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Kommerical ONE

Integrated PV, ESS & EV Charging Solutions

- Reliable Supply
- Value Boost
- Future Grid



ABOUT KSTAR

• **1996**
Overseas Expansion
Enter the European and US Market

1993
KSTAR Established
Enter Offline UPS Field

• **2004**
Further Development
Enter High-power Online UPS Field

1998
New Manufacturing Base
Guanlan Industrial Park Inaugurated in Shenzhen

• **2010**
IPO and Public Debut
Listed in Shenzhen Stock Exchange

2009
Enter New Energy Field
1st PV Inverter Produced

• **2015**
National Certified Technology Center
Certified by National Quality Management System

2013
Explore New Opportunities
Enter the Electric Vehicles Market

• **2023**
KSTAR Vietnam
Vietnam Plant in Operation

National-level Green Factory

2021
Further Invest in ESS Facilities
Open Jiangxi Changxin Gold Sunshine Power Supply Co.,Ltd

2019
CATL & KSTAR Partnership
Establish Joint Venture Factory with CATL

• **2025**
Jiangxi Gold Sunshine
Launches advanced punched grid plate production

2024
Construction of the High-end New Energy and Energy Storage Industrial Base



Product Overview

-  Full-stack In-house Developed Technology
-  Flexibly Adapt to Diverse Scenarios and Solutions
-  Designed for Harsh Environments with Superior Safety

-  Easy Installation & Commissioning
-  KSTAR Integrated PV-Storage-Charging Solution
-  Smart Energy Management Platform

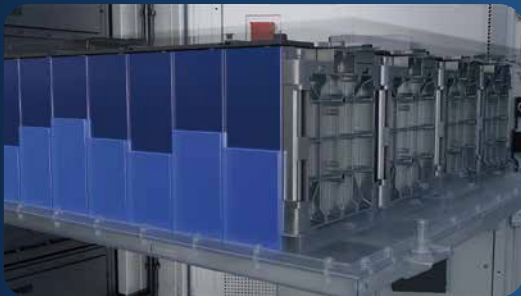
-  Compact
-  Flexible
-  Reliable

Hybrid Inverter: KAC20 ~ 50DP2 / KAC80 ~ 125DP2
Battery System: BC70 ~ 107DE2 / BC80 ~ 120DE2A
BC197 ~ 233DE2 / BC220 ~ 260DE2A
BC208 ~ 260DLE
BIS60 ~ 260E
DC Charger: CDA24D ~ CDA48D



Fully Self-developed Hardware & Software

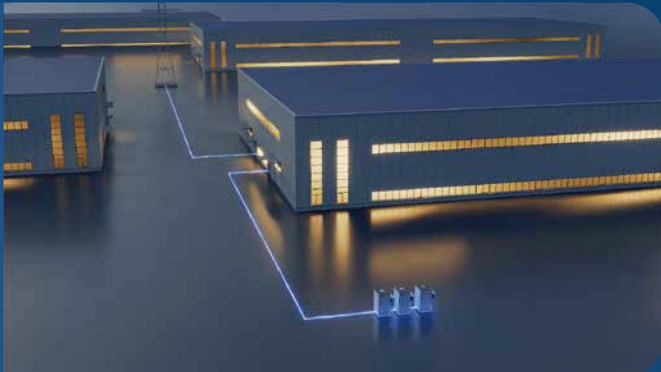
Cell Level BMU
Monitoring & Balancing



Rack Level SBMU
Protection & Control



10ms Backup Switching
with STS Integrated



EMS - Multi-level
Energy Management



System Level MBMU
Coordination & Communication



Sync - One Platform for
Entire Ecosystem



Thermal Management System
Optimum Thermal Control



Flexible & Modular Architecture

Support Both AC Coupled & DC Coupled Design

Up to **20 PCS** for On-grid parallel operation
2.5MW / 10.4MWh System Scale



Up to **10 PCS*** for On&Off-grid parallel operation
750kW / 3.12MWh System Scale



Flexible Capacity Selection
Suitable for projects of different capacities

* For 7-10 units parallel in off-grid, please consult KSTAR presales.

AC Coupled:

Easily Adding Battery System to -
Original PV System;

Future-ready:

EV Charger Ready
Generator Ready
Third-party EMS Ready

DC Coupled:

Connection Both PV & Battery to One ESS System;
No need to buy another PV inverter



All-round Safety & Reliability

Advanced 4+3 Fire Protection Architecture



Robust Environmental Protection

All-weather Ready

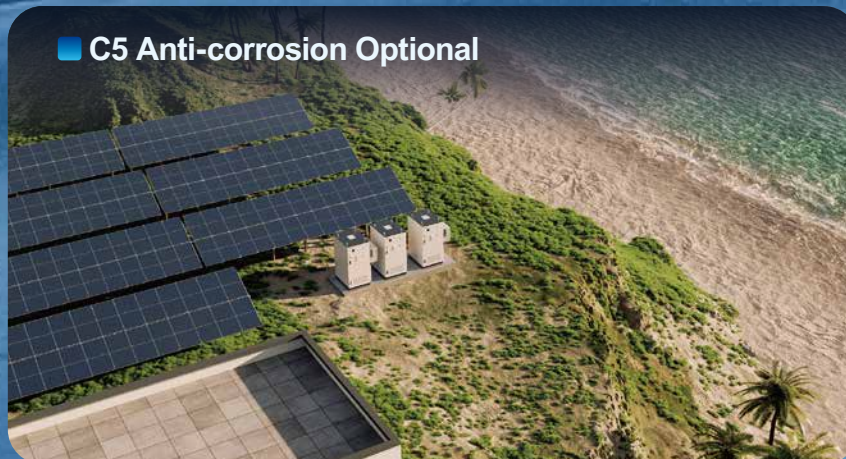
■ IP54 / IP66



■ -30 ~ 50°C Operation



■ C5 Anti-corrosion Optional



Fast Deployment & Simplified Commissioning

Pre-assembled at Factory
Ready for Rapid Deployment



Optimized Cabinet Structure with Bottom Cable Entry
and Forklift Slots for Easy Positioning and Connection



Effortless Fast Commissioning via KSTAR Smart EMS



KSTAR Smart PV-Storage-Charging Solution



Max ROI

Zero-cost Green Charging
Double Arbitrage by TOU



Smart Grid

Dynamic Load Management
Smart Peak Shaving
Eliminate Transformer Expansion Costs



All-in-One

Integrated PV-ESS-Charging
Solution
Dual-connector HPC



GreenFlow DC Charger

120~240kW / 300~480kW



Ecosystem & Connectivity

Open Platform
Global Network
Can connect to multiple overseas platforms



Quality & Efficiency

Self-Developed Key Modules
Proven Reliability
97.5% Peak Efficiency



High Performance

Liquid-cooled
Supports Up to 480 kW per Connector

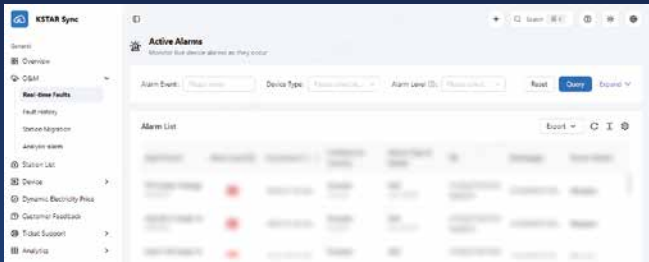


One Platform Full System Control



Smart O&M

Real-time Data Remote Monitoring
Remote Upgrade
Auto Alarm Tracking



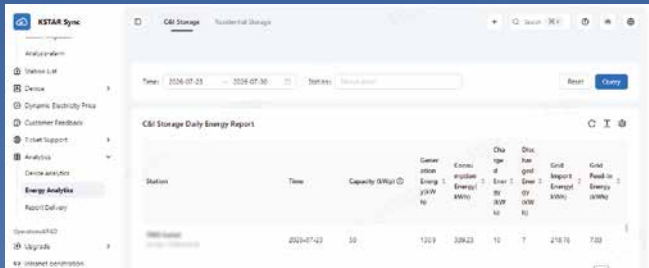
Data Analytics

Energy Flow
Revenue Analysis
Carbon Reduction



Revenue Enhancement

Operating Modes
Dynamic Pricing for EU Countries
VPP Integration



Air-Cooling Battery Cabinet

BC70~107DE2 / BC80~120DE2A



Technical Parameters	BC70DE2		BC89DE2	BC107DE2
Battery Type			LFP	
Battery Cell Brand			CATL	
Battery Module Capacity			17.92 kWh	
Cell Type			280 Ah	
Number of Modules	4		5	6
Total Battery Capacity	71.68 kWh		89.6 kWh	107.52 kWh
Nominal Voltage	256 V		320 V	384 V
Operating Voltage Range	228 ~ 288 V		285 ~ 360 V	342 ~ 432 V
Charge / Discharge Rate			Max. 0.5 C	
DoD			95%	
General Parameters				
Dimensions (W x H x D)	1062 x 2083 x 1371 mm			
Weight	< 1.2 T		< 1.35 T	< 1.5 T
Installation Site	Outdoor			
IP Protection	IP54			
Anti Corrosion Level	C4			
Operation Humidity	5% ~ 95% (No Condensing)			
Operation Temperature	-30°C ~ +50°C			
Max. Operation Altitude	≤ 3000 m			
Communication Port	Ethernet; CAN; RS485			
Communication Protocol	CAN; MODBUS TCP / IP			
Cooling Method	Air Conditioner			
Certification	UL 9540A; UN38.3; MSDS; IEC 62040; IEC 62477; IEC 62619; IEC 63056; IEC 61000-6-2/4			

Technical Parameters	BC80DE2A	BC100DE2A	BC120DE2A
Battery Type	LiFe (LiFePO4)		
Battery Cell Brand	EVE		
Battery Module Capacity	20.09 kWh		
Number of Modules	4	5	6
Total Battery Capacity	80.38 kWh	100.48 kWh	120.57 kWh
Nominal Voltage	256 V	320 V	384 V
Operating Voltage Range	228 ~ 288 V	285 ~ 360 V	342 ~ 432 V
Charging / Discharge Rate	0.5 C		
Standard Charging / Discharging Current	157 A / 157 A		
DoD	95%		
General Parameters			
Dimensions (W x H x D)	1060 x 2085 x 1380 mm		
Weight	< 1.36 T	< 1.5 T	< 1.64 T
Installation Site	Outdoor		
IP Protection	IP54		
Anti Corrosion Level	C4		
Operation Humidity	0 ~ 95% (No Condensing)		
Operation Temperature	-30°C ~ +50°C		
Max. Operation Altitude	≤ 3000 (>2000m Derating)		
Communication Port	Ethernet; CAN; RS-485		
Communication Protocol	CAN; MODBUS TCP / IP		
Cooling Method	Air Conditioner		
Warranty	5 Year Product Warranty; 10 Year Performance Warranty		
Certificates	UL 9540A; UN38.3; MSDS; IEC 62040; IEC 62477; IEC 62619; IEC 63056; IEC 61000-6-2/4		

Air-Cooling Battery Cabinet

BC197~233DE2 / BC220~260DE2A



Technical Parameters	BC197DE2		BC215DE2	BC233DE2
Battery Type			LFP	
Battery Cell Brand			CATL	
Battery Module Capacity			17.92 kWh	
Number of Modules	11		12	13
Total Battery Capacity	197.12 kWh		215.04 kWh	232.96 kWh
Nominal Voltage	704 V		768 V	832 V
Operating Voltage Range	627 ~ 792 V		684 ~ 864 V	741 ~ 936 V
Charge / Discharge Rate			0.5 C	
DoD			95%	
General Parameters				
Dimensions (W x H x D)			1324 x 2415 x 1440 mm	
Weight	< 2.4 T		< 2.55 T	< 2.7 T
Installation Site			Outdoor	
IP Protection			IP54	
Anti Corrosion Level			C4	
Operation Humidity			5% ~ 95% (No Condensing)	
Operation Temperature			-30°C ~ +50°C	
Max. Operation Altitude			≤ 3000 (>2000m Derating)	
Communication Port			Ethernet; CAN; RS-485	
Communication Protocol			CAN; MODBUS TCP / IP	
Cooling Method			Air Conditioner	
Certificates			UL 9540A; UN38.3; MSDS; IEC 62040; IEC 62477; IEC 62619; IEC 63056; IEC 61000-6-2/4	

Technical Parameters	BC220DE2A	BC240DE2A	BC260DE2A
Battery Type	LiFe (LiFePO4)		
Battery Cell Brand	EVE		
Battery Module Capacity	20.09 kWh		
Number of Modules	11	12	13
Total Battery Capacity	221.05 kWh	241.15 kWh	261.24 kWh
Nominal Voltage	704 V	768 V	832 V
Operating Voltage Range	627 ~ 792 V	684 ~ 864 V	741 ~ 936 V
Charge / Discharge Rate	0.5 C		
Standard Charging / Discharging Current	157 A / 157 A		
DoD	95%		
General Parameters			
Dimensions (W x H x D)	1324 x 2415 x 1440 mm		
Weight	< 2.39 T	< 2.53 T	< 2.66 T
Installation Site	Outdoor		
IP Protection	IP54		
Anti Corrosion Level	C4		
Operation Humidity	0 ~ 95% (No Condensing)		
Operation Temperature	-30°C ~ +50°C		
Max. Operation Altitude	≤ 3000 (>2000m Derating)		
Communication Port	Ethernet; CAN		
Communication Protocol	CAN; TCP		
Cooling Method	Intelligent Air Cooling		
Warranty	5 Year Product Warranty; 10 Year Performance Warranty		
Certificates	UL 9540A; UN38.3; MSDS; IEC 62040; IEC 62477; IEC 62619; IEC 63056; IEC 61000-6-2/4		

Liquid-cooling Battery Cabinet

BC208~260DLE



Indoor Battery System

BIS60~260E

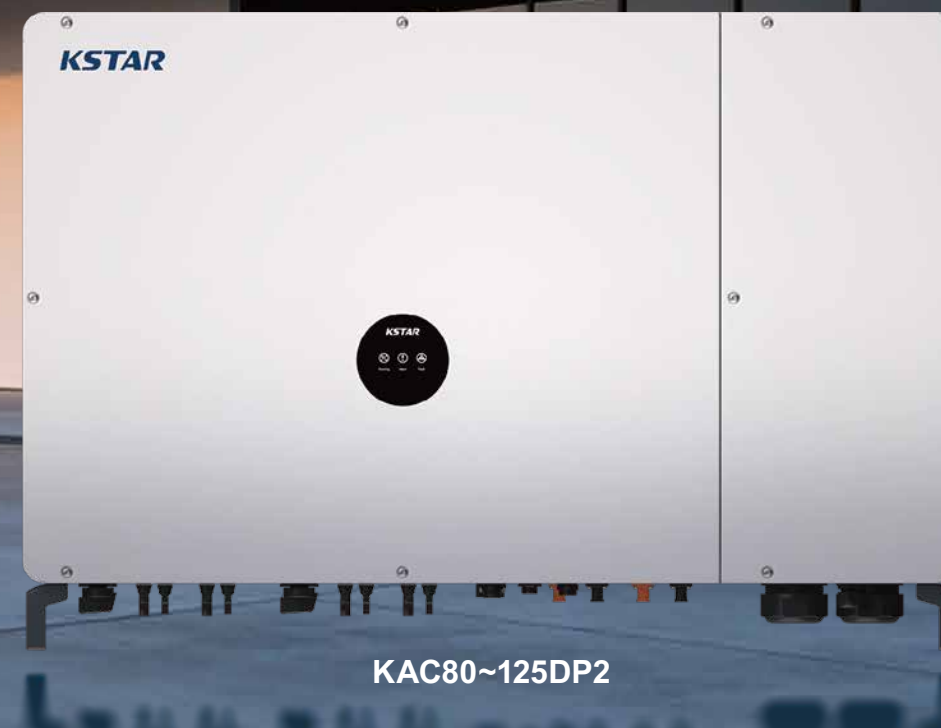


Technical Parameters	BC208DLE	BC260DLE
Battery Type	LiFe (LiFePO4)	
Battery Cell Brand	EVE	
Battery Module Capacity	52.24 kWh	
Number of Modules	4	5
Total Battery Capacity	208.99 kWh	261.24 kWh
Nominal Voltage	665.5 V	832 V
Operating Voltage Range	592.8 ~ 748.8 V	741 ~ 936 V
Charge / Discharge Rate	0.5 C	
Standard Charging / Discharging Current	157 A / 157 A	
DoD	95%	
General Parameters		
Dimensions (W x H x D)	1040 x 2234 x 1370 mm	
Weight	< 2.5 T	
Installation Site	Outdoor	
IP Protection	IP54	
Anti Corrosion Level	C4	
Operation Humidity	5% ~ 95% (No Condensing)	
Operation Temperature	-30°C ~ +50°C	
Max. Operation Altitude	≤ 3000 m (>2000m Derating)	
Communication Port	Ethernet; CAN	
Communication Protocol	CAN; TCP	
Cooling Method	Liquid Cooling	
Warranty	5 Year Product Warranty,10 Year Performance Warranty	
Certificates	UN38.3; MSDS; IEC 62040; IEC 62477; IEC 62619; IEC 63056; IEC 61000-6-2/4	

Technical Parameters	BC-PACK-20.1-20S-157A	
Battery type	LFP (LiFePO4)	
Battery Cell Brand	EVE	
Nominal Capacity	20.09 kWh	
Nominal Voltage	64 V	
Operating Voltage Range	57 ~ 72 V	
Charging / Discharging Rate	0.5 C	
Standard Charging / Discharging Current	157 A / 157 A	
Depth of Discharge	95%	
Module Connection	3 ~ 13 (Max. 13 Modules in Series)	
Total Battery Capacity	60.27 ~ 261.17 kWh	
General Parameters		
Dimensions(WxHxD)	554 x 290 x 970 mm	
Weight	< 180 kg	
Installation Site	Indoor	
IP Protection	IP21	
Anti Corrosion Level	C2	
Operation Humidity	0 ~ 95% (No Condensing)	
Operation Temperature	Charging: 0 ~ 50°C; Discharging: -20 ~ 50°C	
Max. Operation Altitude	≤ 3000 (>2000m Derating)	
Communication Port	Ethernet / CAN / RS-485	
Communication Protocol	CAN / TCP	
Cooling Method	Intelligent Fan Cooling	
Warranty	5 Year Product Warranty, 10 Year Performance Warranty	
Technical Parameters	BC-SG-360	BC-SG-360
Dimensions(WxHxD)	554 x 290 x 970 mm	
Weight	80 kg	
Max. Charge / Discharge Current	157 A	
Current Measurement Range	-157 ~ 157 A	
Operation Humidity	0 ~ 95% (No Condensing)	
Operation Temperature	-25 ~ 55°C	
IP Protection	IP21	
Installation Site	Indoor	
Cooling Method	Natural cooling	
Display	LCD	
Communication Interfaces	CAN; RS-485; Ethernet	
Battery Module Connection	3 ~ 5	3 ~ 5
Rated Voltage Range	171 ~ 360 V	171 ~ 360 V



KAC20~50DP2



KAC80~125DP2

Product Specifications	KAC20DP2	KAC25DP2	KAC29.9DP2	KAC30DP2	KAC40DP2	KAC49.9DP2	KAC50DP2
PV Side							
MPPT Voltage Range	250 ~ 950 Vdc (Max. 1000 Vdc)						
MPPT Rated Voltage	720 Vdc						
MPPT Rated Voltage (Full Load)	300 ~ 800 V	350 ~ 800 V	400 ~ 800 V	400 ~ 800 V	500 ~ 800 V	600 ~ 800 V	600 ~ 800 V
Max. PV Power	40 kWp	50 kWp	60 kWp	60 kWp	80 kWp	100 kWp	100 kWp
Number of MPPT / Strings per MPPT	4 / 2						
Max. Current per MPPT	45 A						
Battery Side							
Battery Voltage Range	150 ~ 950 Vdc						
Battery Rated Voltage Range	180 ~ 800 Vdc						
Max. DC Current	40 Adc x 2	50 Adc x 2	60 Adc x 2	60 Adc x 2	80 Adc x 2	80 Adc x 2	80 Adc x 2
Max. DC Power	22 kW	27.5 kW	29.9 kW	33 kW	44 kW	49.9 kW	55 kW
Number of DC Inputs	2						
AC Side (On Grid)							
Nominal AC Output Power	20 kW	25 kW	29.9 kW	30 kW	40 kW	49.9 kW	50 kW
Max. AC Output Power	22 kVA	27.5 kVA	29.9 kVA	33 kVA	44 kVA	49.9 kVA	55 kVA
Max. AC Input Power (Single-phase)	20 kW	25 kW	25 kW	25 kW	27.5 kW	37.5 kW	37.5 kW
Rated AC Output Current	29 A	36 A	43.5 A	43 A	58 A	72 A	72 A
Max. AC Input Current	64 A	80 A	87 A	96 A	128 A	144 A	160 A
AC Rated Voltage / Voltage Range	230 / 400 Vac; 220 / 380 Vac; 3L+PE+N; -15% ~ +10%						
Nominal Grid Frequency / Frequency Range	50 Hz / 60 Hz (±5 Hz)						
THDi	< 3% (100% Load)						
Adjustable PF Range	0.8 inductive (under-excited) to 0.8 capacitive (over-excited)						
Backup Output							
Nominal AC Voltage	230 / 400 V; 220 / 380 Vac; 3L+PE+N						
THDv	< 3% (Rated Power)						
Nominal Grid Frequency / Frequency Range	50 Hz / 60 Hz						
Nominal AC Output Power	20 kW	25 kW	29.9 kW	30 kW	40 kW	49.9 kW	50 kW
Max. AC Output Power (Single-phase)	20 kW	20 kW	20 kW	20 kW	25 kW	25 kW	25 kW
Max. Output Current	87 A	87 A	87 A	87 A	110 A	110 A	110 A
Genset Input							
Max. Input Current	87 A	87 A	87 A	87 A	110 A	110 A	110 A
Efficiency							
Max. Efficiency	97%				97.5%		
Protection							
Reverse DC Connection Protection	Yes						
Anti-Islanding Protection	Yes						
Over-Temperature Protection	Yes						
Grid Monitoring / Earthing Fault Detection	Yes						
Insulation Monitoring	Yes						
DC / AC Surge Protection	DC Type II; AC Type II						
AFCI	Optional						
General Parameters							
Dimensions (W x H x D)	900 x 730 x 355 mm						
Weight	101 kg						
Topology	Transformerless						
IP Protection	IP66						
Operation Temperature Range	-30 ~ 60°C (> 45°C Derating)						
Operation Humidity Range	0 ~ 100% (No Condensing)						
Cooling Method	Intelligent Air Cooling						
Max. Operation Altitude	4000 m (> 3000 m Derating)						
Communication Port	RS-485 / CAN						

Product Specifications	KAC80DP2	KAC100DP2	KAC110DP2	KAC125DP2
PV Side				
MPPT Voltage Range	250 ~ 950 V (Max. 1000 V)			
MPPT Rated Voltage	720 V			
MPPT Rated Voltage (Full Load)	450 ~ 800 V	550 ~ 800 V	600 ~ 800 V	700 ~ 800 V
Max. PV Power	160 kWp	200 kWp	220 kWp	250 kWp
Number of MPPT / Strings per MPPT	8 / 2			
Max. Current per MPPT	45 A			
Battery Side				
Battery Voltage Range	200 ~ 950 V			
Battery Rated Voltage Range	250 ~ 800 V			
Max. DC Current	160 A (80 A x 2)			
Max. DC Power	88 kW	110 kW	121 kW	125 kW
Number of DC Inputs	2			
AC Side (On Grid)				
Nominal AC Output Power	80 kW	100 kW	110 kW	125 kW
Max. AC Output Power	88 kVA	110 kVA	121 kVA	137.5 kVA
Rated AC Output Current	116 A	144 A	159 A	181 A
Max.AC Input Current	227 A	227 A	227 A	227 A
AC Rated Voltage / Voltage Range	230 / 400 Vac; 220 / 380 Vac; 3L+PE+N; -15% ~ +10%			
Nominal Grid Frequency / Frequency Range	50 Hz / 60 Hz (±5 Hz)			
THDi	< 3% (100% Load)			
Adjustable PF Range	0.8 inductive(under-excited) to 0.8 capacitive(over-excited)			
Backup Output				
Nominal AC Voltage	230 / 400 V; 220 / 380 Vac; 3L+PE+N			
THDv	< 3% (Rated Power)			
Nominal Grid Frequency / Frequency Range	50 Hz / 60 Hz			
Nominal AC Output Power	80 kW	100 kW	110 kW	125 kW
Max. AC Output Power (Single-phase)	50 kW			
Max. Output Current	227 A			
Genset Input				
Max. Input Current	227 A			
Efficiency				
Max. Efficiency	98%			
Protection				
Reverse DC Connection Protection	Yes			
Anti-Islanding Protection	Yes			
Over-Temperature Protection	Yes			
Grid Monitoring / Earthing Fault Detection	Yes			
Insulation Monitoring	Yes			
DC / AC Surge Protection	DC Type II; AC Type II			
AFCI	Optional			
General Parameters				
Dimensions (W x H x D)	1120 x 760 x 365 mm			
Weight	135 kg			
Topology	Transformerless			
IP Protection	IP65			
Operation Temperature Range	-30 ~ 60°C (> 45°C Derating)			
Operation Humidity Range	0 ~ 100% (No Condensing)			
Cooling Method	Intelligent Air Cooling			
Max. Operation Altitude	4000 m (> 3000 m Derating)			
Communication Port	RS-485 / CAN			

DC Charger / Charging Module



CDA24D~48D



CR1040

CATEGORY	CR1040
Product Dimension	459 x 360 x 85 mm
Weight	20 kg
Power Supply	L1+L2+L3+PE+N
Rated Power	40 kW
Frequency	45 ~ 65 Hz
Input Voltage	260 ~ 525 Vac
Output Voltage	150 ~ 1000 Vdc
Current Range	0.5 ~ 133 A
Efficiency	Max 96.5%
THD	≤ 5% (100% load)
Power Factor	≥ 0.99 (50% ~ 100% load)
Ripple Factor	≤ ±1%
Noise Emission	≤ 65dB
EMC Compliance	Class B
Working Temperature	"-30°C~ +75°C (full power output below 55°C; power derates above 55°C; system will shutdown above 75°C)"
Standby Power	6 W

CATEGORY	CDA24D	CDA48D
General Info		
Dimensions (W x H x D)	850 × 2200 × 650 mm	850 × 2200 × 850 mm
Cable Length	5 M (7 M is optional)	
Input Performance		
Power Supply	L1+L2+L3+PE+N	
Rated Voltage	400 V AC ±10%	
Frequency	45 ~ 65 Hz	
Output Performance		
Output Voltage	150 ~ 1000 V DC	
Output Current	Rated 350 A (boost 500 A)	Air cooling: Rated 350 A (boost 500 A) Liquid cooling: Rated 500 A (boost 650 A)
Rated Power	120 kW / 160 kW / 180 kW / 240 kW	300 kW / 320 kW / 360 kW / 400 kW / 420 kW / 480 kW
Charging Module	30 kW / 40 kW	30 kW / 40 kW
Connector Type	CCS2+CCS2	
HMI		
LED Indicator	RGB LED	
LCD Display	15.6" display with 4 buttons	
Emergency Stop	Yes	
Communication		
Payment Method	RFID Card / QR Code / POS Terminal	
PLC Communication	DIN70121 and ISO15118	
Ethernet	Yes	
Wi-Fi and 4G	Yes	
OCPP	OCPP 1.6 J	
Electrical Parameters		
Efficiency	Max 96%	
THD	≤ 5% (100% load)	
Power Factor	≥ 0.99 (50% ~ 100% load)	
Ripple Factor	≤ ±1%	
Noise Emission	≤ 65 dB	
EMC Compliance	Class A	
Safety		
Energy Meter	Class B (±1% accuracy) with MID certified	
Protection Rating	IP54	
Impact Resistance	IK10	
Electrical Protection	Over voltage protection, under voltage protection, overload protection, short circuit protection, open circuit protection, leakage protection, grounding protection, over temperature protection, lightning protection	
Working Environment		
Installation	Floor mounted on plinth or base	
Working Temperature	-30°C ~ +75°C (full power output below 55°C; power derates above 55°C; system will shutdown above 75°C)	
Storage Temperature	-40°C ~ +80°C	
Humidity	5% ~ 95%	
Altitude	≤ 2000 m	

MODEL	EMS01D
Southbound Communication	
Southbound EMS Communication Method	Ethernet (Electrical)
Max. Number of Southbound EMS	20
Max. Distance of Southbound Communication	100 m
Ethernet Port Parameter	10 / 100 Mbps Adaptive
Northbound Communication	
Northbound Communication Method (Default)	Ethernet (Electrical / Optical Fiber)
Northbound Communication Method (Optional)	WLAN / 4G
Local Display	Embedded Web
Indicator Lights	Power, Running, Fault + Ethernet Status Indicators
Port Parameter	
Number of RS-485 Interfaces	7
USB Interface	1 with USB2.0
SD Interface	1
Digital Input Detection Interface	8
Digital Output Control Interface	4, NO + NC
Indicator Lights	Power, Running, Fault + Ethernet Status Indicators
Environmental Parameters	
Operating Temperature Range	-30°C ~ +55°C
Storage Temperature Range	-40°C ~ +70°C
Operating Relative Humidity	5% ~ 95% (No condensation)
Electrical Parameters	
Power Supply	DC / AC Redundant Power Supply
AC Power Supply Voltage Range	90 ~ 264 Vac
DC Power Supply Voltage Range	13 ~ 36 Vdc
Standby Power Consumption	< 40 W
Mechanical Parameters	
O&M Method	Front Panel Access
Dimensions (W x H x D)	560 x 600 x 300 mm
Weight	35 kg
IP Degree	IP65
Installation Method	Wall / Bracket / Floor Mounted
Certification & Standard	EN55032, EN IEC 61000-3-2, EN 61000-3-3, EN 55035, ETSI EN 301511, ETSI EN 301489, ETSI EN 300328, ETSI EN 300906, EN 62368-1, EN 50665, EN 62311



EMS01D



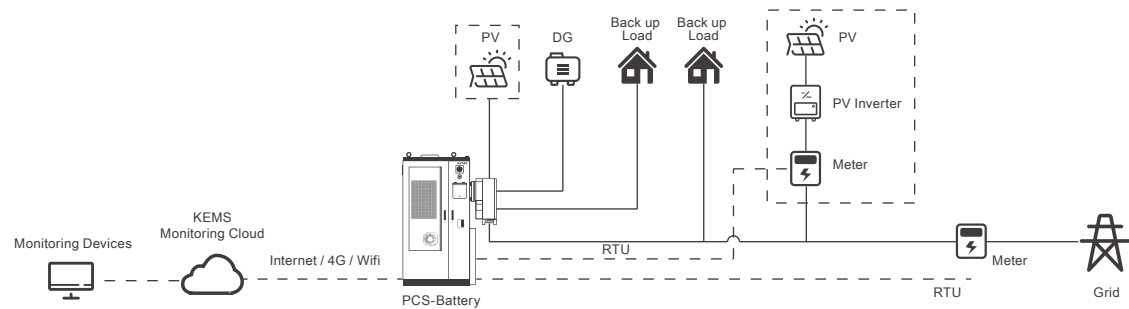
YDS60-80

MODEL	YDS60-80
General	
Network System	3P3W / 3P4W
Nominal Voltage	3 × 230 / 400 Vac, 50 / 60 Hz
Current Measurement Range	Direct Connected: from 0A to 80 A, CT Connected: > 80 A
Voltage Measurement Range	Direct Connected: from 90 V to 500 V, PT Connected: from 500 V to 1000 V
Power Consumption	≤ 1.5 W
Mounting	On 35mm DIN rail
Measurement Category	Category III
Pollution Degree	2
Measurement Accuracy	
Current (Direct Connected)	0.5% from 8 A to 80 A, ±0.4 A from 0.4 A to 8 A
Current (CT Connected)	0.5% from 0.5 A to 5 A, ±0.025 A from 0.025 A to 0.5 A
Phase Voltage	Class 0.5
Line Voltage	Class 0.5
Frequency	±0.02 Hz from 45 Hz to 65 Hz
Power	Class 1
Power Factor	±0.02 from -1 to 1
Active Energy	Class 1
Reactive Energy	Class 2
Environmental Conditions	
Operating Temperature	-25°C to 60°C
Storage Temperature	-40°C to 85°C
Humidity	5% to 95% RH (No Condensing)
Altitude	≤ 2000 m
Voltage Input (Ph-N)	
Operating Voltage	3 × 230 / 400 Vac, 50 / 60 Hz
Power Dissipation Voltage Circuits	< 0.5 VA per phase
Measurement Range	AC 30 V to 265 V
Current Input	
Rated Current	3 x 1.5(6) A
Power Dissipation Current Circuits	< 0.2 VA per phase
Measurement Range	AC 0.05 A to 6 A
Communication	
Communication Protocol	Modbus
Communication Port	RS-485, half-duplex
Baud Rate	4800 bps / 9600 bps (default) / 19200 bps / 115200 bps
Stop Bit	1 (default) / 2
Check Bit	None (default) / Odd / Even

* YDS60-80 smart energy meter is being used along with BluePulse Series C&I ESS.
** It V2 has not included Current Transformers. For system larger than 50 kW, CT connection is required. Please select the CT that meets the following requirements:
1. The selected CT's primary rating should be larger than the maximum current passing through the system's AC busbar.
2. Maximum Current = system capacity / 230 / 3
*** Please consult KSTAR for more details.

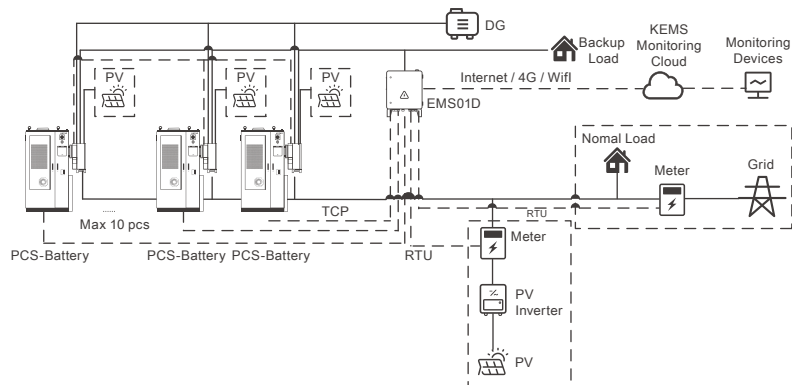
System Diagrams

On/off-grid Single System Application



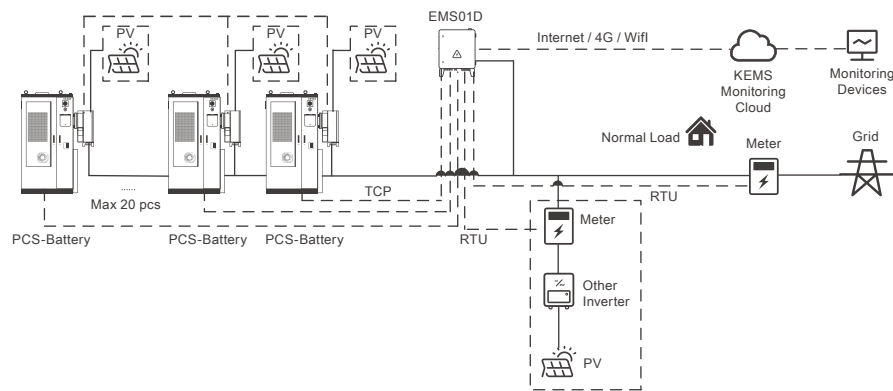
* 10ms-level* On/off-grid switching due to built-in STS; Supports AC-coupled on the grid side;
When off-grid, generator can supply power to load and charge batteries.
* The 10 ms on / off-grid switching time applies to single-PCS operation with a purely resistive load.

On/off-grid Parallel System Application



* On/off-grid parallel operation system using EMS01D as communication box; Supports up to 10* PCS units in parallel.
* For 7-10 units parallel in off-grid, please consult KSTAR presales.

On-grid Parallel System Application



* On-grid parallel operation system using EMS01D as communication box;
Supports up to 20 PCS units in parallel.

C&I ESS Configuration Rules

Air-cooling Solution

	BC70/89/107DE2	BC80/100/120DE2A	BC197/215DE2	BC220/240DE2A	BC233DE2	BC260DE2A
KAC20~50DP2	✓	✓	✓	✓	/	/
KAC80~125DP2	/	/	✓	✓	✓	✓

* For a single system, each PCS can be connected to 1 or 2 battery cabinets.

Liquid-cooling Solution

	BC208DLE	BC260DLE
KAC20~50DP2	✓	/
KAC80~125DP2	✓	✓

* For a single system, each PCS can be connected to 1 or 2 battery cabinets.

Indoor Battery Storage Solution



BIS60~240E+KAC50DP2



BIS80~260E+KAC125DP2

	BIS60E	BIS80E	BIS100E	BIS120E	BIS140E	BIS160E	BIS180E	BIS200E	BIS220E	BIS240E	BIS260E
KAC20~50DP2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	/
KAC80~125DP2	/	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

* For a single system, each PCS can be connected to 1 or 2 battery cabinets.

KSTAR in Action: Reliability You Can See

Join **100,000+** global users in the energy revolution

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BluePulse's sleek all-in-one design eliminates external wiring clutter, saving space and integrating seamlessly into modern architecture. In homes around the world, it delivers reliable energy independence - with a minimalist footprint.

Professional Support & Installer Training



Empowering Installers. Ensuring Excellence

KSTAR equips its global partners with comprehensive theory and hands-on training - from modular assembly to smart commissioning - ensuring every installer has the expertise to deliver safe, efficient systems.

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Where Innovation Meets the Road

Through roadshows and exhibitions worldwide, customers can discover KSTAR's 30-year technical heritage firsthand. Our live demonstrations bring BlueSpark's intelligent storage technology to life - building confidence in clean energy across every market.



Peak Shaving, Self-Consumption & EV Charging

Location: Ruurlo, the Netherlands
 Capacity: 125kW / 215kWh
 1 unit KAC125DP2, 1 unit BC215DE2, 1 unit CDA48D



Self Consumption + Power Backup

Location: Mirador de Agulo, Spain
 Capacity: 100kW / 197kWh
 2 units KAC50DP2, 1 unit BC197DE2, STS100, DG system offgrid mode



EV Charging + Peak Shaving

Location: 's Gravenpolder, the Netherlands
 Capacity: 100 kW / 200 kWh Storage + 240 kW Charging
 2 units KAC50DP2, 2 units BC100DE2A, 2 units CDA24D



Self Consumption + Time-of-use

Location: Ferma Lunca Muresului, Romania
 Capacity: 375 kW / 699kWh
 3 units KAC125DH with BC233DE2



Self Consumption + Power Backup

Location: IBRI BESS solar project, Oman
 Capacity: 375kW / 591kWh
 3 units of KAC125DP2 , 3 units of BC197DE2



Self Consumption + Peak Shaving

Location: Nikolovo Balkanov, Bulgaria
 Capacity: 500kW / 1970kWh
 EMS01D+10 units KAC50DP2, 10 units BC197DE2



Self Consumption + Time-of-use

Location: Glozhene East/West, Bulgaria
 Capacity: 575kW / 932kWh
 EMS01D, 3 units KAC125DH, 3 units BC233DE2, 1 unit KAC100DH, 1 unit BC233DE2



Self-Consumption & Backup

Location: Brasserie & Bodega La Finca, Alicante, Spain
 Capacity: 125kW / 197kWh
 1 unit KAC125DP2, 1 unit BC197DE2

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68 GW

Years History

30 +

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