

EStand One-Stop Solution (US)

Prefabricated One-Stop Turnkey Energy Storage Solution

Covering system configuration, key components, application scenarios, and grid-connected/off-grid topology diagrams.

Core Energy Storage Unit

- 1-2 MPack 261A units: Each unit is a 261 kWh / 135 kW liquid-cooled C&I energy storage cabinet.
- 400 kW DC fast charging module: Dual-gun output, CCS1/NACS compatible, with up to 10*40 kW power modules configurable as 4/6/8/10 modules as required.

Key Components (forming a complete system)

- Array Combiner Cabinet
- Matrix Combiner Cabinet
- STS Cabinet
- Communication Cabinet
- US Standard Transformer
- Anti-backflow meter & CTs
- Auxiliary Power Distribution Cabinet



Renon Power USA LLC

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Product Overview

EStand is Renon's integrated energy storage and charging solution for industrial and commercial applications. Each standard unit combines two 261 kWh energy storage cabinets with one 400 kW charger, supporting LFP battery storage, DC fast charging, liquid cooling, and intelligent energy management. It enables grid/off-grid switching, medium-voltage grid connection, and parallel expansion for LV/MV grid-connected and PV-storage-charging-diesel microgrid systems.

Core Energy Storage Unit



MPack 261A
P04



DC Charging Station
P05

Key Components (forming a complete system)



Array Combiner
P06



Matrix Combiner
P06



STS Cabinet
P07



Communication Cabinet
P08



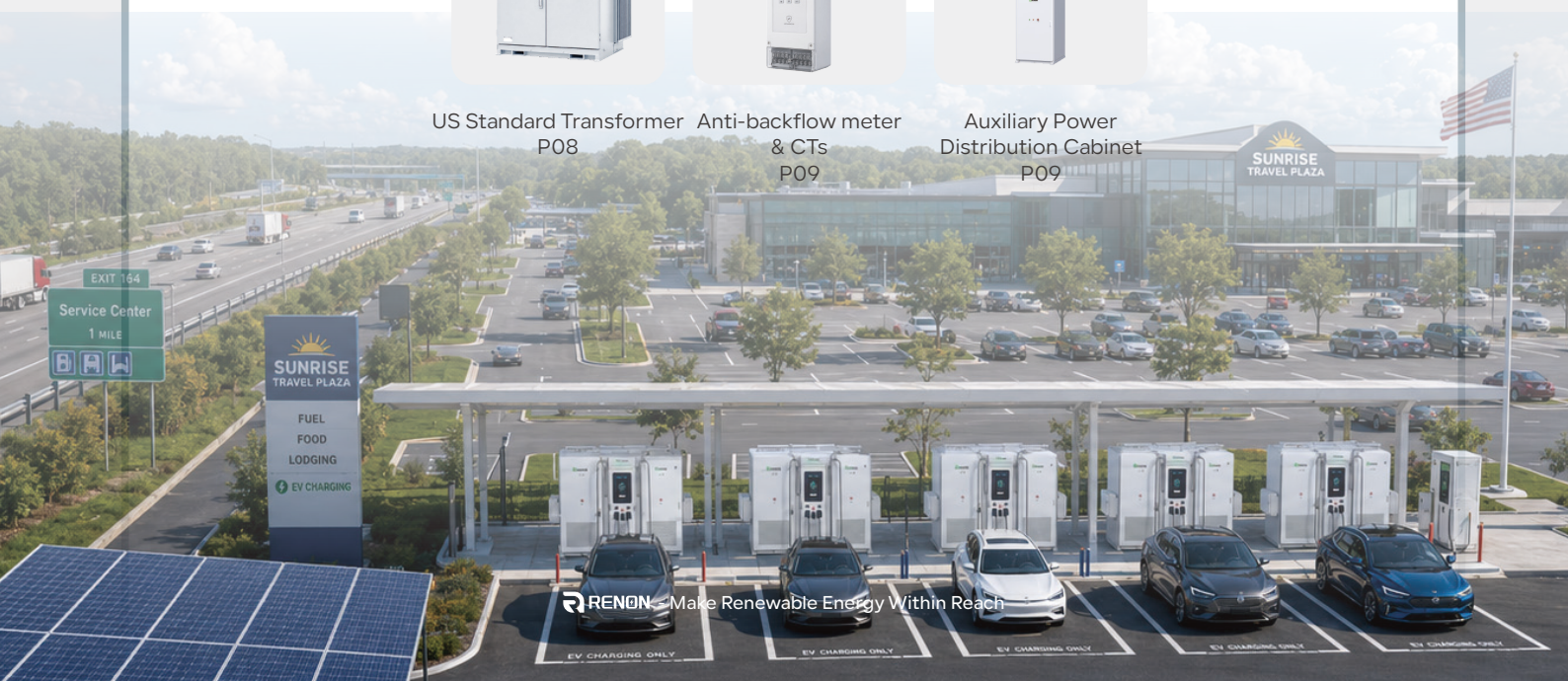
US Standard Transformer
P08



Anti-backflow meter
& CTs
P09



Auxiliary Power
Distribution Cabinet
P09



EStand

Cabinet DC Fast Charging Solution

Core Energy Storage Unit

Ultra-fast charging: 400 kW dual-gun DC output, compatible with CCS1/NACS, efficiency $\geq 97\%$

Modular power design: Up to 10 \times 40 kW modules, configurable as 4/6/8/10 modules for 160/240/320/400 kW output

Smart energy storage: Each EStand includes 2 \times 261 kWh batteries, with usable capacity $\geq 90\%$ DoD and cycle life $\geq 8,000$ cycles

Flexible grid/off-grid switching: Electric-operated cabinet ≤ 3 min or STS cabinet ≤ 20 ms



Product Function



Standard Storage-Charging Unit

Each EStand integrates two 261 kWh liquid-cooled energy storage cabinets and one 400 kW DC fast charger for turnkey deployment.



Ultra-Fast Charging

Dual-gun output with CCS1/NACS support, up to 400 A per connector and $\geq 97\%$ charging efficiency.



Modular Power Configuration

The charger supports up to ten 40 kW power modules, configurable as 4/6/8/10 modules for 160/240/320/400 kW output.



Flexible Grid/Off-Grid Operation

Electric-operated switching cabinet enables reliable switching within 3 minutes; STS cabinet provides transfer within 20 ms for uninterrupted critical loads.



Intelligent Energy Management

Built-in EMS supports peak shaving, demand management, PV-storage-charging-diesel coordination, anti-backflow control, and VPP dispatch.



High Protection Rating

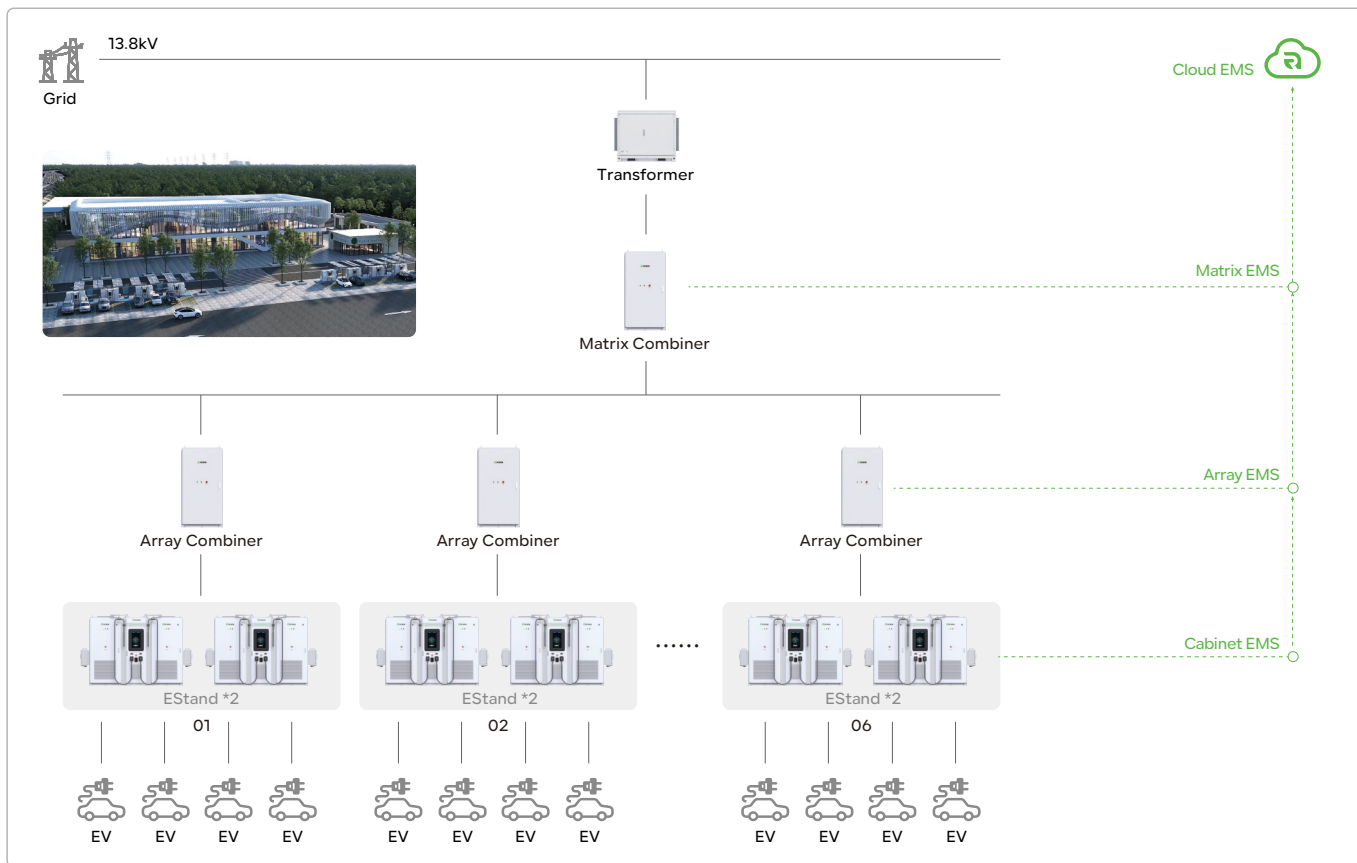
IP55 charger cabinet and IP54 battery compartment for demanding outdoor environments.

System Overview



On-Grid Charging Applications

Low-Voltage Grid-Connected Storage-Charging System is designed for scenarios focused on peak shaving, demand management, and EV charging services where backup power is not required. The system supports up to 6 EStand main units in parallel. A typical configuration includes 6 EStand units, consisting of 12 × 261A energy storage cabinets and 6 × 400 kW chargers, consolidated through 3 array cabinets and 1 matrix cabinet. This standardized architecture enables coordinated energy management, flexible capacity expansion, and simplified deployment for low-voltage grid-connected storage-charging stations.

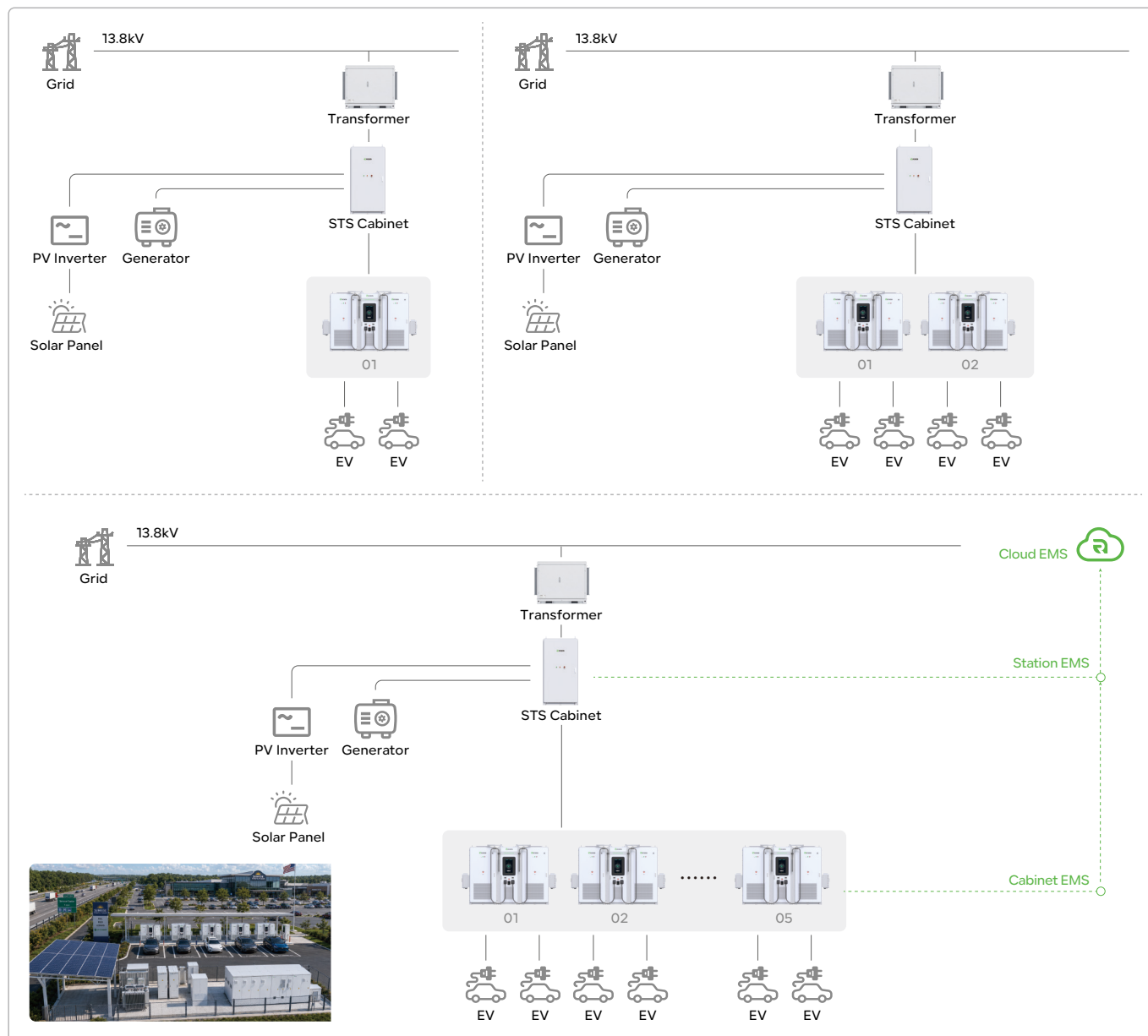


Configuration List (Single Matrix)

Components	Quantity	Remarks
EStand	6 units	Each unit includes 2*261 kWh & 1*400 kW charging stations
Array Combiner	3 units	Every 2 EStand are connected to a single array cabinet
Matrix Combiner	1 unit	Connect 3 array cabinets
MPPT Cabinet	Optional	each unit can be paired with 1 unit (i.e., up to 2 units per EStand)
Communication Cabinet	3 units	Same as the matrix distribution cabinet
Anti-backflow meter & CTs	1 unit	1 electricity meter + 3 current transformers
Auxiliary Power Distribution Cabinet	Optional	/

On/Off-Grid Solar-Storage-Diesel Charging Applications

LV On/Off-Grid Solar-Storage-Diesel Charging Applications is designed for data centers, hospitals, and critical infrastructure requiring uninterrupted power supply. With millisecond-level switching via the STS cabinet, the system supports grid-connected operation, off-grid backup, PV integration, diesel generator coordination, and EV charging. It can be configured with up to 5 EStand main units for high-reliability applications.



Configuration List (Single Matrix)

Components	Quantity	Remarks
EStand	1/2/5 units	Each unit includes 2*261 kWh & 1*400 kW charging stations
STS Cabinet	1 units	/
MPPT Cabinet	Optional	each unit can be paired with 1 unit (i.e., up to 2 units per EStand)
Anti-backflow meter & CTs	Optional	/
Auxiliary Power Distribution Cabinet	1 unit	1 electricity meter + 3 current transformers
Generator	Optional	To be provided by the buyer



Battery Energy Storage

Battery Capacity (kWh)	261	522
Nominal Voltage (V)	832	
Operation Voltage Range (Vdc)	702~936	
Discharge Depth	90% DoD	
Thermal Management Mode	Liquid-cooled	
Thermal Control Management	Aerosol Extinguishing	

AC Output

Rated AC Output Power (kW)	135	270
Max.AC Output Power (kVA)	148.5	297
Rated Output Voltage (VAC)	480	
Output Voltage Range (VAC)	408~528	
Rated Grid Frequency (Hz)	60(±5)	
Adjustable Power Factor	0.99/-1~1	
THDi	≤3%	

DC/DC

Max. Charge/discharge Power (kW)	270	540
Voltage Range for Charge/discharge (VDC)	761~923	
Max. Current (A)	314	628

System Characteristic

Communication Interface	CAN, RS485, WiFi, LTE	
Warranty	5 years free, paid from the 6th to the 15th year	
Certifications	ANSI/CAN/UL1973:2022,ANSI/CAN/UL9540:2020,UL9540A:2019, UL1741:2012 Ed.3+R:19May2023 UL1741:2021 Ed.3(Supplement SB),CSA C22.2#1071:2016 Ed.4+U1, IEEE 1547:2018,EEE 15471:2020	

General Parameters

Battery Model	R-ES261135C1-US	R-ES522270C1-US
Dimensions - W*D*H (in)	~86*57*91.3	~129*57*91.3
Total Weight (lb)	8124(±11)	14429(±11)
Operation Altitude	≤4000m/13122ft (2000m/6561ft derating)	
Noise Level @1m	<75 dB(A)	
IP Rating	IP54	
Operating Temperature (°C/°F)	-20~55/-4~131	
Operating Humidity (RH)	0 to 95%, non-condensation	
Storage Conditions	-20~30°C/-4~86°F, Up to 95% RH, non-condensation, State of Energy (SoE): 50% initial	

DC Charging Station



General Parameters

Rated Power (kW)	400
Peak Efficiency	≥97% (800Vdc input, 800Vdc output @ full load)
Input Voltage (Vdc)	650~962
Output Voltage (Vdc)	200~ 1000
Maximum Current per Connector (A)	400
Number of Charging Connectors	2 connectors (dual gun, CCS1 / NACS)
Cable Length	5 m
Cooling Method	Forced air cooling
Communication Protocol	OCPP 1.6J, supports Ethernet/LTE
User Authentication	RFID (ISO/IEC 14443A), POS terminal
Safety Protection	Input over/under voltage protection, output overcurrent protection, overtemperature protection short-circuit protection, surge protection, access control protection
Ingress Protection Rating	IP55 (system), IK08 (screen), IK10 (enclosure impact protection)
Operating Temperature	-30°C to 50°C (derating above 50°C)
Storage Temperature	-40°C to 75°C
Relative Humidity	5% – 95% (non-condensing)
Altitude	≤2000m
Noise	<80 dB (at 1 m)
Dimensions - W*D*H (mm)	950*1150*2400 (including cable management system)
Additional Features	Cable management system, fan PWM dynamic control, door-open safety button

■ Array Combiner Cabinet Parameters



General Parameters

Product Model	R-MC625ACC01-US
Rated Power (kW)	625
Functions	Array-level low-voltage AC power distribution and combiner
Cable Entry/Exit Method	5 incoming(from Battery), 1 outgoing(to Grid)
Grid-Side (A)	1000
Operating Temperature	-20°C to 55°C
Ingress Protection Rating (IP Rating)	IP54
Corrosion Protection Rating	C5
Certifications	US standard

■ Matrix Combiner Cabinet Parameters



General Parameters

Product Model	R-MC2500ACC01-US
Rated Power (kW)	2500
Functions	Matrix-level low-voltage AC power distribution and combiner
Cable Entry/Exit Method	4 incoming(from Battery), 1 outgoing(to Grid)
Grid-Side	Built-in
Operating Temperature	-20°C to +55°C
Ingress Protection Rating (IP Rating)	IP54
Corrosion Protection Rating	C5
Certifications	US standard

■ STS Cabinet Parameters (2 units in parallel)



General Parameters

Product Model	R-ST02S63003-US
Core Switch	Fast Transfer Switch, 630 A ×2 in parallel, 4-pole, 1071 A
Control Box	STS Control Box
External Switch	630 A ×2
Diesel Generator Interface	MCCB, supports remote open/close control
PV Interface	MCCB, supports remote open/close control
Electric Meter	AC Meter
Ingress Protection Rating	IP54
Certifications	US standard
Installation Method	Floor-mounted or wall-mounted

■ STS Cabinet Parameters (5 units in parallel)



General Parameters

Product Model	R-SS05G200003-US
Core Switch	2000A*4 (A/B/C/N each)
Input-Side ACB (Air Circuit Breaker) (A)	2500
Output Load Switch (A)	1200
Manual Maintenance Bypass	1200A switch
Diesel Generator Switch	1200A, supports remote open/close control
PV Switch	1200A, supports remote open/close control
Control Box	STS Control Box
Auxiliary Configuration	Built-in UPS, air-cooled air conditioner
Ingress Protection Rating	IP54
Certifications	US standard
Installation Method	Outdoor floor-mounted

■ STS Cabinet Parameters (10 units in parallel)



General Parameters

Product Model	R-SS10G400003-US
Core Switch	2000A*2*4 (2 in parallel for each A/B/C/N phase)
Input-Side ACB (A)	4000
Output ACB (A)	2500
Maintenance Bypass ACB (A)	2500
Diesel Generator ACB	4000A, supports remote open/close control
PV ACB	4000A, supports remote open/close control
Control Box	STS Control Box
Auxiliary Configuration	Built-in UPS, air-cooled air conditioner
Ingress Protection Rating	IP54
Certifications	US standard
Installation Method	Outdoor floor-mounted

Communication Cabinet Parameters



General Parameters

Product Model	R-CC01C00800
Applicable Area	EU/US
Built-in Equipment	Internal/external switches, routers, EMS industrial PC, small UPS module, 600 W air-cooled air conditioner
Functions	Supports integration with Station EMS and third-party EMS equipped with multiple RS485 and Ethernet ports for data acquisition, communication, and control
Installation Method	Outdoor floor-mounted
Operating Temperature	-30°C to 55°C
Ingress Protection Rating	IP55
Corrosion Protection Rating	C5

US Standard Transformer



General Parameters

Product Model	R-MT3000PT01-US
Rated Capacity (kVA)	3000
Number of Phases	3-phase
Frequency (Hz)	60
Primary Voltage (kV)	13.8
Secondary Voltage (V)	480
Impedance	5.75%–7.5%
Cooling Method	KNAN
Insulating Liquid	High fire point liquid (FR3)
Ingress Protection Rating	IP54
Dimensions - W*D*H (mm)	1850*3260*2500
Weight (kg)	~7500
Certifications	ANSI/IEEE C57.12, DOE 2016

Anti-backflow meter & CTs



Anti-backflow Meter

Voltage Range (Vac)	100~600
Communication	Modbus RTU
Active Power Sampling Rate	10 Hz fast active power measurement
Accuracy Class	Class 0.5
Accuracy Condition	Used with Class 0.2 CTs
Operating Temperature	-40 ~ +80°C

Current Transformer (CT)

Structure	0.333 V
Output Signal	Class 0.5 or Class 0.6
Accuracy Class	Selected according to primary current
Window Size	Actual system capacity and primary-side current
Selection Basis	

Auxiliary Power Distribution Cabinet (For Single EStand)



General Parameters

Capacity	15 kVA
Input Voltage	480 V
Output Voltage	120/240 V
Protection Rating	NEMA 3R
Temperature Rise	115°C
Insulation Class	Class 180 (220°C)
Standard	UL/cUL, DOE 2016

Auxiliary Power Distribution Cabinet (For 2~6 EStand)



General Parameters

Capacity (kVA)	30~120
Input Voltage (V)	480
Output Voltage (V)	400 (240/120 V available upon request)
Mounting Method	Floor-mounted
Protection Rating	IP54, C5 corrosion protection

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