

SALUS CONTROLS SOLAR SYSTEM

Inverter with 48VDC
& 125VDC Battery
Storage

SPECIFICATION SHEET



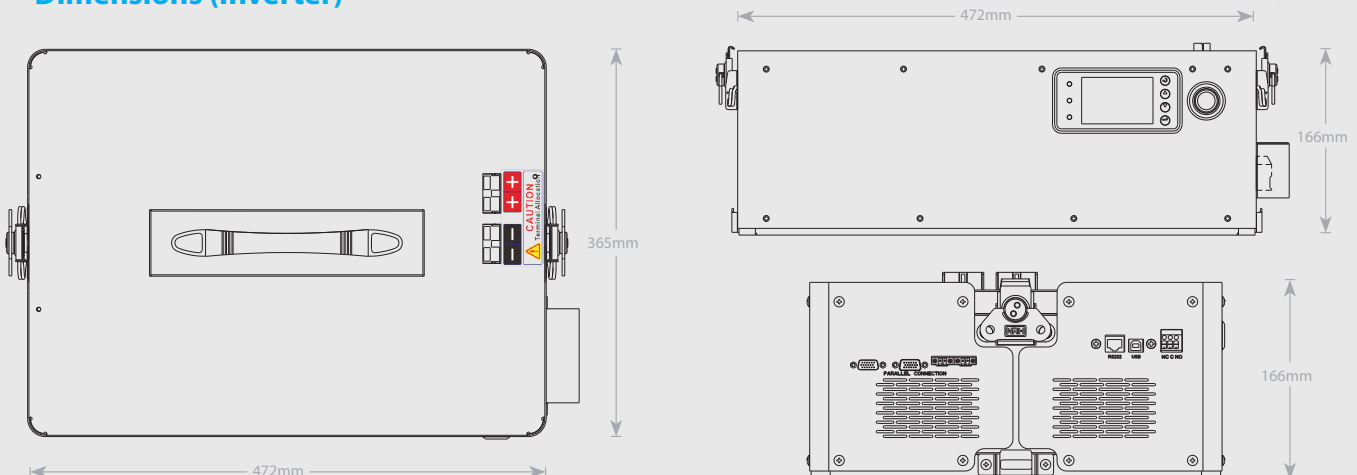
About this product...

The SALUS Solar System offers an advanced inverter with battery storage solutions with its 48VDC and 125VDC models, available in both 8kW single-phase and 10kW three-phase configurations. These systems are designed to efficiently harness solar energy, providing a reliable power source for your home while also feeding excess energy back into the grid. The intelligent management system ensures that your home's electrical needs are met first, utilizing stored solar energy to power appliances and devices. When the demand for electricity is low, the system automatically charges the battery, storing energy for later use. This not only enhances energy independence but also optimizes energy consumption, allowing homeowners to reduce their reliance on the grid and lower their energy costs. With the SALUS Solar System, you can enjoy a sustainable and efficient energy solution tailored to your household's needs.

Features

- 5kW Lithium Polymer Backup Batteries
- Hybrid Solar Inverter compatible with Lithium Polymer batteries
- 2 models - 8kW single phase inverter and 10kW 3 phase inverter
- Feeds grid, home electrical necessity and charges battery as needed
- Low voltage – compatible with single phase inverter
- High voltage – compatible with 3 phase inverter
- Includes on-off button and LEDs to display Capacity and alarm status

Dimensions (Inverter)



Solar Inverter 5KW - Technical Data

Input Specification

Main Input	Rated input voltage (Vac)	220V
	Input voltage range (Vac)	170V --- 280V
	Phase	3 wire single phase (1L+N+PE)
	Input frequency range (Hz)	50 / 60Hz \pm 10%
	Input power factor (PF)	1.0.
Side Input	Voltage, frequency	220V 50 / 60Hz \pm 10%
	Interchange time	Inverter / interchange time: 10ms
	Solar power input power	DC120V~450V, 5760W (Max.)

Output Specification

Solar power inverter voltage (Vac)	220V / 230V / 240V \pm 1% (stable loading)
Output power factor (PF)	1.0
Rated power	Per stack is 5KW, double up stacking will increase the rated power accordingly
Frequency (Hz)	50 / 60Hz \pm 10%
Output wave form	THDV < 1% (pure linear loading)
Harmonic distortion	<1% (linear loading), <3% (nonlinear loading)
Side output	170V — 280V
Dynamic Load Voltage Transients	Dynamic Load Voltage Transients (0-100%)<5%, Instant recovery <10ms
Overall efficiency	\geq 96% (100% loading)
Overloading control	105%-110% : 15s shutdown : 125% : 10s shutdown : >150% : 0.5s shutdown

Battery Specification

Choose able battery type, cell qty, voltage, charging current	LiFePo4 / NMC
Rated battery voltage (Vdc)	48.0V
Charging current (A)	10A-120A tunable

LCD Display & Setting

LCD display	Solar power, PV voltage, battery voltage, loading power, charging current, inverter voltage
Stack on capacity setting	P1-P9 increasing capacity / Single-phase change to 3-phase
Other function setting	Priority load: electricity, solar power, battery Stacking setting, grid connect setting, charging setting, battery spec setting, etc.

Working Environment

Working temperature (°C)	-20°C~55°C
Recommend temperature (°C)	-20°C~25°C
Storage temperature (°C)	-30°C~70°C
Humidity	30%~95% no frost
Working altitude	<1000m. if higher need to lower down the power for usage according to GB/T3859.2
Noise (dB)	<55db (1 meter range)

Communication

Communication port	RS232 \ RS485 \ Bluetooth \ Wi-Fi
Communication display	Solar power working condition \ PV generator working condition

Product Dimensions

Dimensions	D522 * W365 * H166mm
Net Weight (KG)	15.0KG

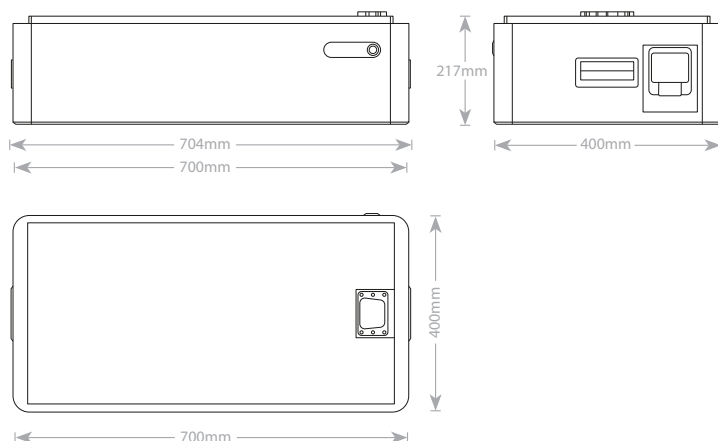
Other Specification

Connector	Anderson 50A hot plug connector with color coded fool proof design, dual + and dual - terminal support up to 100A current Fulfil CE and UL certification
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Battery Specifications - Technical Data

	SPECIFICATIONS	REMARK
Standard Capacity for assembled cell discharging by 0.2C	$\geq 100\text{Ah}$	Standard discharging method
Minimum Capacity for assembled cell discharging by 0.2C	$\geq 96\text{Ah}$	Minimum discharging method
Battery Voltage	51.2V	-
Standard charge condition	Charge with (0.5C) 50A constant current and 57.6V constant voltage, charge to 57.6V, continue charging till current decline to $\leq 0.01\text{C}$	Charge voltage: $57.6\text{V} \pm 0.2\text{V}$ Charge current: (0.5C) 50A
Standard discharging method	(0.5C) 50A constant current discharge to 41.6V,	(0.5C) 50A to 41.6V
Maximum Charge Current	Charge with (1C) 100A constant current and 57.6V constant voltage, charge to 57.6V, continue charging till current decline to $\leq 0.01\text{C}$	Charge voltage: $57.6\text{V} \pm 0.2\text{V}$ Charge current: (1C) 100A
Maximum Discharge Current	(2C) 200A constant current discharge to 41.6V,	(2C) 200A to 41.6V
Operation Temperature and relative Humidity Range	Charge $0 \sim 50^{\circ}\text{C}$ $60 \pm 25\% \text{R.H.}$ Discharge $-20 \sim 55^{\circ}\text{C}$ $60 \pm 25\% \text{R.H.}$	Charging at low temperature such as below 0°C , capacity and cycle life will reduce.
Internal Impedance	Assemblage Impedance $\leq 100\text{m}\Omega$	Measure the Red and black wire of the connector after assembling

Dimensions (Battery Box)

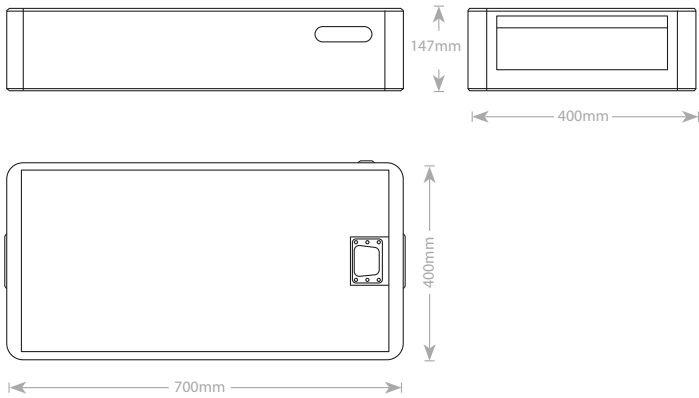


SERIALS	ITEM	DIMENSIONS (MM)	TOLERANCE
1	T	147	± 1.0
2	W	400	± 1.0
3	L	700	± 1.0
4	Total Length	700	± 1.0

PART NAME	QUANTITY	UNIT	REMARK
Battery box	1	Set	T:2.0 Sheet metal spray paint combination battery box
Cell	16	PCS	Great Power GSP42173130F 3.2V 100AH
PCM	1	PCS	P16S150A-PW31333-20A-ZJ
Waterproof box/	1	PCS	3-bit transparent waterproof window cover (CG-0403)
Push button switch	1	PCS	Flat head self-locking 22mm
Dc circuit breaker	1	PCS	12V-125V 1P-250A
Laser welding stud	2	PCS	Cylindrical M8 split stud base 18mm

BCU Chassis - Technical Data

Dimensions (BCU Chassis)

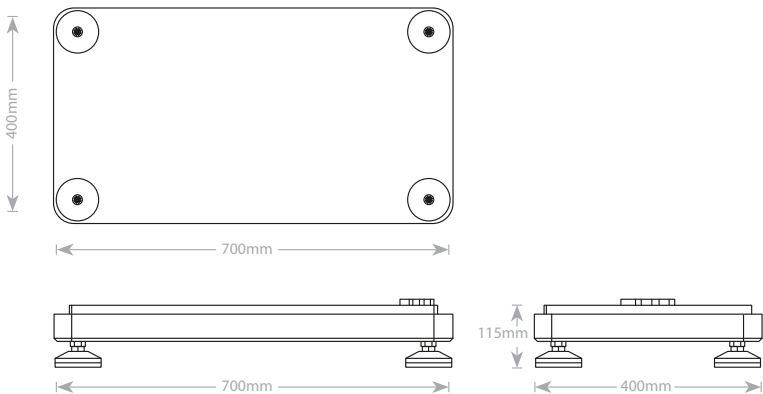


SERIALS	ITEM	DIMENSIONS (MM)	TOLERANCE
1	T	147	±1.0
2	W	400	±1.0
3	L	700	±1.0
4	Total Length	700	±1.0

PART NAME	QUANTITY	UNIT	REMARK
BCU	1	Set	T:2.0 Sheet metal spray paint combination battery box
Terminal Wire	1	PCS	4+17 Energy storage connector -8.0 Cabling of male seat (bottom seat of top box)
Terminal Wire	1	PCS	T95-10+1AWG Black+T95-10 L:590.0±5.0
Terminal Wire	1	PCS	T95-10+1AWG RED+T95-10 L:590.0±5.0
Metal Fittings	1	PCS	Network cable waterproof connector Male and Female Shielded network port RJ45
Metal Fittings	2	PCS	FCC2SI-M1RL-NWF Stored energy 300A socket M10 Internal thread red
Metal Fittings	2	PCS	FCC2SI-M1BL-NWF Stored energy 300A socket M10 Internal thread black

Base Chassis - Technical Data

Dimensions (Base Chassis)



SERIALS	ITEM	DIMENSIONS (MM)	TOLERANCE
1	T	52	±1.0
2	W	400	±1.0
3	L	700	±1.0
4	Total Thickness	700	±1.0
5	Height (include Supporting foot)	115	±5.0

PART NAME	QUANTITY	UNIT	REMARK
Base Chassis	1	Set	T:2.0 Sheet metal spray paint combination battery box
Metal Fittings	4	PCS	Base adjustable fitting
Terminal Wire	1	PCS	4+17 Energy storage connector -8.0 female base (full needle without connection)

Solar System Battery Storage - Technical Data

Electrical and Mechanical Specifications

Battery Type	Cell LiFe
Charging activation voltage	≥44.8V
Continuous charging current	150A
Environmental requirements	RoHS
Communication mode	485/232
Combination mode	16S
Dimensions (H x W x D)	217mm x 704mm x 400mm
Discharge cut-off voltage	40V
Continuous discharge current	150A

Operating Temperature	-20°C to -75°C
Humidity Temperature	0%~90% RH
Storage Temperature	-40°C to -85°C
Storage Humidity	0%~90% RH
Continuous current	150A
Charge over current protection value	160±10A
The first discharge over current protection value	160±10A
The second discharge over current protection value	≥180A
Short circuit protection value	1800±360A

Overvoltage and Under Voltage Protection

	MIN	TYP	MAX	UNIT
Over voltage	3.65	3.70	3.75	V
Over voltage delay	500	1000	1500	mS
Over voltage release	3.400	3.500	3.600	V
Under voltage	2.80	2.90	3.00	V
Under voltage delay	500	1000	1500	mS
Under voltage release	2.81	2.91	3.01	V

Overcurrent Charge

	MIN	TYP	MAX	UNIT
Overcurrent charge delay	0.7	1	1.3	S

Overcurrent Discharge

	MIN	TYP	MAX	UNIT
1th Overcurrent Discharge delay	0.7	1	1.3	S
2th Overcurrent Discharge delay	/	100	/	mS
Short circuit protection delay time	/	300	/	uS

Overtemperature Charge

	MIN	TYP	MAX	UNIT
Temperature protection value	50	55	60	°C
Temperature protection release value	48	50	53	°C

Solar System Battery Storage - Technical Data

Undertemperature Charge

	MIN	TYP	MAX	UNIT
Temperature protection value	-15	-10	-5	°C
Temperature protection release value	-11	-8	0	°C

Overtemperature Discharge

	MIN	TYP	MAX	UNIT
Temperature protection value	55	60	65	°C
Temperature protection release value	50	55	60	°C

Undertemperature Discharge

	MIN	TYP	MAX	UNIT
Temperature protection value	-15	-18	-20	°C
Temperature protection release value	-13	-10	-7	°C

High temperature protection of FET (Built-in)

	MIN	TYP	MAX	UNIT
Temperature protection value	105	110	115	°C
Temperature protection release value	65	70	75	°C

Balance Function

	MIN	TYP	MAX	UNIT
Equalization turn-on voltage	3.270	3.300	3.330	V
Difference opening voltage value	-	15	-	mV
Balance current	-	-	200	mA
Balance model	Idle/Charge/Discharge equalization			
Balance type	(Pulsed model)			

Control & Monitor from anywhere...

With the SALUS Net Zero App.

Download it from Google Play or the App Store.



LED Indicators ...

The SALUS IW10 WiFi Dongle has 3 dual coloured LED to indicate network connection status Cloud, WiFi and Communication.

CLOUD LED

GREEN COLOR - Indicates the dongle is connected to the cloud.

RED COLOR - Indicates the dongle is not connected to the cloud.

WiFi LED

GREEN COLOR - Indicates the dongle is connected to the WiFi router.

RED COLOR - Indicates the dongle is not connected to the WiFi router.

ORANGE COLOR (flashing in 1 second) - indicate the dongle is in WiFi setup mode

COMM LED

GREEN COLOR - Indicates the communication between the dongle and the inverter is correct.

RED COLOR - Indicates the communication between the dongle and the inverter failed.



Cloud Server...

The WIFI dongle collects all necessary data from the inverter every 5 minutes and sends to the cloud to be displayed via the mobile app in the form of graphs and charts.



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