


HUAWEI Power-S

Seamless Hybrid Power & Backup

Power Up Your Business




 All-in-One Modular System

 Flexible Sizing For Every Need

 Intelligent Generator Control

 Plug & Play, Hot Swapping

 Remote Monitoring Capability

 Full Replacement Warranty



Typical application scenarios

For Small Commercial & Industrial, AC load 10kW~100kW

Farm

Hotel

Bank or gas station branch

Campus



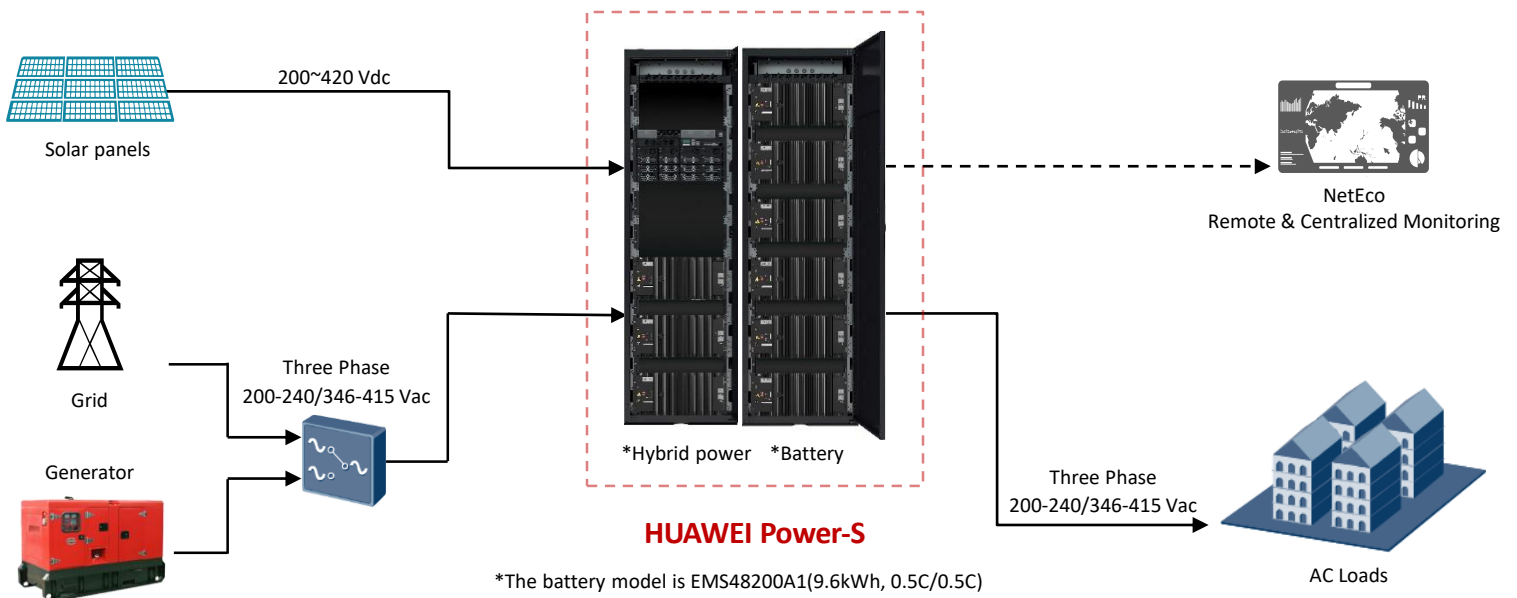
Mall or shop

Restaurant

Office

Factory

Power-S system connection diagram



Power-S Solution Advantages

Seamless

- <10 ms energy switchover
- Uninterrupted experience
- Solar-grid-generator-battery seamless switchover

All-in-one

- Integrated battery, inverter, rectifier, solar MPPT, bypass, ACSPD
- Built-in hybrid EMS, generator controller
- All internal cables pre-integration
- Transformerless, support IP/4G & dual-SIM cards

Flexible sizing for every need

- Fully modular design, Plug & Play, Hot Swapping
- Flexible sizing configured as required:
Inverter 3 ~ 72kW, Battery 5 ~ 600 kWh, Solar 0 ~ 144kW
- Easy capacity expansion and flexible for any budget
- Support to work with existing grid-tied solar inverter

Easy & quick installation

- All in one, within one-day installation
- All modules commissioning-free
no DIP switch setting
- All internal cables pre-integration
- Outdoor solution 0 civil work, more saving

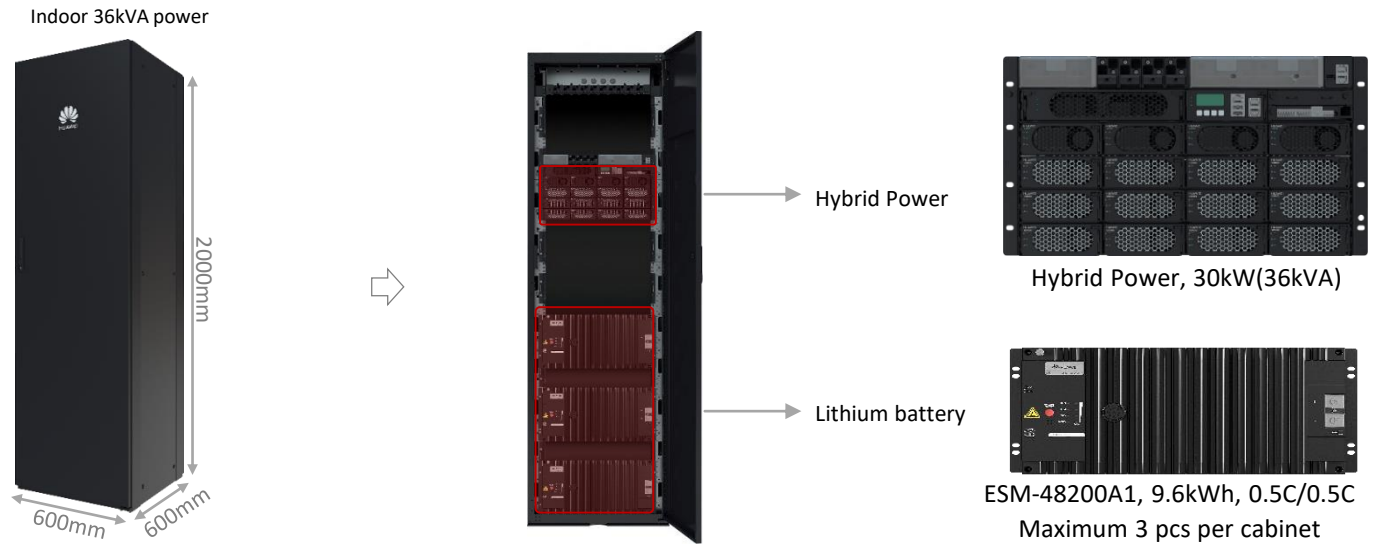
Intelligent generator control

- Remote & intelligent generator control
- Minimum-fuel-consumption-point tracking
- D.G. peak shaving enables reducing from big generator to small generator

Centralized monitoring and O&M

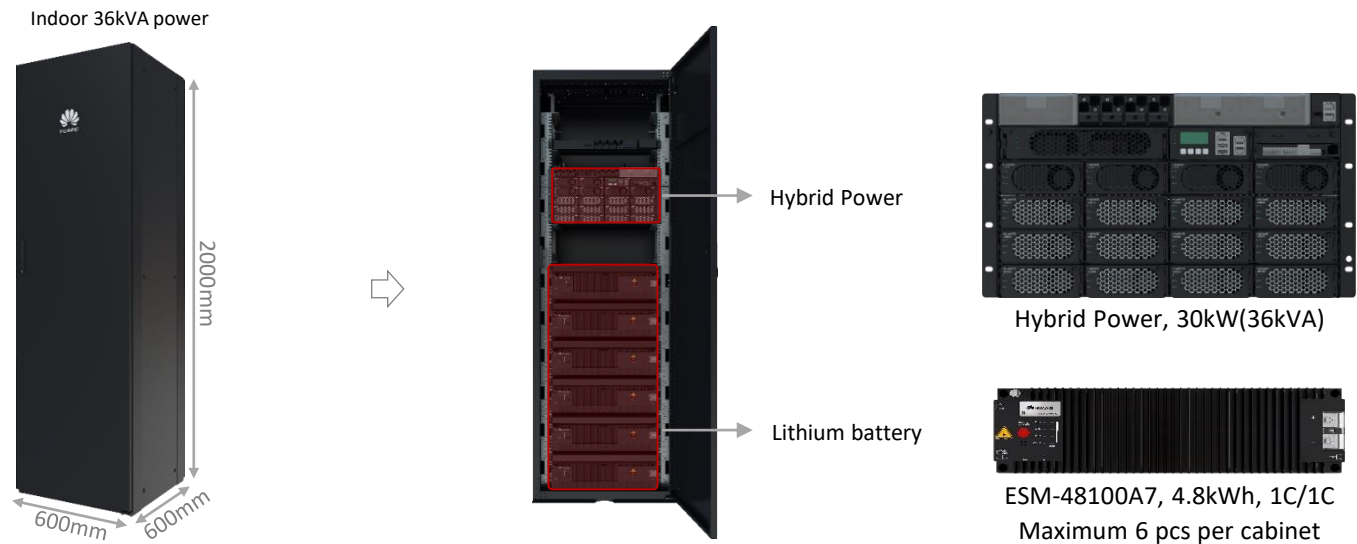
- Remote cloud NMS and APP
- Making savings visible and monetizable
- Supports wide range of intelligent wireless sensors

Indoor Hybrid Power & Battery System Specification with 0.5C battery



Technical Specifications		ICC200-N6-H2
PV input	Input voltage	90~440 V DC
	Power	4kW per module
AC input	Rated input voltage	Three-phase, 85~300Vac
	Rated input frequency	45~66Hz
	Max. input current	3 x 120 A
	AC bypass	36kVA
AC output	Rated output power	16kW DC/36kVA AC, support 2 connected in parallel: 32kW DC/72kVA AC
	Rated output voltage	Three-phase, 220V AC
	Rated output frequency	50 Hz / 60 Hz
	Output branch	1 x 100 A/3P MCB
DC output	Output voltage	42V to 58V DC, default: 53.5V DC
	SPD	10 kA differential mode, 20 kA common mode, 8/20 μs
Battery parameters	Battery Model	ESM-48200A1
	Battery capacity	200Ah
	Battery material type	LiFePO4
	Battery dimensions	442*560*218 mm
	Battery operating voltage	44~57 V DC
	Rated voltage	48V DC
	Maximum charging current	100 A / 0.5C
	Maximum discharge current	100 A / 0.5C
	Cycle performance	6500 cycles @0.5C/0.5C,85% DOD, 25°C
General parameters	Numbers per cabinet	3 (Need adjustment guide rails)
	Dimensions (W x D x H)	600 mm x 600 mm x 2000 mm (excluding the base 100mm)
	Weight	<150 kg
	Operating temperature	-20°C~ 45°C
	Storage temperature	-40°C ~ 70°C
	Cooling mode	Natural cooling
	Altitude	0 ~ 5000m (The temperature is derated when the altitude ranges from 2000 m to 5000 m. The temperature decreases by 1°C for each additional 200 m)
	Relative humidity	5~95%, non-condensing
	Protection level	IP20
	Protection function	Low-voltage protection, over-voltage protection, over-current protection, over-temperature protection, short-circuit protection, and reverse connection protection
	Communication type	CAN, RS485, GPRS, IP
Authentication certificate	CE, ROHS6	

Indoor Hybrid Power & Battery System Specification with 1C battery



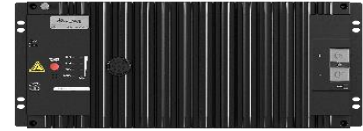
Technical Specifications		ICC200-N6-H2
PV input	Input voltage	90~440 V DC
	Power	4kW per module
AC input	Rated input voltage	Three-phase, 85~300Vac
	Rated input frequency	45~66Hz
	Max. input current	3 x 120 A
	AC bypass	36kVA
AC output	Rated output power	16kW DC/36kVA AC, support 2 connected in parallel: 32kW DC/72kVA AC
	Rated output voltage	Three-phase, 220V AC
	Rated output frequency	50 Hz / 60 Hz
	Output branch	1 x 100 A/3P MCB
DC output	Output voltage	42V to 58V DC, default: 53.5V DC
	SPD	10 kA differential mode, 20 kA common mode, 8/20 μs
Battery parameters	Battery Model	ESM-48100A7
	Battery capacity	100Ah
	Battery material type	LiFePO4
	Battery dimensions	442*396*130 mm
	Battery operating voltage	44~57 V DC
	Rated voltage	48V DC
	Maximum charging current	100 A / 1C
	Maximum discharge current	100 A / 1C
	Cycle performance	6500 cycles @0.5C/0.5C,85% DOD, 25°C
	Numbers per cabinet	6
General parameters	Dimensions (W x D x H)	600 mm x 600 mm x 2000 mm (excluding the base 100mm)
	Weight	<150 kg
	Operating temperature	-20°C~ 45°C
	Storage temperature	-40°C ~ 70°C
	Cooling mode	Natural cooling
	Altitude	0 ~ 5000m (The temperature is derated when the altitude ranges from 2000 m to 5000 m. The temperature decreases by 1°C for each additional 200 m)
	Relative humidity	5~95%, non-condensing
	Protection level	IP20
	Protection function	Low-voltage protection, over-voltage protection, over-current protection, over-temperature protection, short-circuit protection, and reverse connection protection
	Communication type	CAN, RS485, GPRS, IP
Authentication certificate	CE, ROHS6	

Indoor battery cabinet



Lithium battery

ESM-48200A1, 9.6kWh, 0.5C/0.5C



Maximum 6 pcs per cabinet

Type		ESC200-N5
System	Dimensions (W × D × H)	600 mm × 600 mm × 2000 mm
	Weight	< 100 kg (excluding batteries)
	Installation Mode	Floor-mounted installation
	Cabling mode	Cable routing from the top
	Maintenance Mode	Front and rear maintenance
	Protection level	IP20
	Cooling Mode	Natural heat dissipation
Battery parameters	Battery Model	ESM-48200A1
	Battery capacity	200Ah
	Battery material type	LiFePO4
	Battery dimensions	442*560*218 mm
	Battery operating voltage	44~57 V DC
	Rated voltage	48V DC
	Maximum charging current	100 A / 0.5C
	Maximum discharge current	100 A / 0.5C
	Cycle performance	6500 cycles @0.5C/0.5C,85% DOD, 25°C
	Numbers per cabinet	6
Environment	Operating temperature	-20°C ~ +45°C
	Storage temperature	-40°C ~ +70°C
	Temperature and humidity	5% ~ 95% (non-condensing)
	Altitude	0 ~ 5000m (The temperature is derated when the altitude ranges from 2000 m to 5000 m. The temperature decreases by 1°C for each additional 200 m)

Indoor battery cabinet



Lithium battery

ESM-48100A7, 4.8kWh, 1C/1C



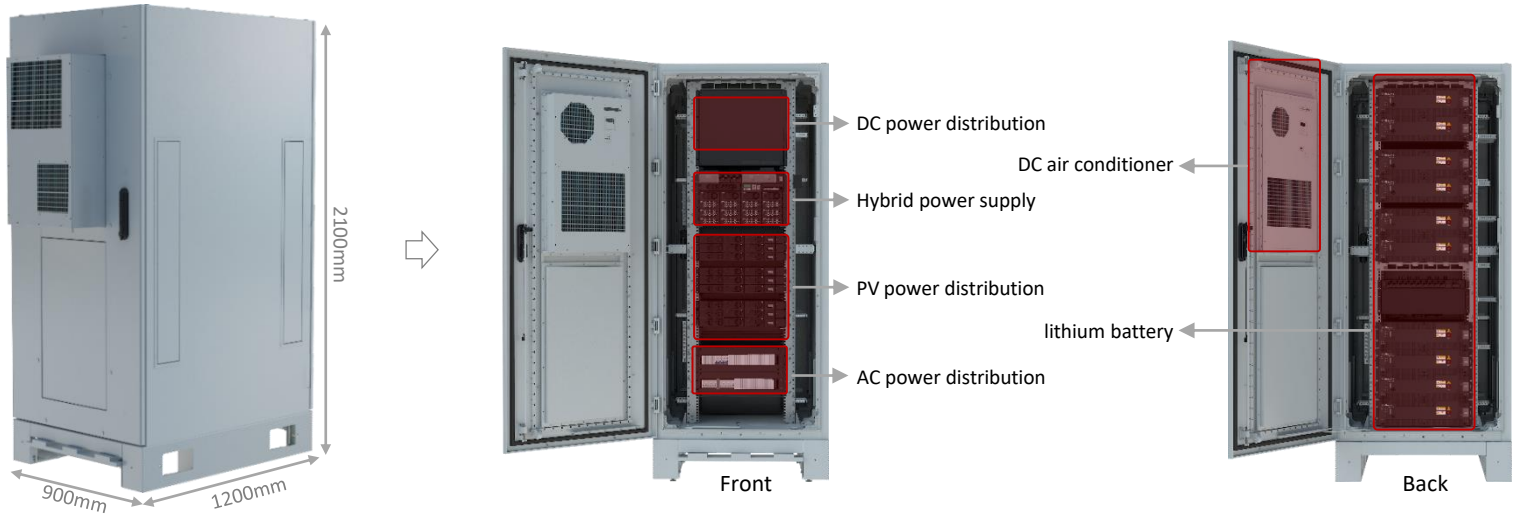
Maximum 10 pcs per cabinet

Type		ESC200-N5
System	Dimensions (W × D × H)	600 mm × 600 mm × 2000 mm
	Weight	< 100 kg (excluding batteries)
	Installation Mode	Floor-mounted installation
	Cabling mode	Cable routing from the top
	Maintenance Mode	Front and rear maintenance
	Protection level	IP20
	Cooling Mode	Natural heat dissipation
Battery parameters	Battery Model	ESM-48100A7
	Battery capacity	100Ah
	Battery material type	LiFePO4
	Battery dimensions	442*396*130 mm
	Battery operating voltage	44~57 V DC
	Rated voltage	48V DC
	Maximum charging current	100 A / 1C
	Maximum discharge current	100 A / 1C
	Cycle performance	6500 cycles @0.5C/0.5C,85% DOD, 25°C
	Numbers per cabinet	10
Environment	Operating temperature	-20°C ~ +45°C
	Storage temperature	-40°C ~ +70°C
	Temperature and humidity	5% ~ 95% (non-condensing)
	Altitude	0 ~ 5000m (The temperature is derated when the altitude ranges from 2000 m to 5000 m. The temperature decreases by 1°C for each additional 200 m)

Outdoor 36kVA Hybrid Power System Specification with 1C battery



Outdoor 36kVA Hybrid Power

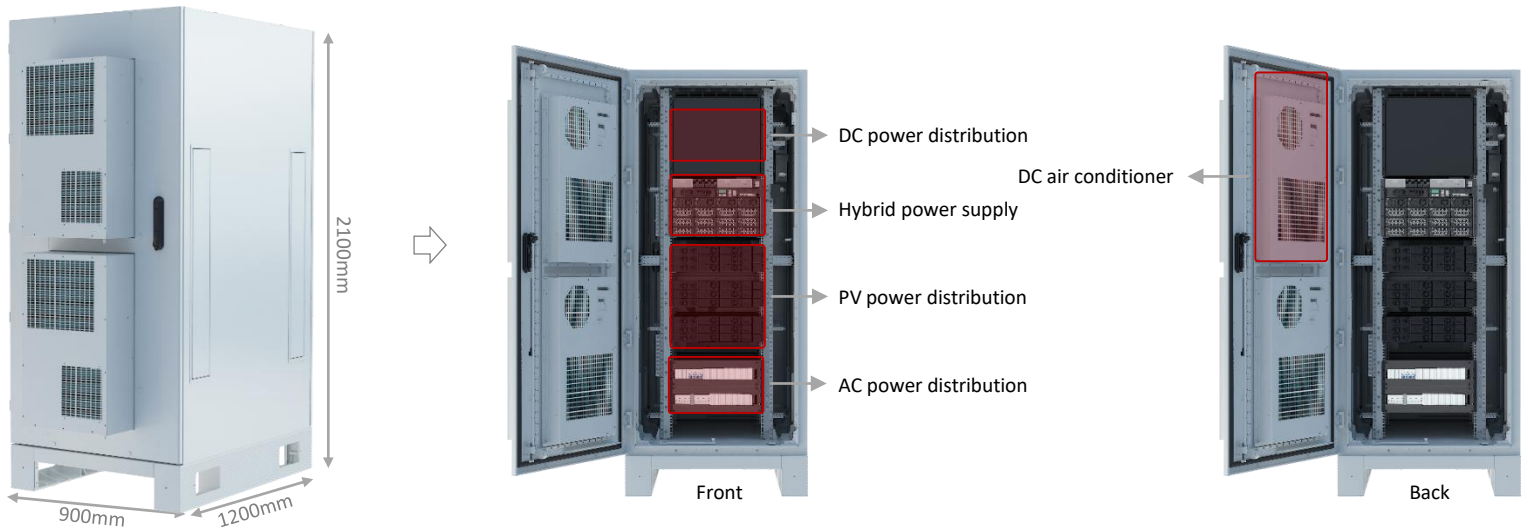


Technical Specifications		ICC1000-A1-E3
PV input	Input voltage	90~440Vdc
	Power	4kW per module
AC input	Rated input voltage	Three-phase, 147VAC~519VAC
	Rated input frequency	45~66Hz, 50 Hz / 60 Hz
	Max. input current	3 x 120 A
	AC bypass	36kVA
	SPD	30kA/30 kA, 8/20us
AC output	Rated output power	16kW DC/36kVA AC
	Rated output voltage	Three-phase, 220Vac
	Rated output frequency	45~66Hz, 50 Hz / 60 Hz
	Maximum output current	One 3 x 100A
	SPD	30kA/30 kA, 8/20us
DC output	Output voltage	48V
	Output current	Max. 1800A
	DC output & Battery distribution	4 x M10, 6 x M6 OT terminal
	SPD	10 kA differential mode, 20 kA common mode, 8/20 μs
Battery parameters	Battery Model	ESM-48100A7
	Battery capacity	100Ah
	Battery material type	LiFePO4
	Battery dimensions	442*396*130 mm
	Battery operating voltage	44~57 V DC
	Rated voltage	48V DC
	Maximum charging current	100 A / 1C
	Maximum discharge current	100 A / 1C
	Cycle performance	6500 cycles @0.5C/0.5C,85% DOD, 25°C
	Numbers per cabinet	10
General parameters	Dimensions (W x D x H)	900 mm x 1200 mm x 2100 mm
	Weight	<475 kg
	Operating temperature	-40°C to +55°C (without PV radiation) -40°C to +50°C (with PV radiation +120 W/m2)
	Storage temperature	-40°C ~ 70°C
	Cooling mode	DC air conditioner
	Altitude	0 ~ 5000m (The temperature is derating when the altitude ranges from 2000 m to 5000 m. The temperature decreases by 1°C for each additional 200 m)
	Relative humidity	5~95%, non-condensing
	Protection level	IP55
	Protection function	Low-voltage protection, over-voltage protection, over-current protection, over-temperature protection, short-circuit protection, and reverse connection protection
	Communication type	CAN, RS485, GPRS, IP
Authentication certificate	CE, ROHS6	

Outdoor 72kVA Hybrid Power System Specification



Outdoor 72kVA Hybrid Power

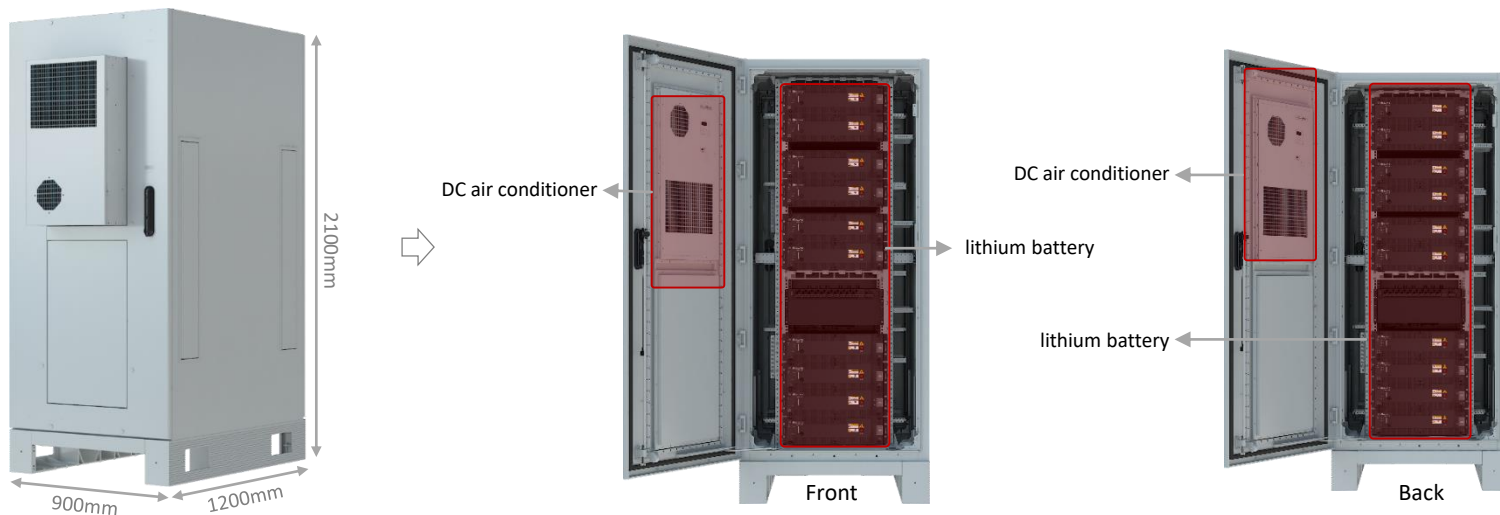


Technical Specifications		ICC1000-A1-E5
PV input	Input voltage	200~420Vdc
	Power	16 x 8kW
AC input	Rated input voltage	Three-phase, 85~300Vac
	Rated input frequency	45~66Hz, 50 Hz / 60 Hz
	Max. input current	Max. 250 A per phase
	AC bypass	36kVA
	SPD	30kA/30 kA, 8/20us
AC output	Rated output power	32kW DC/72kVA AC
	Rated output voltage	Three-phase, 220Vac
	Rated output frequency	45~66Hz, 50 Hz / 60 Hz
	Maximum output current	One 3 x 250A
	SPD	30kA/30 kA, 8/20us
DC output	Output voltage	48V
	Output current	Max. 1800A
	DC output & Battery distribution	4 x M10, 6 x M6 OT terminal
	SPD	10 kA differential mode, 20 kA common mode, 8/20 μs
Battery parameters	Battery Model	ESM-48100A7
	Battery capacity	100Ah
	Battery material type	LiFePO4
	Battery dimensions	442*396*130 mm
	Battery operating voltage	44~57 V DC
	Rated voltage	48V DC
	Maximum charging current	100 A / 1C
	Maximum discharge current	100 A / 1C
	Cycle performance	6500 cycles @0.5C/0.5C,85% DOD, 25°C
	Numbers per cabinet	No battery space is available. Capacity expansion is performed through the battery cabinet.
General parameters	Dimensions (W x D x H)	900 mm x 1200 mm x 2100 mm
	Weight	<575 kg
	Operating temperature	-40°C to +55°C (without solar radiation) -40°C to +50°C (with solar radiation +120 W/m2)
	Storage temperature	-40°C ~ 70°C
	Cooling mode	DC air conditioner
	Altitude	0 ~ 5000m (The temperature is derated when the altitude ranges from 2000 m to 5000 m. The temperature decreases by 1°C for each additional 200 m)
	Relative humidity	5~95%, non-condensing
	Protection level	IP55
	Protection function	Low-voltage protection, over-voltage protection, over-current protection, over-temperature protection, short-circuit protection, and reverse connection protection
	Communication type	CAN, RS485, GPRS, IP
Authentication certificate	CE, ROHS6	

Outdoor Battery Cabinet Specification with 1C battery



Outdoor battery cabinet



Type		ESC1000-A2
System	Dimensions (W × D × H)	900 mm × 1200 mm × 2100 mm
	Weight	< 410 kg (excluding batteries)
	Installation Mode	Floor-mounted installation
	Cabling mode	Cable routing from the bottom
	Maintenance Mode	Front and rear maintenance
	Protection level	IP55
	Cooling Mode	1 x PC1500D DC air conditioner, max. 4 expansion
Battery parameters	Battery Model	ESM-48100A7
	Battery capacity	100Ah
	Battery material type	LiFePO4
	Battery dimensions	442*396*130 mm
	Battery operating voltage	44~57 V DC
	Rated voltage	48V DC
	Maximum charging current	100 A / 1C
	Maximum discharge current	100 A / 1C
	Cycle performance	6500 cycles @0.5C/0.5C,85% DOD, 25°C
	Numbers per cabinet	20
Environment	Operating temperature	-40°C to +55°C (without solar radiation) -40°C to +50°C (with solar radiation +120 W/m2)
	Storage temperature	-40°C ~ +70°C
	Temperature and humidity	5% ~ 95% , non-condensing
	Altitude	0 ~ 5000m (The temperature is derated when the altitude ranges from 2000 m to 5000 m. The temperature decreases by 1°C for each additional 200 m)

Indoor

1 15kW+30kWh



- 15kW Power
- 16kW Battery charger
- 16kW Solar MPPT charger
- 28.8kWh Lithium battery
- 3*200Ah

2 30kW+60kWh



- 30kW Power
- 16kW Battery charger
- 32kW Solar MPPT charger
- 57.6kWh Lithium battery
- 6*200Ah

3 60kW+120kWh



- 60kW Power
- 32kW Battery charger
- 64kW Solar MPPT charger
- 115.2kWh Lithium battery
- 12*200Ah

4 60kWh



- 57.6kWh Lithium battery
- 6*200Ah
- optional

5 30kW



- 30kW Power
- 16kW Battery charger
- 32kW Solar MPPT Charger

6 8kW-PVDU



Solar access capacity expansion:

- 8kW Solar MPPT Charger
- Optional

Outdoor

7 30kW+50kWh



- 30kW Power
- 16kW Battery charger
- 32kW Solar MPPT charger
- 48kWh Lithium battery
- 10*100Ah

8 60kW+100kWh



- 60kW Power
- 32kW Battery charger
- 64kW Solar MPPT charger
- 96kWh Lithium battery
- 20*100Ah

Remark:

1. Including: battery, inverter, battery charger, solar MPPT, bypass, AC SPD, EMS, D.G. controller, internal cables, communications module.
2. Common C&I: Typical average load PF ≥ 0.83 ; Data Center Equipment: Typical average load PF ~ 1 .
3. Local touch color screen is optional. Transformer-less.



South Africa: Huawei Office Park



- Seamless switch, 4~6 hours backup
- 0 D.G. running, no noise, no pollution
- 0 civil work, installation < 1 day

Nigeria: Apartment



- Solar hybrid, reduce 60% electricity bills
- Seamless, saving energy cost \$20k/Year
- 4~5 hours backup, installation < 1 day



Nigeria: Bank Branch (off grid)





- D.G. running: 12h/day → 5h/day
- Reduce 46% Energy Cost
- Seamless switch, 3~4 hours backup





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