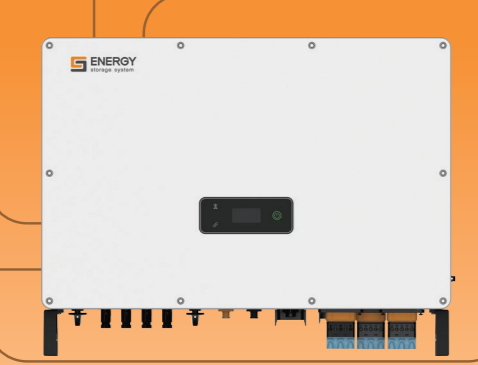


I1000-TH3 Series

Industrial and commercial | Three-phase
High-voltage energy storage | 4 MPPTs



Technical Parameters

Model	I1000-TH3-25K-M0	I1000-TH3-30K-M0	I1000-TH3-36K-M0	I1000-TH3-40K-M0	I1000-TH3-50K-M0
PV Input					
Recommended Max. Input Power [kW]	37.50	45.00	54.00	60.00	75.00
Start-up Voltage [V]	135	135	135	135	135
Max. DC Input Voltage* [V]	1000*	1000*	1000*	1000*	1000*
Rated DC Input Voltage [V]	620	620	620	620	620
MPPT Voltage Range* [V]	200-850*	200-850*	200-850*	200-850*	200-850*
No. of MPP Trackers	4	4	4	4	4
No. of DC Inputs per MPPT	2	2	2	2	2
Max. Input Current [A]	30x4	30x4	30x4	30x4	30x4
Max. Short-circuit Current [A]	40x4	40x4	40x4	40x4	40x4
Battery Side					
Battery Type	Lithium Battery (with BMS)				
Battery Voltage Range [V]	135-750				
Maximum Charging/Discharge Current [A]	100/100				
Grid Side					
Rated Output Power [kW]	25.00	30.00	36.00	40.00	50.00
Max. Output Apparent Power [kVA]	27.50	33.00†	39.60	44.00	55.00
Max. Input Apparent Power** [kVA]	30.00	36.00	43.50	48.00	60.00
Max. Charging Power of Battery [kW]	25.00	30.00	36.00	40.00	50.00
Rated AC Voltage [V]	3LN/PE: 220/380V, 230/400V, 240/415V				
Rated AC Frequency [Hz]	50/60				
Max. Output Current [A]	42.00	50.00 [‡]	60.00	66.00	83.00
Power Factor	0.8 leading ...0.8 lagging				
Max. Total Harmonic Distortion DCI	<3% @Rated output power <0.5%In				
Back-up Side					
Rated Output Power [kW]	25.00	30.00	36.00	40.00	50.00
Max. Output Apparent Power [kVA]	27.50	33.00	39.60	44.00	55.00
Max. Output Current [A]	42.00	50.00	60.00	66.00	83.00
On/Off-grid Switching Time [ms]	<20ms				
Rated Output Voltage [V]	3LN/PE: 220/380V, 230/400V, 240/415V				
Rated Output Frequency [Hz]	50/60				
Voltage Harmonic Distortion	<3% @Linear load				
Generator Side					
Max. Input Apparent Power** [kVA]	30.00	36.00	43.50	48.00	60.00
Max. Charging Power of Battery [kW]	25.00	30.00	36.00	40.00	50.00
Rated AC Voltage [V]	3LN/PE: 220/380V, 230/400V, 240/415V				
Rated AC Frequency [Hz]	50/60				
Max. Input Current [A]	43.50	52.20	63.00	69.60	87.00
Efficiency					
Max. Efficiency	98.8%	98.8%	98.8%	98.8%	98.8%
European Efficiency	98.3%	98.3%	98.3%	98.3%	98.3%
Protection	DC reverse polarity protection / Battery input reverse connection protection / Insulation resistance protection / Surge protection / Over-temperature protection / Residual current protection / Islanding protection / AC over-voltage protection / Overload protection / AC short-circuit protection				
Integrated Protection	DC reverse polarity protection / Battery input reverse connection protection / Insulation resistance protection / Surge protection / Over-temperature protection / Residual current protection / Islanding protection / AC over-voltage protection / Overload protection / AC short-circuit protection				
General Data					
Over Voltage Category	PV: II Main: III				
Dimensions [W*H*D mm]	800*620*300				
Weight [KG]	72				
Protection Degree	IP65				
Standby Self-Consumption [W]	<15				
Topology	Transformerless				
Operating Temperature Range [°C]	-30~+50				
Relative Humidity [%]	0~100				
Operating Altitude [m]	3000 (>3000m Derating)				
Cooling	Smart fan				
Noise Level [dB]	<50				
Display	OLED & LED				
Communication	CAN, RS485, WiFi/LAN (Optional)				

I1000-RH3 Series

5.0kW / 6.0kW / 8.0kW / 10.0-A kW/ 10.0kW
Three-phase high voltage hybrid inverter, dual MPPT



Technical Parameters

Model	I1000-RH3-5K-M1	I1000-RH3-6K-M1	I1000-RH3-8K-M1	I1000-RH3-10K-A-M1	I1000-RH3-10K-M1
PV input parameters					
Max. input power [W]	7500	9000	12000	15000	15000
Max. input voltage [V]	1000				
MPPT voltage range [V]	160 ~ 950				
Rated input voltage [V]	600				
Starting voltage [V]	160				
Number of MPPTs	2				
Number of input strings per MPPT	1				
Max. input current per MPPT [A]	18 / 18				
Max. short-circuit current per MPPT [A]	23 / 23				
Array feedback current [A]	0				
DC switch	Integration				
AC output parameter					
Rated output power [W]	5500	6600	8800	10000	11000
Max. apparent output power [VA]	5000	6000	8000	10000	10000
Max. apparent input power [VA]	7.6	9.1	12.2	14.4	15.2
Rated output current [A]	7.2	8.7	11.5	14.4	14.4
Rated output voltage [V]	3 / N / PE, 220 / 380, 230 / 400				
Rated grid frequency [Hz]	50 / 60 ± 5				
Power factor [cos φ]	0.8 ahead to 0.8 lagging				
Total harmonic distortion of current [rated power]	<3%				
AC input parameters					
Rated AC power [W]	10000	12000	16000	20000	20000
Max. continuous AC current [A]	15.2	18.2	24.3	28.8	30.4
Rated AC voltage range [V]	3 / N / PE, 220 / 380, 230 / 400 ± 20%				
Grid frequency range [Hz]	50 / 60 ± 5				
AC excitation surge current [A]	32				
Max. output over-current protection	40				
Max. AC output fault current [A]	73				
Electrical parameters					
Battery type	Lithium battery				
Battery voltage range [V]	160 ~ 700				
Max. charge/discharge current [A]	30/30				
Communication port	CAN				
Off-grid output parameters					
Rated output power [W]	5000	6000	8000	10000	10000
Rated output voltage [V]	3 / N / PE, 220 / 380, 230 / 400 ± 20%				
Rated output frequency [Hz]	50 / 60				
Rated output current [A]	7.6	9.1	12.2	14.4	15.2
Total harmonic distortion of current [rated power]	<3%				
Switching time [ms]	<20				
Peak output power, duration [s]	7500, 60	9000, 60	12000, 60	15000, 60	15000, 60
Efficiency					
Max. efficiency	98.00%	98.00%	98.00%	98.00%	98.00%
European efficiency	97.70%	97.70%	97.70%	97.70%	97.70%
Max. battery charge/discharge efficiency	97.60%	97.60%	97.60%	97.60%	97.60%
Protection	DC switch Integration Input polarity reverse protection Integration Anti-islanding protection Integration Residual current protection Integration Over-temperature protection Integration AC over-current protection Integration AC short-circuit protection Integration AC overvoltage protection Integration DC surge protection Level 2 (standard) AC surge protection Level 2 (standard)				
General data					
Dimensions (W*H*D) [mm]	520 * 412 * 186				
Weight [kg]	27				
Display	LED + OLED				
Communication mode	RS485 and USB (standard), WiFi or 4G or Ethernet (optional)				
Ambient temperature range [°C]	-25 ~ +60				
Relative humidity	0 ~ 100%				
Operating altitude [m]	≤2000				
Self-consumption at night [W]	<15				
Topology	No transformer				
Degree of contamination	II				
Protection Level	I				
Overvoltage type	DC II / AC III				
Environmental Classification	Outdoor				
Cooling mode	Natural heat dissipation				
Degree of protection	IP65				
Certification					
Grid connection standard	AS 4777, EN 50549-1, EN 50549-PL, EN 50549-GR, EN 50549-CZ, TOR ErzeUger, CEI 0-21, C10/C11, VDE0126, IEC 217902/RD647				
Safety standard	IEC 62109-1/IEC 62109-2/EN62109-1, EN 62109-2				
EMC standard	EN/IEC 61000-6-1/EN/IEC 61000-6-3				

ABOUT GS ENERGY

Headquartered in Ningbo, Zhejiang Province, GS (Ningbo) ESS Technology Co., Ltd. (referred to as GS Energy Technology) is a high-tech enterprise focusing on intelligent PV and energy storage system and integrating R&D, manufacturing and sales. The product range includes photovoltaic/energy storage inverters, household HV/LV energy storage, charging piles, small commercial storage, energy storage and temperature control, and intelligent energy management systems. GS Energy Technology is committed to providing customers with comprehensive intelligent energy solutions for household PV, energy storage and EV charging systems, energy storage and temperature control, fire protection and other fields.

GS Energy Technology lays emphasis on the R&D investment and innovation. Its core technology team has more than 10 years of experience in the industry, has excessively promoted the applications in power electronic circuit topology, core algorithms, BMS, PCS, EMS, AI and other fields, and beefed up efforts on green energy development with AI technologies. In order to manufacture products and systems which are extremely safe, stable, reliable, efficient and user-friendly, GS Energy Technology also has an industry-leading testing center with ultra-high precision. The products have been certified and tested by TUV, BV, SGS and other domestic and foreign authorities.

The Company has set up a global sales and service network, and will establish overseas branches and service centers in Europe, Latin America, Asia-Pacific, the Middle East, Africa and other regions to provide fast, efficient and superior services to global customers. Shouldering the mission of "serving global customers with green energy", GS Energy Technology will adhere to the core values of "Quality, Innovation, Efficiency and Win-Win Development" in the future to promote the sustainable development of global clean energy and develop into the leading global provider of intelligent energy solutions.



Technology Capability

Perfect Experimental Configuration, Reliable Test System

Reliable Test System

Passed more than 40 key performance indicators and product protection tests and verifications



8 Product Protection Verifications

Product protection verifications

Anti-islanding protection test

DC over-voltage protection verification

AC over/under-voltage test

AC over/under-frequency test

Phase sequence or polarity error protection

...



39 Key Performance Tests

Static and dynamic MPPT efficiency tests

Weighted efficiency test in Europe/California/China

Energy storage battery charging and discharging efficiency test

Voltage/frequency adaptability test

...

Perfect Experimental Configuration

Equipped with all kinds of testing instruments, totaling 300+ units/sets

Build up multiple key experimental and testing capabilities in the field of photovoltaic inverters based on product characteristics to ensure the stable operation of the products.

Professional and perfect experiment system



Simulation of thermal, mechanical, electrical and magnetic fusion | Electromagnetic compatibility | Reliability verification | Wireless communication

GS (Ningbo) ESS Technology Co., Ltd.



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GS TECH

Serving Global Customers with Green Energy!

+86-574-65292531 +86-574-65160738
www.gs-ess.com
info@gsmart.com

No. 2, Xingke West Road, Meliqiao Industrial Zone, Meilin Street, Ninghai County, Ningbo, Zhejiang, China

GS (Ningbo) ESS Technology Co., Ltd

GS5.12-HV Series

10.24kWh/15.36kWh / 20.48kWh
HV battery pack (stacked)



Technical Parameters

Model	2	3	4
Number of battery packs	2	3	4
Rated energy (kWh)	10.24	15.36	20.48
Available energy (90% DOD) (kWh)	9.22	13.82	18.43
Rated voltage (V)	204.8	307.2	409.6
Operating voltage range (V)	172.8~233.6	259.2~350.4	345.6~467.2
Dimensions (W×H×T) (mm)	800*545*460	800*715*460	800*885*460
Weight (kg)	164	224	284
Rated capacity (Ah)	50		
Rated charge/discharge current (A)	50 / 50		
Max. continuous charge/discharge current (A)	50 / 50		
Operating temperature (°C)	Charge: 0~50 Discharge: -10~55		
WiFi frequency range (MHz)	2400~2483		
Ambient Humidity	20~60% (no condensation)		
Degree of protection	Class I		
Waterproof level	IP54		
Installation condition	Indoor		
Cooling mode	Natural cooling		
Cycle life (25°C, 0.5C, 90%DOD)	> 6,000 times		
Communication mode	CAN / RS485 / Wifi		
Warranty	10-year		

GS5.12-HV-1.0 Series

GS5.12-HV-1.0-25 / GS5.12-HV-1.0-30 / GS5.12-HV-1.0-35 / GS5.12-HV-1.0-40 / GS5.12-HV-1.0-45 / GS5.12-HV-1.0-50 / GS5.12-HV-1.0-55 / GS5.12-HV-1.0-60



Technical Parameters

Model	GS5.12-HV-1.0-25	GS5.12-HV-1.0-30	GS5.12-HV-1.0-35	GS5.12-HV-1.0-40	GS5.12-HV-1.0-45	GS5.12-HV-1.0-50	GS5.12-HV-1.0-55	GS5.12-HV-1.0-60
Electrical Parameters								
System Stacking Diagram								
Number of Modules	5	6	7	8	9	10	11	12
Nominal Energy (kWh) (100% DOD, 0.33C, +25°C)	25.6	30.72	35.84	40.96	46.08	51.2	56.32	61.44
Rated Power (kW)	12.5	15	17.5	20	22.5	25	27.5	30
Rated Voltage (V)	256	307.2	358.4	409.6	460.8	512	563.2	614.4
Voltage Range (V)	208~290.4	249.6~348.48	291.2~406.56	332.8~464.64	374.4~522.72	416~580.8	457.6~638.88	499.2~696.96
Maximum Charge / Discharge Current (A)	50 / 50							
Depth of Discharge	90%							
Cooling	Natural							
Basic Parameters								
Cell	LiFePO4							
Dimensions (W*H*D) (mm)	600*911*385	600*1052.5*385	600*1194*385	600*1335.5*385	600*1477*385	600*1618.5*385	600*1760*385	600*1901.5*385
Weight (kg)	320	375	430	485	540	595	650	705
IP Rating	IP54 (Indoor or Outdoor)							
Type of Installation	Floor Stand							
Operating Temperature Range (°C)	Charging: 0 ~ +53		Discharging: -10 ~ +53					
Communication	CAN / RS485 / Wifi							
Cycle Life	6000 @80% DOD / 25°C / 0.33C / 70% EOL							
Warranty (Year)	10							
Operating Altitude (m)	≤ 2000							

GS2.56-HV Series

GS2.56-HV-10.24 / GS2.56-HV-12.8
GS2.56-HV-15.36 / GS2.56-HV-17.92
GS2.56-HV-20.48

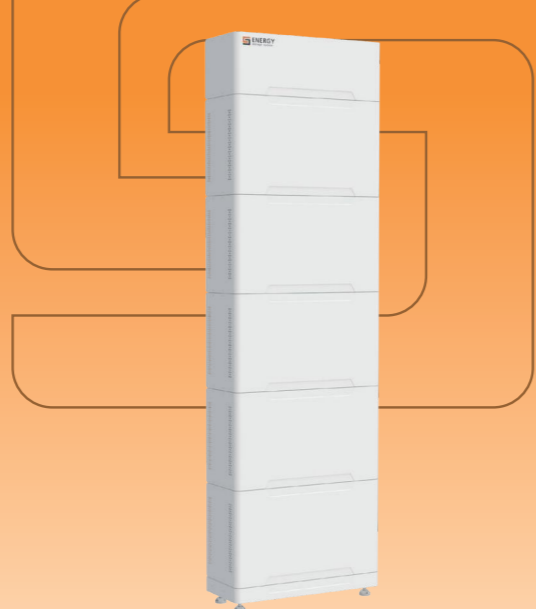


Technical Parameters

Model					
Number of battery packs	4	5	6	7	8
Nominal voltage (V)	204.8	256	307.2	358.4	409.6
Nominal Energy (kWh)	10.24	12.8	15.36	17.92	20.48
Usable Energy (90% DOD) (kWh)	9.22	11.52	13.82	16.13	18.43
Dimensions (WxHxD) (mm)	535*755*425	535*900*425	535*1045*425	535*1190*425	535*1335*425
Weight (kg)	123	150	177	203	230
Voltage range (V)	166.4-232.32	208-290.4	249.6-348.48	291.2-406.56	332.8-464.64
Battery Technology	LiFePO4				
IP rating	IP54				
Cooling method	natural air cooling				
Rated Charge / Discharge Current (A)	50				
Maximum Continuous Charge / Discharge Current (A)	50				
Operating Charge / Discharge temperature (°C)	0~ 50 / -10~ 50				
Environment humidity	≤95%RH (no condensation)				
Cycle Life (25°C, 0.2C, 90%DOD)	>6000 cycles				
Altitude conditions (m)	≤2000				
Certification	EN61000, IEC62619, IEC62477, IEC62040, UN38.3				
Warranty (years)	10				

GS3.74-HV Series

3.74kW / 7.48kW / 11.22kW
14.96kW / 18.7kW
HV battery pack (stacked)



Technical Parameters

Model					
Number of modules	1	2	3	4	5
Rated capacity (kWh)	3.74	7.48	11.22	14.96	18.7
Available capacity (90% DOD) (kWh)	3.36	6.73	10.1	13.47	16.83
Rated voltage (V)	96	192	288	384	480
Voltage range(V)	87~108	174~216	261~324	348~432	435~540
Max. charge/discharge current (A)	30/30				
Depth of discharge	90%				
Cooling mode	Natural air cooling				
Comprehensive					
Battery cell	Lithium iron phosphate				
Dimensions (W*H*D) (mm)	561 * 576 * 217	561 * 902 * 217	561 * 1228 * 217	561 * 1554 * 217	561 * 1880 * 217
Weight (kg)	49.5	86.8	124.1	161.4	198.7
Degree of protection	IP65				
Installation	Floor stand/indoor or outdoor				
Charge/discharge temperature (°C)	0 ~ +43/-10 ~ +53				
Communication mode	CAN /RS485 /Wifi				
Cycle life (25°C, 0.2C, 90%DOD)	> 6,000 times				
Warranty (year)	10				
Operating height (m)	≤ 2000				
Certification					
Certification	UN 38.3, EN / IEC 62619, IEC 62477				

CBS-J50K104.4kWh-F

C&I All-in-one Hybrid Energy Storage
Air-cooled System



Technical Parameters

Model	CBS-J50K104.4kWh-F
PCS	
PV Input	
Max. Recommended PV Power (Wp)	75000
Max. PV Input Voltage (V)	1000
MPPT Voltage Range (V)	350 - 800
Rated PV Input Voltage (V)	667
Start-up Voltage (V)	350
No. of MPPT Trackers	3
No. of Input Strings per Tracker	2 / 2 / 2
Max. PV Input Current (A)	36 / 36 / 36
Max. Short-circuit Current (A)	40 / 40 / 40
AC Output	
Max. AC Output Apparent Power (VA)	50000
Max. AC Output Active Power (W)	50000
Max. AC Output Current (A)	80.0
Rated AC Output Current (A)	72.5
Rated AC Output Voltage (V)	3 / N / PE, 230 / 400
Grid Frequency (Hz)	50 / 60
Adjustable Power Factor (cos φ)	1.0 / 9 leading ~ 0.9 lagging
Output THD (%Rated Output)	<3%
AC Input	
Max. AC Input Apparent Power (VA)	50000
Max. AC Input Active Power (W)	50000
Max. AC Input Current (A)	80.0
Rated AC Input Voltage (V)	3 / N / PE, 230 / 400
Grid Frequency (Hz)	50 / 60
Battery	
Battery Type	LiFePO ₄
Nominal Capacity (Ah)	204 (102 * 2)
Battery Configuration	16S2P * 10
Nominal Energy (kWh)	104.4
Nominal Voltage (V)	512
Voltage Range (V)	448 - 584
Max. Continuous Charging / Discharging Current (A)	102 / 102
Nominal Power (kW)	52.2
Depth of Discharge	95%
System General Data	
Dimensions (with Inverter) (W * H * D) (mm)	1330 * 1950 * 1425
Dimensions (without Inverter) (W * H * D) (mm)	1000 * 1950 * 1425
Weight (with Inverter) (kg)	1400
Weight (without Inverter) (kg)	1325
Ambient Temperature Range (°C)	-20 ~ +50
Relative Humidity	0 ~ 95%
Operation Altitude (m)	≤ 2000
Topology	Transformless
Cooling	Air-conditioner
Fire Protection	Aerosol
Communication	CAN, RS485, USB Update, WIFI, 4G, Ethernet
Ingress Protection	Cabinet: IP55; Inverter: IP55
Cycle Life	6000 @90% DOD / 25°C / 0.5C

CBS-100k233kWh-Y

Liquid-cooled PV-storage
integrated converter



Technical Parameters

Model	CBS-100k233kWh-Y
Item	System Parameters
Total energy	232.96kWh, rated at 25°C@0.5c
Rated DC side voltage	832V
DC side operating voltage	728~923V
Nominal capacity	280Ah (25°C, 0.5C)
Rated AC power of the system	100KW (off-grid load < 100KW)
AC incoming mode	3P+N+PE
Rated AC voltage	230/400Va.c
Voltage range	-15% ~ +15%
Rated frequency	50Hz/60Hz
Frequency range	Rated frequency ± 3Hz
Power factor	-1~1
Output harmonics	≤5%
Unbalanced load carrying capacity	100%
Overload capacity	110% load: running time ≥ 10 min, 120% load: running time ≥ 1 min
On/off-grid mode	Automatic switching (STS)
Thermal management	5kW liquid-cooled
Fire extinguishing method	Automatic fire extinguishing with aerosol
Auxiliary control system	Temperature, humidity, flooding
External communication port	RS485, LAN, CAN
External communication mode	ModBus TCP
Photovoltaic input power	60kW (optional)
PV max. open-circuit voltage	900Vd.c (optional)
MPPT voltage range	200~800Vd.c (optional)
PV max. output current	110Ad.c (optional)
Operating temperature	-20 °C to 55 °C (derating if above 45 °C)
Storage temperature	-25°C ~ 45°C
Relative humidity	5% RH-85% RH, no condensation
Working altitude	At 45 °C, unnecessary to derate if used at 2,000 m, but derated if used at 2,000m to 4,000 m
Noise	68dB (test distance ≥ 1 m)
Dimensions (W*H*T)	1550*2200*1350mm
Weight	2500kg±5%
System protection level	IP54 (IP67 for cell subrack)
Display interface	Chinese-English

CBS-125k261kWh-Y

Liquid-cooled PV-storage
integrated converter



Technical Parameters

Model	CBS-125k261kWh-Y
Cell	LFP, 3.2V/314Ah
Battery Pack	52.24kWh/1P52S
Rated energy	261kWh, 25°C@0.5c
Rated DC side voltage	832V
Dc side operating voltage	728~923V
System AC side rating	125KW (Off grid load < 125KW)
AC wire feed mode	3P+N+PE
Rated AC voltage	230/400Va.c
Voltage range	-15% ~ +15%
Rated frequency	50Hz/60Hz
Power factor	-1~1
Output harmonics	≤5%
Unbalanced load capacity	100%
Overload capacity	110% load: Running time=10min, 120% load: Running time≥1min
Thermal management	5kW Liquid cooling
Fire extinguishing methods	Aerosol
Auxiliary control system	Temperature and humidity, Water immersion
External communication interface	RS485, LAN, CAN
External communication methods	ModBus TCP
Working temperature	-20°C ~ 55°C (45°C or more)
Storage temperature	-25°C ~ 45°C
Humidity	5%RH ~ 85%RH, non-condensing
Working altitude	45°C, 2000m (no derating is required), 2000m ~ 4000m derating is used for derating
Noise	68dB (test distance ≥ 1m)
Dimensions (W*H*D)	1000*2450*1350mm
Weight	2400kg±5%
System protection level	IP54 (Battery pack IP67)
Display interface	Chinese and English

CBS-418kWh-Y

Battery Energy Storage System



Technical Parameters

Model	CBS-418kWh-Y
Battery Data	
Cell type	LFP (LiFePO4)
Rated capacity	314 Ah
Serial-parallel type	1P52S
Rated capacity per pack	52.24 kWh
Pack number	8
System rated energy capacity	417.99 kWh
Rated voltage	1331.2 V
Voltage range	1164.8V~1497.6V
Charge/Discharge rate	0.5C
Efficiency	92%
General Data	
Ingress protection	IP54
Cooling	Liquid cooling
Installation	Outdoor
Fire suppression system	Aerosol
Operating temperature range	-30~50°C
Temperature difference	≤5°C
Relative humidity	5~95% (non-condensing)
Maximum working altitude	4000m (> 3000m derating)
Anti corrosion grade	C4
COM interfaces	RS485 / Ethernet
Dimensions (WxHxD)	1285x2350x1400mm
Weight	3800kg±5%