: **VT-48200B**

SKU Code: **11523**

EAN Code: **3800157693578**

### MASTER BOX PACKAGING

Qty Per Pallet: **14pcs per pallet**

Net Weight : **Approx. 81kg**

Product Size : **445\*244\*500mm**

### GENERAL DATA

Nominal Capacity 200Ah@0.2C, 25°C

Nominal Voltage 48.0V

Rated Charge Voltage 54.0V

Max Continuous Charge Current 100A@25°C

Discharge Cut-off Voltage 40.5V

Max Continuous Discharge Current 100A@25°C

Temperature Range of Charge 0°C- 60°C

Temperature Range of Discharge -20°C- 60v

Allowed Humidity Range ≤95%RH approx.

IP IP 20

### CONSTANT CURRENT DISCHARGE DATA / 25°C

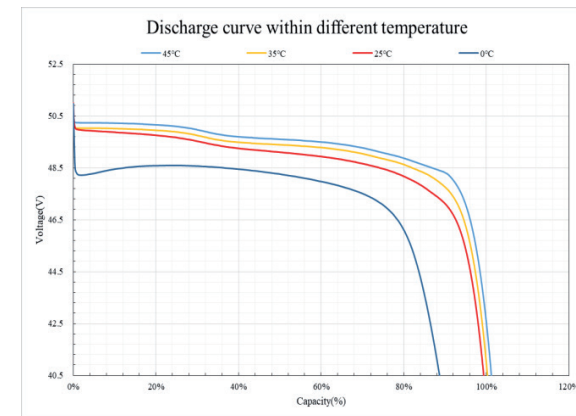
Current/A End voltage/V	0.1C	0.2C	0.3C	0.4C	0.5C
	Hours				
45.0V	9.77	4.78	3.20	2.33	1.82
43.5 V	9.89	4.88	3.28	2.43	1.93
42.0V	10.01	5.00	3.35	2.46	1.98
40.5 V	10.06	5.06	3.40	2.54	2.00

### CONSTANT POWER DISCHARGE DATA / 25°C

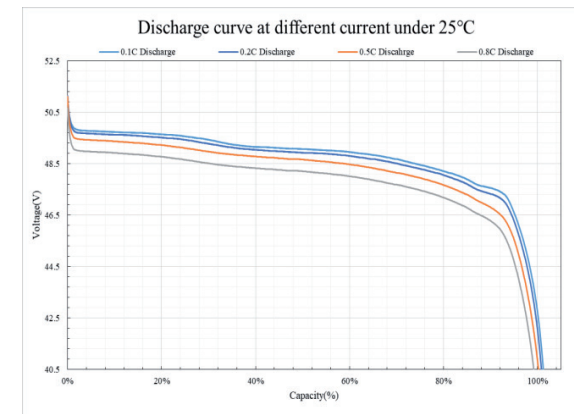
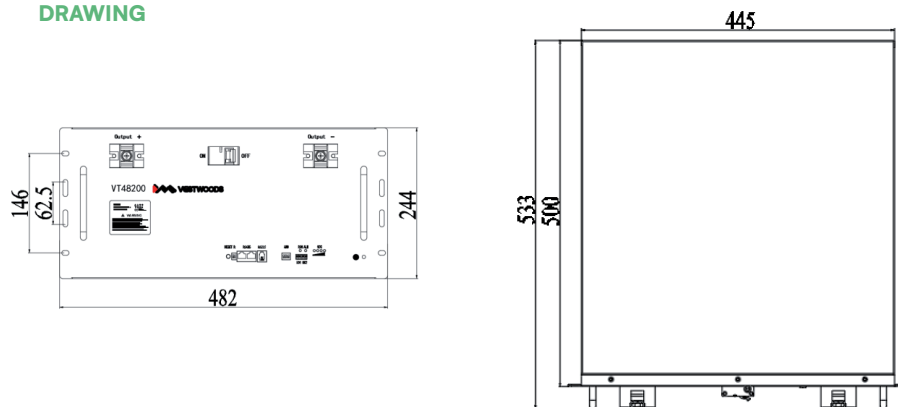
Power/W End voltage/V	960	1920	2880	3840	4400
	Hours				
45.0V	9.75	4.76	3.18	2.31	1.80
43.5 V	9.87	4.85	3.25	2.40	1.90
42.0V	10.02	4.96	3.31	2.47	1.94
40.5 V	10.08	5.11	3.36	2.50	1.96

- High quality LFP cells
- High rate charge / discharge current @ 100A
- High efficiency between charge and discharge
- Multiple protection methodes based on patented
- BMS Intelligent anti-theft solution, LCD(optional)
- Modbus/CAN/SNMP V2/SNMP V3 (optional)

## TECHNICAL CURVES



## DRAWING



# Single Phase Hybrid Inverter

SUN-7.6/8K-SG02LP1-EU-AM2

SUN-10/12K-SG02LP1-EU-AM3



Colorful touch LCD, IP65 protection degree



AC couple to retrofit existing solar system



Max. 16 pcs parallel for on-grid and off-grid operation; Support multiple batteries parallel



Max. charging/discharging current of 250A



6 time periods for battery charging/discharging



Support storing energy from diesel generator

**Deye**

Stock Code: 605117.SH

Model	SUN-7.6K-SG02 LP1-EU-AM2	SUN-8K-SG02 LP1-EU-AM2	SUN-10K-SG02 LP1-EU-AM3	SUN-12K-SG02 LP1-EU-AM3
<b>Battery Input Data</b>				
Battery Type	Lead-acid or Lithium-ion			
Battery Voltage Range (V)	40-60			
Max. Charging Current (A)	190	190	220	250
Max. Discharging Current (A)	190	190	220	250
Charging Strategy for Li-ion Battery	Self-adaption to BMS			
Number of Battery Input	1			
<b>PV String Input Data</b>				
Max. PV Access Power (W)	15200	16000	20000	24000
Max. PV Input Power (W)	11400	12000	15000	18000
Max. PV Input Voltage (V)	500			
Start-up Voltage (V)	125			
MPPT Voltage Range (V)	150-425			
Rated PV Input Voltage (V)	370			
Max. Operating PV Input Current (A)	26+26		26+26+26	
Max. Input Short-Circuit Current (A)	44+44		44+44+44	
No. of MPP Trackers/ No. of Strings MPP Tracker	2/2+2		3/2+2+2	
<b>AC Input/Output Data</b>				
Rated AC Input/Output Active Power (W)	7600	8000	10000	12000
Max. AC Input/Output Apparent Power (VA)	8360	8800	11000	13200
Rated AC Input/Output Current (A)	34.6/33.1	36.4/34.8	45.5/43.5	54.6/52.2
Max. AC Input/Output Current (A)	34.6/33.1	36.4/34.8	45.5/43.5	54.6/52.2
Max. Continuous AC Passthrough (grid to load) (A)	50		60	
Peak Power (off-grid) (W)	2 times of rated power, 10s			
Power Factor Adjustment Range	0.8 leading to 0.8 lagging			
Rated Input/Output Voltage/Range (V)	220/230 0.85Un-1.1Un			
Rated Input/Output Grid Frequency/Range(Hz)	50/45-55, 60/55-65			
Grid Connection Form	L+N+PE			
Total Current Harmonic Distortion THDi	<3% (of nominal power)			
DC Injection Current	<0.5% In			
<b>Efficiency</b>				
Max. Efficiency	97.6%			
Euro Efficiency	96.5%			
MPPT Efficiency	>99%			
<b>Equipment Protection</b>				
Integrated	DC Polarity Reverse Connection Protection, AC Output Overcurrent Protection, Thermal Protection, AC Output Overvoltage Protection, AC Output Short Circuit Protection, DC Component Monitoring, Overvoltage Load Drop Protection, Ground Fault Current Monitoring, Arc Fault Circuit Interrupter (optional), Power Network Monitoring, Island Protection Monitoring, Earth Fault Detection, DC Input Switch, DC Terminal Insulation Impedance Monitoring, Residual Current (RCD) Detection, Surge protection level			
Surge Protection Level	TYPE II(DC), TYPE II(AC)			
<b>Interface</b>				
Communication Interface	RS485/RS232/CAN			
Monitor Mode	GPRS/WIFI/Bluetooth/4G/LAN(optional)			
<b>General Data</b>				
Operating Temperature Range ( / )	-40 to +60°C, >45°C Derating			
Permissible Ambient Humidity	0-100%			
Permissible Altitude	2000m			
Noise (dB)	<45			
Ingress Protection(IP) Rating	IP 65			
Inverter Topology	Non-Isolated			
Over Voltage Category	OVC II(DC), OVC III(AC)			
Cabinet Size (WxHxD mm)	420×670×233 (Excluding Connectors and Brackets)			
Weight (kg)	35.6			
Type of Cooling	Intelligent Air Cooling			
Warranty	5 Years/10 Years the Warranty Period Depends the Final Installation Site of Inverter, More Info Please Refer to Warranty Policy			
Grid Regulation	VDE4105, IEC61727/62116, VDE0126, AS4777.2, CEI 0 21, EN50549-1, G98, G99, C10-11, UNE217002, NBR16149/NBR16150			
Safety / EMC Standard	IEC/EN 61000-6-1/2/3/4, IEC/EN 62109-1, IEC/EN 62109-2			



# TWMND

N-type Half-cell  
Monofacial Black Frame Module (60)

## 60HS475-495W

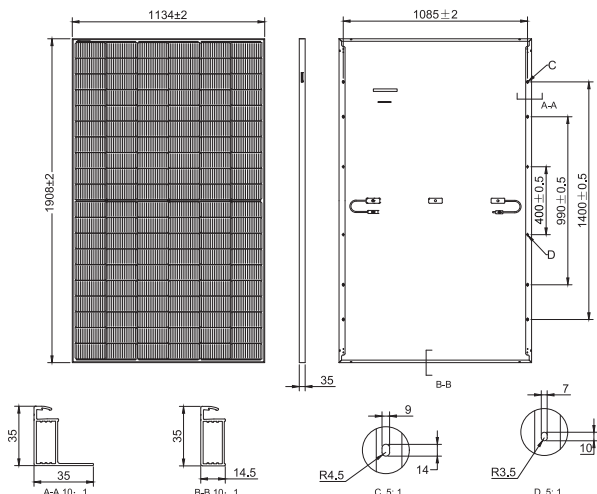


[en.tongwei.com.cn](http://en.tongwei.com.cn)



Learn More

**DRAWINGS (Unit: mm)**



**ELECTRICAL CHARACTERISTICS (STC)**

Module Type: TWMND-60HSXXX	475	480	485	490	495
Maximum Power: Pmax [W]	475	480	485	490	495
Open Circuit Voltage: Voc [V]	43.51	43.68	43.85	44.02	44.19
Short Circuit Current: Isc [A]	13.60	13.65	13.70	13.75	13.82
Voltage at Maximum Power: Vmp [V]	36.96	37.13	37.30	37.47	37.65
Current at Maximum Power: Imp [A]	12.85	12.93	13.00	13.07	13.15
Module Efficiency: η [%]	22.0	22.2	22.4	22.6	22.9

\* STC: Irradiance 1000W/m<sup>2</sup>, Cell Temperature 25°C, Air Mass1.5, Measuring Tolerance: ±3%

**ELECTRICAL CHARACTERISTICS (NMOT)**

Maximum Power: Pmax [W]	359.5	363.3	367.0	370.8	374.6
Open Circuit Voltage: Voc [V]	41.38	41.54	41.71	41.87	42.03
Short Circuit Current: Isc [A]	10.71	10.74	10.78	10.82	10.88
Voltage at Maximum Power: Vmp [V]	35.58	35.74	35.90	36.07	36.24
Current at Maximum Power: Imp [A]	10.09	10.15	10.20	10.26	10.32

\* NMOT: Irradiance 800W/m<sup>2</sup>, Ambient Temperature 20°C, Air Mass1.5, Wind Speed 1m/s

**TEMPERATURE PARAMETERS**

Temperature Coefficient (Pmax)	-0.28%/°C
Temperature Coefficient (Voc)	-0.24%/°C
Temperature Coefficient (Isc)	+0.046%/°C
NMOT	45±2°C

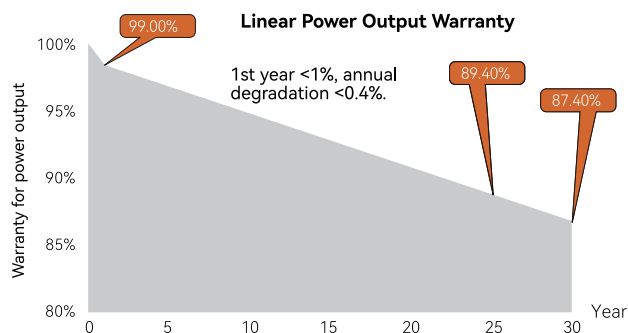
**MAXIMUM RATINGS**

Operational Temperature	-40°C~+85°C
Maximum System Voltage	1500V DC
Maximum Series Fuse Rating	25A
Power Output Tolerance	0~+5W

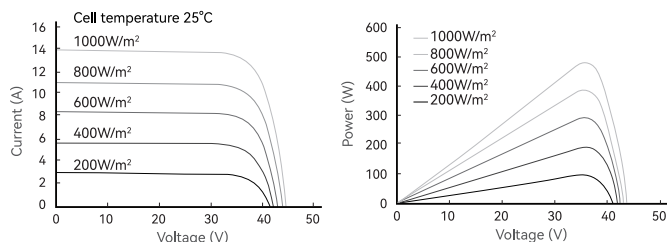
**MECHANICAL PARAMETERS**

Cells	TNC (N Type Monocrystalline Cell)
Cell Orientation	120[6×20]
Dimension	1908±2×1134±2×35mm
Weight	23.2kg
Front Glass	3.2mm high transmittance, AR tempered glass
Backsheet	White
Frame	Anodized aluminum alloy black frame
Junction Box	IP68, 3 diodes
Output Cable	4.0mm <sup>2</sup>
Cable Length	±1200mm, length can be customized
Wind/Snow Load	2400Pa/5400Pa
Packaging	31pcs per pallet, 744pcs per 40'HC

**WARRANTY**



**I-V CURVE**



**CERTIFICATIONS**

**Quality Management System and Product Certification**

- ISO 9001: 2015/Quality management system
- ISO 14001: 2015/Environmental management system
- ISO 45001: 2018/Occupation health safety management system
- ISO 50001: 2018/Energy management system
- IEC 62941: 2019/Quality system for PV module manufacturing
- IEC 61215/61730, IEC 62804(PID), IEC 61701(Salt), IEC 62716 (Ammonia), IEC 60068-2-68(Sand)

