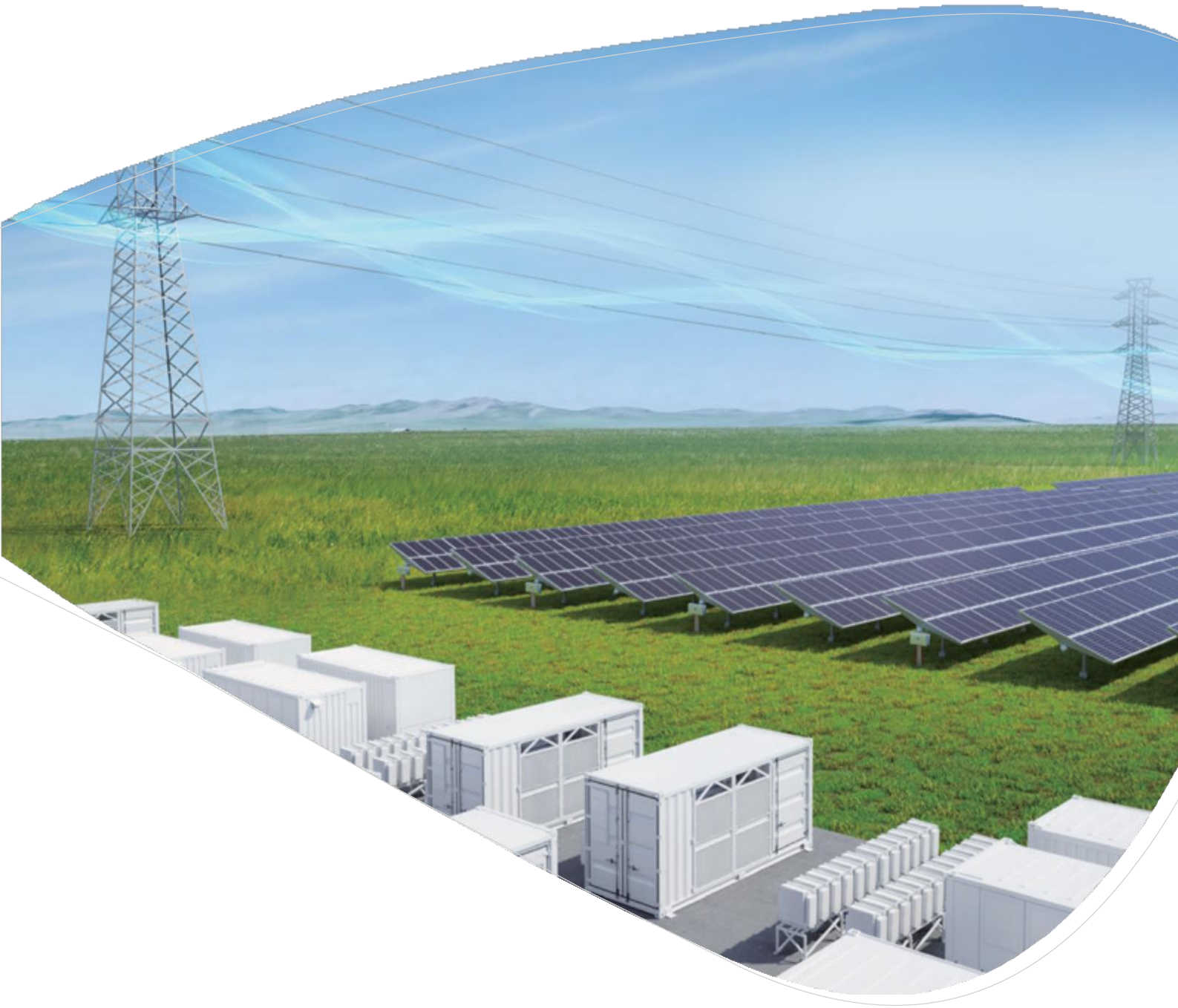


Fusionsolar

Smart Microgrid Solution

HUAWEI

About Huawei

Huawei is a leading global provider of information and communications technology (ICT) infrastructure and smart devices. With integrated solutions across four key domains – telecom networks, IT, smart devices, and cloud services – we are committed to bringing digital to every person, home and organization for a fully connected, intelligent world. Huawei's end-to-end portfolio of products, solutions and services are both competitive and secure. Through open collaboration with ecosystem partners, we create lasting value for our customers, working to empower people, enrich home life, and inspire innovation in organizations of all shapes and sizes. At Huawei, innovation focuses on customer needs. We invest heavily in basic research, concentrating on technological breakthroughs that drive the world forward.

Employees
213,000+

R&D Personnel
53.7%

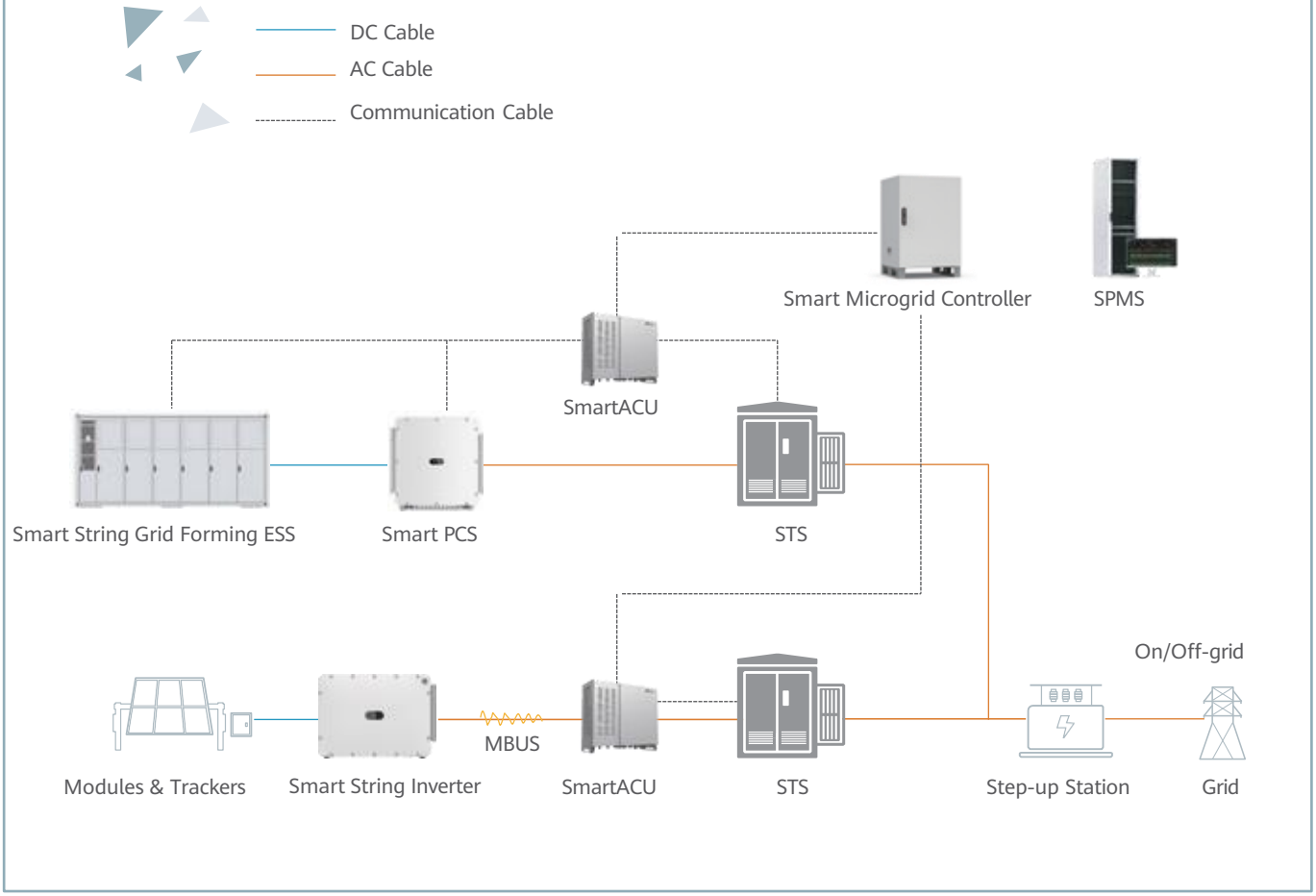
Countries
170+

Best Global Brands
39

R&D Investment
6

The **only** Chinese company named one of BCG's **25** Serial Innovators

Smart Microgrid Solution



High quality & efficiency | stable & reliable | optimal LCOE | All Intelligence

Smart String Grid Forming ESS
Model:LUNA2000-5015-2S

All-architecture Safety

All-scenario Grid forming

All-lifecycle Cost-effectiveness

All-rounder Digitalization

Technical Specifications

Battery Container	
Model	LUNA2000-5015-2S
DC Rated Voltage	1,331.2 V
DC Max. Voltage	1,500 V
Nominal Energy Capacity	5,015 kWh
Charge & Discharge Rate	≤ 0.5 C
Rated Power	2,507.5 kW
Dimension (W x H x D)	6,058 x 2,896 x 2,438 mm
Weight	≤ 43 t
Operation Temperature Range	-30°C ~ 55°C
Storage Temperature Range	-40°C ~ 60°C
Relative Humidity	0 ~ 100% (Non-condensing)
Max. Operating Altitude	4,700 m
Cooling Method	Liquid Cooling
Fire Suppression System	Water Sprinkler, Novec 1230
Communication Interface	Ethernet / SFP
Communication Protocol	Modbus TCP
Protection Degree	IP55
Anti-corrosion Degree	C5-Medium
Standards Compliance	
RoHS, IEC62477-1, IEC62040-1, IEC61000-6-2, IEC62933-5-2, UL9540A, IEC62619, UN38.3, etc.	
Battery PACK	
Cell Material	LFP
Number of Cell	104
Nominal Capacity	2*314 Ah / 104.49 kWh
Protection Degree	IP65
Weight	< 710 kg
Dimensions (W x H x D)	785 x 249 x 2135 mm

Smart String Grid Forming ESS
Model:LUNA2000-2507-2S (Preliminary)

All-architecture Safety

All-scenario Grid forming

All-lifecycle Cost-effectiveness

All-rounder Digitalization

Technical Specifications

Battery Container	
Model	LUNA2000-2507-2S
DC Rated Voltage	1,331.2 V
DC Max. Voltage	1,500 V
Nominal Energy Capacity	2,507 kWh
Charge & Discharge Rate	≤ 0.5 CP
Rated Power	1,253.5 kW
Dimension (W x H x D)	6,058 x 2,896 x 2,438 mm
Weight	< 27 t
Operation Temperature Range	-30°C ~ 55°C
Storage Temperature Range	-40°C ~ 60°C
Relative Humidity	0 ~ 100% (Non-condensing)
Max. Operating Altitude	4,700 m
Cooling Method	Liquid Cooling
Fire Suppression System	Water Sprinkler, Novec 1230
Communication Interface	Ethernet / SFP
Communication Protocol	Modbus TCP
Protection Degree	IP55
Anti-corrosion Degree	C5-Medium
Standards Compliance	
RoHS, IEC62477-1, IEC62040-1, IEC61000-6-2, IEC62933-5-2, UL9540A, IEC62619, UN38.3, etc.	
Battery PACK	
Cell Material	LFP
Number of Cell	104
Nominal Capacity	2*314 Ah / 104.49 kWh
Protection Degree	IP65
Weight	< 710 kg
Dimensions (W x H x D)	785 x 249 x 2135 mm

Smart String Grid Forming ESS
Model:LUNA2000-4472-2S

All-architecture Safety

All-scenario Grid forming

All-lifecycle Cost-effectiveness

All-rounder Digitalization

Technical Specifications

Battery Container	
Model	LUNA2000-4472-2S
DC Rated Voltage	1,331.2 V
DC Max. Voltage	1,500 V
Nominal Energy Capacity	4,472 kWh
Charge & Discharge Rate	≤ 0.5 CP
Rated Power	2,236 kW
Dimension (W x H x D)	6,058 x 2,896 x 2,438 mm
Weight	< 43 t
Operation Temperature Range	-30°C ~ 55°C
Storage Temperature Range	-40°C ~ 60°C
Relative Humidity	0 ~ 100% (Non-condensing)
Max. Operating Altitude	4,700 m
Cooling Method	Liquid Cooling
Fire Suppression System	Water Sprinkler, Novec 1230 (Optional)
Communication Interface	Ethernet / SFP
Communication Protocol	Modbus TCP
Protection Degree	IP55
Anti-corrosion Degree	C5-Medium
Standards Compliance	
RoHS, IEC62477-1, IEC62040-1, IEC61000-6-2, IEC62933-5-2, UL9540A, IEC62619, UN38.3, etc.	
Battery PACK	
Cell Material	LFP
Number of Cell	104
Nominal Capacity	2*280 Ah / 93.18 kWh
Protection Degree	IP65
Weight	< 700 kg
Dimensions (W x H x D)	785 x 249 x 2135 mm

Smart String Grid Forming ESS
Model:LUNA2000-2236-1S (Preliminary)

All-architecture Safety

All-scenario Grid forming

All-lifecycle Cost-effectiveness

All-rounder Digitalization

Technical Specifications

Battery Container	
Model	LUNA2000-2236-1S
DC Rated Voltage	1,331.2 V
DC Max. Voltage	1,500 V
Nominal Energy Capacity	2,236 kWh
Charge & Discharge Rate	≤ 1 CP
Rated Power	2,236 kW
Dimension (W x H x D)	6,058 x 2,896 x 2,438 mm
Weight	< 28 t
Operation Temperature Range	-30°C ~ 55°C
Storage Temperature Range	-40°C ~ 60°C
Relative Humidity	0 ~ 100% (Non-condensing)
Max. Operating Altitude	4,700 m
Cooling Method	Liquid Cooling
Fire Suppression System	Water Sprinkler, Novec 1230
Communication Interface	Ethernet / SFP
Communication Protocol	Modbus TCP
Protection Degree	IP55
Anti-corrosion Degree	C5-Medium
Standards Compliance	
RoHS, IEC62477-1, IEC62040-1, IEC61000-6-2, IEC62933-5-2, UL9540A, IEC62619, UN38.3, etc.	
Battery PACK	
Cell Material	LFP
Number of Cell	52
Nominal Capacity	2*280 Ah / 46.59 kWh
Protection Degree	IP65
Weight	< 410 kg
Dimensions (W x H x D)	785 x 249 x 2135 mm

Smart String Grid Forming ESS
Model:LUNA2000-2.0MWH Series

All-architecture Safety

All-scenario Grid forming

All-lifecycle Cost-effectiveness

All-rounder Digitalization

Technical Specifications

Battery Container			
Model	LUNA2000-2.0MWH-4H1	LUNA2000-2.0MWH-2H1	LUNA2000-2.0MWH-1H1
DC Rated Voltage	1,250 V		
DC Max. Voltage	1,500 V		
Nominal Energy Capacity	2,032 kWh		
Charge & Discharge Rate	≤ 0.25 C	≤ 0.5 C	≤ 1 C
Rated Power	508kW	1,016 kW	2,032 kW
Container Configuration (W x H x D)	6,058 x 2,896 x 2,438 mm		
Container Weight	≤ 30 t		
Operation Temperature Range	-30°C ~ 55°C		
Storage Temperature Range	-40°C ~ 60°C		
Relative Humidity	0 ~ 100% (Non-condensing)		
Max. Operating Altitude	4,000 m		
Cooling Method	Smart Air Cooling		
Configuration of HVAC	2 HV ACs	4 HVACs	6 HVACs
Fire Suppression System	Novec 1230™ + Water Sprinkler		
Communication Interface	Ethernet / SFP		
Communication Protocol	Modbus TCP / IEC 104		
Protection Degree	IP55		
Anti-corrosion Protection	C5-Medium		
Low Voltage AC Coupling	Yes	Yes	Yes
Grid Forming	Yes	Yes	Yes
Standards Compliance			
RoHS, IEC62477-1, IEC62040-1, IEC61000-6-2, EN55011, UL9540A, IEC62619, UN3536, etc.			

Smart String Grid Forming ESS
Model:LUNA2000-1.0MWH-1H1

All-architecture Safety

All-scenario Grid forming

All-lifecycle Cost-effectiveness

All-rounder Digitalization

Technical Specifications

Battery Container	
Model	LUNA2000-1.0MWH-1H1
DC Rated Voltage	1,250 V
DC Max. Voltage	1,500 V
Nominal Energy Capacity	1,016 kWh
Rated Power	1,016 kW
Container Configuration (W x H x D)	6,058 x 2,896 x 2,438 mm
Container Weight	≤ 20 t
Operation Temperature Range	-30°C ~ 55°C
Storage Temperature Range	-40°C ~ 60°C
Relative Humidity	0 ~ 100% (Non-condensing)
Max. Operating Altitude	4,000 m
Cooling Method	Smart Air Cooling
Configuration of HVAC	3 HVACs
Fire Suppression System	Novec 1230™ + Water Sprinkler
Communication Interface	Ethernet / SFP
Communication Protocol	Modbus TCP / IEC 104
Protection Degree	IP55
Anti-corrosion Degree	C5-Medium
Black Start	Yes
Standards Compliance	
RoHS, IEC62477-1, IEC62040-1, IEC61000-6-2, EN55011, UL9540A, , IEC62619, UN3536, etc.	

Smart PCS SKID

Model:LUNA2000-PCS-SKID-H0/NHH0(Preliminary)

Support Transportation with Pallets

Hot and Cold Air Duct Isolation

Cable Integration

General Parameter	
Model	LUNA2000-PCS-SKID-H0/NHH0
Configuration Description	36 Smart PCS + 4 Power Distribution Cabinet
Max. DC Voltage	1,500 V
Rated AC Voltage	800V
Dimension (W x H x D)	6,058 x 2,896 x 2,438 mm
Weight	< 15 t
Operating Temperature Range	-25°C~ 60°C
Storage Temperature Range	-40°C~ 70°C
Operating Relative Humidity	0 ~ 100% (Non-condensing)
Max. Operating Altitude	4,700 m
Protection Class	I
Cooling Method	Smart Air Cooling
Protection Degree	IP55
Anti-corrosion Degree	C5
Standards Compliance	
IEC/EN62477 1,EN 55011, EN61000, EN/IEC 63000 etc.	

Smart PCS

Model:LUNA2000-213KTL-H0

Max. Efficiency 99%

Modular Design

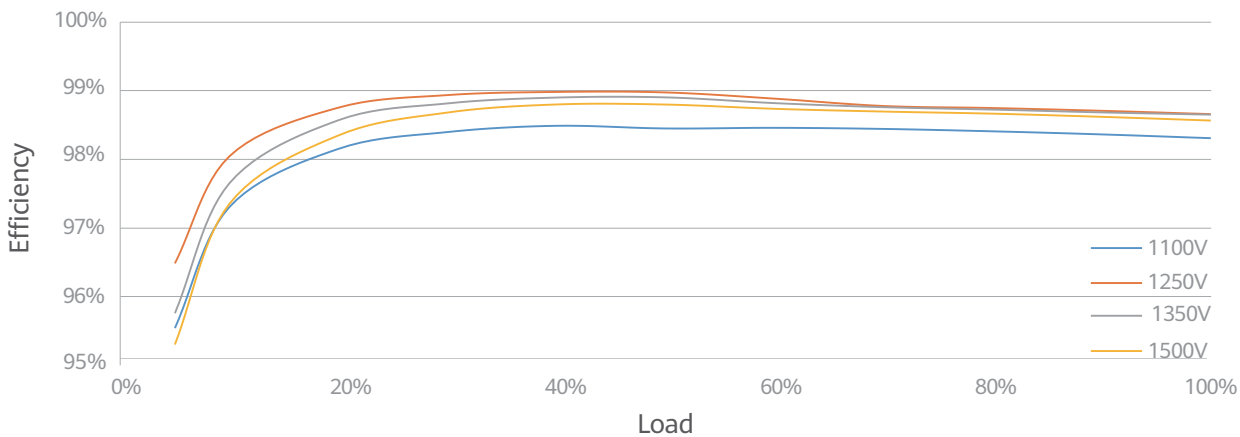
IP66 Protection

Built-in Intelligent Active Breaking Device

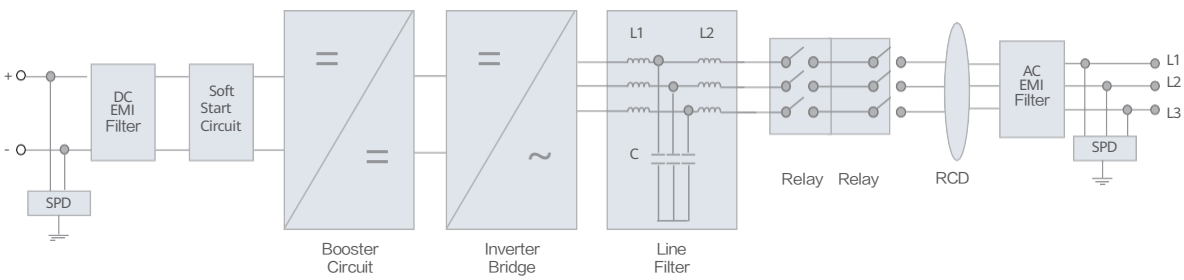
Dual-stage Architecture

Smart Grid Forming Algorithm

Efficiency Curve



Circuit Diagram



Technical Specifications

Efficiency	
Max. Efficiency	99.01%
DC Side	
Rated DC Voltage	1,331 V
Max. DC Voltage	1,500 V
Operating DC Voltage Range	800 V ~ 1,500 V
Rated Power Operating Voltage Range	1100V ~ 1500 V
Max. DC Current	218.5 A
Max. Number of Inputs	1
AC Side	
Rated AC Active Power	213,000 W @40°C; 192,000 W @50°C
Max. Apparent Power	236,400 VA
Rated AC Voltage	800 V
Rated AC Grid Frequency	50 Hz / 60 Hz
Max. AC Current	170.6 A
Adjustable Power Factor Range	-1 ... +1
Max. Total Harmonic Distortion	Off-grid: THDu ≤ 1.5%; On-grid: THDi ≤ 1% (rated)
Protection	
AC Overcurrent Protection	Yes
DC Reverse-polarity Protection	Yes
Insulation Resistance Detection	Yes
Residual Current Protection	Yes
DC Surge Protection	Type II
AC Surge Protection	Type II
Communication	
Display	LED Indicators, USB data cable + APP
USB	Yes
Communication Protocol	Ethernet, CAN
General	
Dimension (W x H x D)	875 x 865 x 365 mm
Weight	≤ 110 kg
Operating Temperature Range	-25°C ~ 60°C
Cooling Method	Smart Air Cooling
Max. Operating Altitude without Derating	4,700 m
Relative Humidity	0 ~ 100% (Non-condensing)
DC Connector	OT / DT Terminal
AC Connector	OT / DT Terminal
Protection Degree	IP66
Anti-corrosion Degree	C5-Medium
Topology	Transformerless
Operation mode	Support PQ/VSG mode
Standards Compliance	
GB/T 34120, GB/T 34133, IEC/EN62477-1, etc.	

Smart PCS

Model:LUNA2000-200KTL-H1

Max. Efficiency 99%

Modular Design

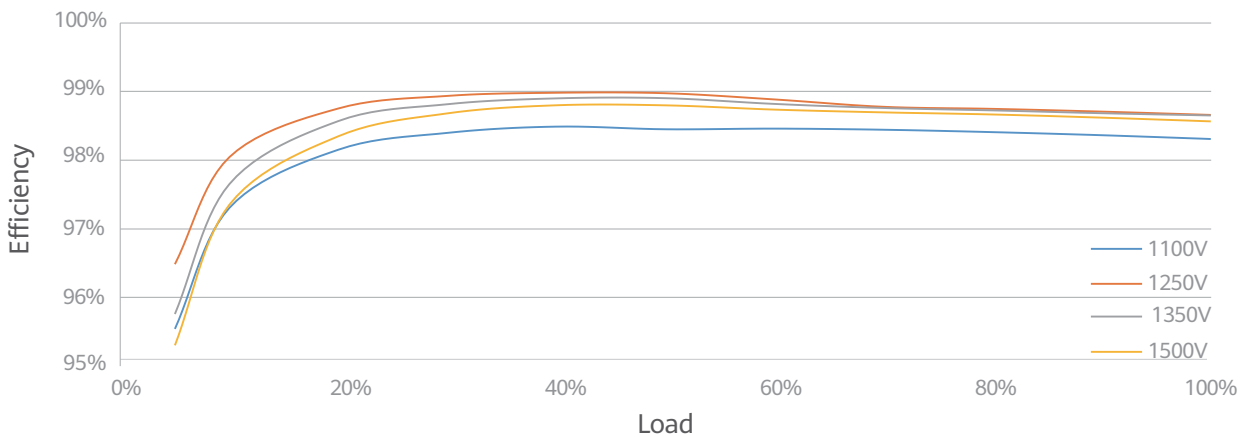
IP66 Protection

Surge Arresters for DC & AC

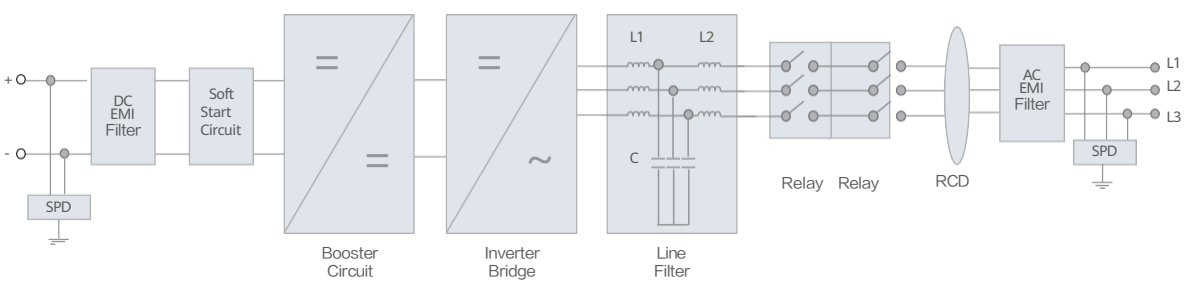
Ethernet Communication

Smart Grid Forming Algorithm

Efficiency Curve



Circuit Diagram



1 - Applies to LUNA2000-2.0MWH / 1.0MWH series models.

Technical Specifications

Efficiency	
Max. Efficiency	99.01%
DC Side	
Rated DC Voltage	1,180 V
Max. DC Voltage	1,500 V
Operating DC Voltage Range	1,180 V ~ 1,500 V
Max. DC Current	207.6 A
Max. Number of Inputs	1
AC Side	
Rated AC Active Power	200,000 W @40°C
Rated AC Voltage	800 Vac, 3W + PE
Rated AC Grid Frequency	50 Hz / 60 Hz
Max. AC Current	173.2 A
Adjustable Power Factor Range	-1 ... +1
Max. Total Harmonic Distortion	$THD_i \leq 1\%$ (Rated)
Grid Forming	Yes
Protection	
AC Overcurrent Protection	Yes
DC Reverse-polarity Protection	Yes
Insulation Resistance Detection	Yes
Residual Current Protection	Yes
DC Surge Protection	Type II
AC Surge Protection	Type II
Communication	
Display	LED Indicators, WLAN + APP
USB	Yes
Ethernet	Yes
General	
Dimension (W x H x D)	875 x 820 x 365 mm
Weight	≤ 99 kg
Operating Temperature Range	-25°C ~ 60°C
Cooling Method	Smart Air Cooling
Max. Operating Altitude without Derating	4,000 m
Relative Humidity	0 ~ 100% (Non-condensing)
DC Connector	OT / DT Terminal
AC Connector	OT / DT Terminal
Protection Degree	IP66
Anti-corrosion Degree	C5-Medium
Topology	Transformerless
Standards Compliance	
RoHS, IEC 62477-1, IEC 61000-6-2, IEC 61683, VDE 4120, EN 50549, etc.	

Smart String Inverter
Model:SUN2000-506KTL-H1 (Preliminary)

Max. Efficiency ⩾99%

Smart Connector-level Detection (SCLD)

Smart Self-Cleaning Fan (SSCF)

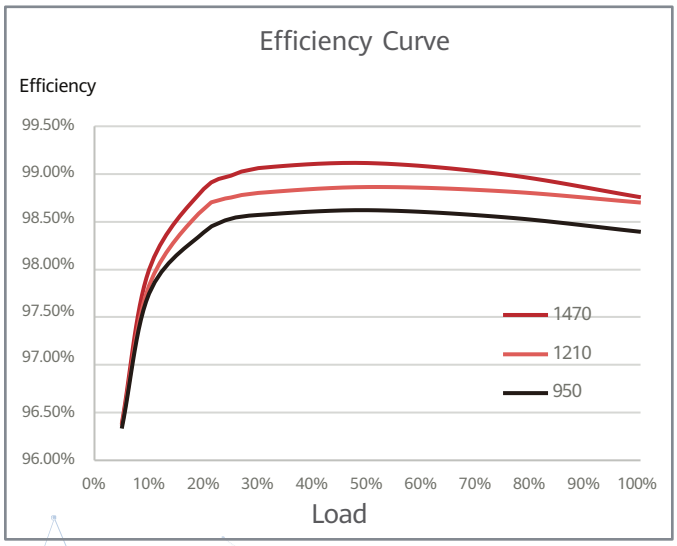
Harp ThermoSiphon (HTS)

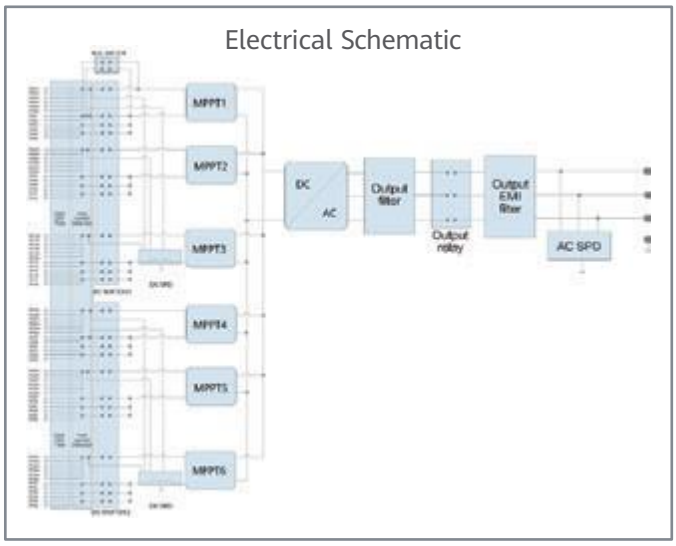
Grid-Forming Supported

Smart String-Level Disconnection (SSLD)

Smart IV Curve Diagnosis Supported

Smart Fan Anti-Icing





Technical Specifications

Efficiency	
Max. Efficiency	99.04%
European Efficiency	98.8%
Input	
Max. Input Voltage[1]	1500 V
Number of MPPT	6
Max. Current per MPPT	105 A
Max. Short Circuit Current per MPPT	180 A
Max. PV Inputs per MPPT	6
MPPT Operating Voltage Range	500 V ~ 1500 V
Nominal Input Voltage	1200 V
Output	
Nominal AC Active Power	460,000 W
Max. AC Apparent Power	506,000 VA
Max. AC Active Power (cosϕ=1)	506,000 W
Nominal Output Voltage	1000 V, 3W + PE
Rated AC Grid Frequency	50 Hz / 60 Hz
Nominal Output Current	265.6 A
Max. Output Current	292.2 A
Adjustable Power Factor Range	0.8 LG ... 0.8 LD
Total Harmonic Distortion	THDi < 1% (Rated)
Protection	
Smart String-level Disconnection (SSLD)	Yes
Smart Connector-level Detection (SCLD)	Yes
AC Overcurrent Protection	Yes
DC Reverse-polarity Protection	Yes
PV-array String Fault Detection	Yes
Smart Self-Cleaning Fan/Intelligent Fan Anti-Icing	Yes
AC/DC Surge Arrester	Type II
DC Insulation Resistance Detection	Yes
Residual Current Detection Unit	Yes
Communication	
Display	LED Indicators
MBUS[2]	Dual Channel
General	
Dimensions (W x H x D)	1065 x 800 x 400 mm
Weight (with mounting plate)	130 kg
Operating Temperature Range	-25 ℃ ~ 60 ℃
Cooling Method	Smart Air Cooling
Max. Operating Altitude without Derating[3]	5000 m (> 4000 m Derating)
Relative Humidity	0 ~ 100% (Non-Condensing)
DC Connector	HH4SFD4TMS / HH4SMD4TMS
AC Connector	Support OT / DT Terminal
Noise Level	75dB in Typical
Protection Degree	IP 66
Anti-corrosion Protection	C5-Medium
Topology	Transformer Less
Standards Compliance	
IEC 62109-1/-2, IEC 62920, IEC 60947-2, EN 50549-2, IEC 61683, etc.	

1. The withstand voltage on the DC side of the inverter can reach 1600V.
2. The RS485 interface has been removed and the MBUS communication is used instead.
3. The inverter will not operate at derating power with the altitudes at / under 4000 m.

Smart String Inverter
Model:SUN2000-506KTL-H2 (Preliminary)

Max. Efficiency ⩾99%

Smart Connector-level Detection (SCLD)

Smart Self-Cleaning Fan (SSCF)

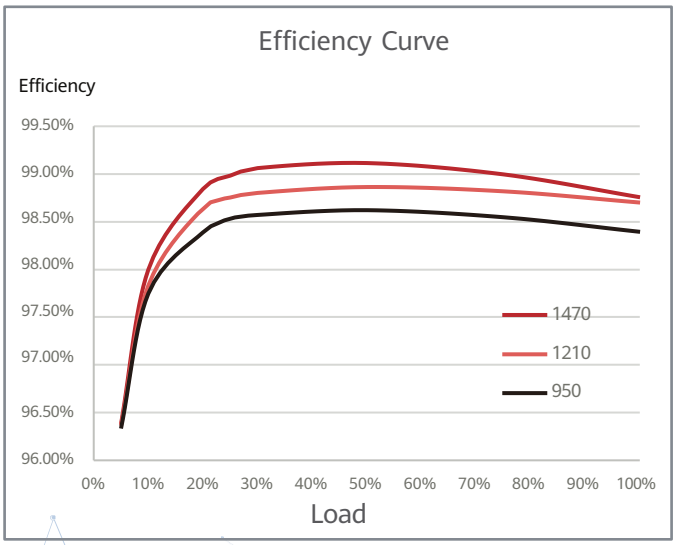
Harp ThermoSiphon (HTS)

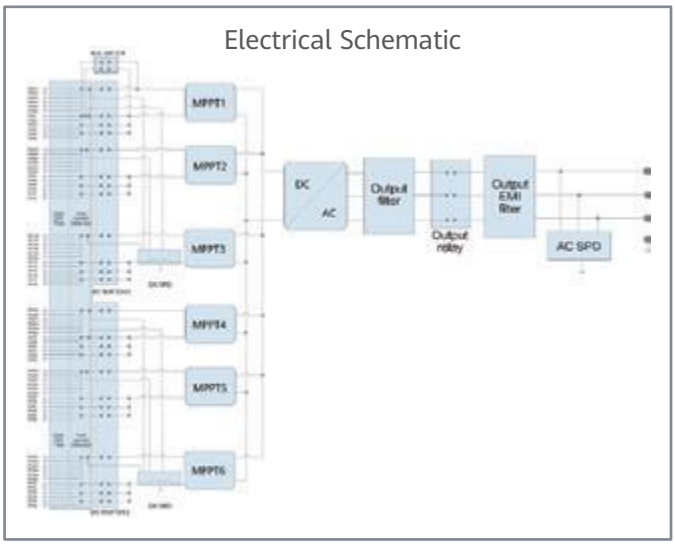
Grid-Forming Supported

Smart String-Level Disconnection (SSLD)

Smart IV Curve Diagnosis Supported

Smart Fan Anti-Icing





Technical Specifications

Efficiency	
Max. Efficiency	99.04%
European Efficiency	98.8%
Input	
Max. Input Voltage[1]	1500 V
Number of MPPT	6
Max. Current per MPPT	105 A
Max. Short Circuit Current per MPPT	180 A
Max. PV Inputs per MPPT	6
MPPT Operating Voltage Range	500 V ~ 1500 V
Nominal Input Voltage	1200 V
Output	
Nominal AC Active Power	420,000 W
Max. AC Apparent Power	506,000 VA
Max. AC Active Power (cosφ=1)	506,000 W
Nominal Output Voltage	1000 V, 3W + PE
Rated AC Grid Frequency	50 Hz / 60 Hz
Nominal Output Current	242.5 A
Max. Output Current	292.2 A
Adjustable Power Factor Range	0.8 LG ... 0.8 LD
Total Harmonic Distortion	THDi < 1% (Rated)
Protection	
Smart String-level Disconnection (SSLD)	Yes
Smart Connector-level Detection (SCLD)	Yes
AC Overcurrent Protection	Yes
DC Reverse-polarity Protection	Yes
PV-array String Fault Detection	Yes
Smart Self-Cleaning Fan/Intelligent Fan Anti-Icing	Yes
AC/DC Surge Arrester	Type II
DC Insulation Resistance Detection	Yes
Residual Current Detection Unit	Yes
Communication	
Display	LED Indicators
MBUS[2]	Dual Channel
General	
Dimensions (W x H x D)	1065 x 800 x 400 mm
Weight (with mounting plate)	130 kg
Operating Temperature Range	-25 ℃ ~ 60 ℃
Cooling Method	Smart Air Cooling
Max. Operating Altitude without Derating[3]	5000 m (> 4000 m Derating)
Relative Humidity	0 ~ 100% (Non-Condensing)
DC Connector	HH4SFD4TMS / HH4SMD4TMS
AC Connector	Support OT / DT Terminal
Noise Level	75dB in Typical
Protection Degree	IP 66
Anti-corrosion Protection	C5-Medium
Topology	Transformer Less
Standards Compliance	
IEC 62109-1/-2, IEC 62920, IEC 60947-2, EN 50549-2, IEC 61683, etc.	

1. The withstand voltage on the DC side of the inverter can reach 1600V.
2. The RS485 interface has been removed and the MBUS communication is used instead.
3. The inverter will not operate at derating power with the altitudes at / under 4000 m.

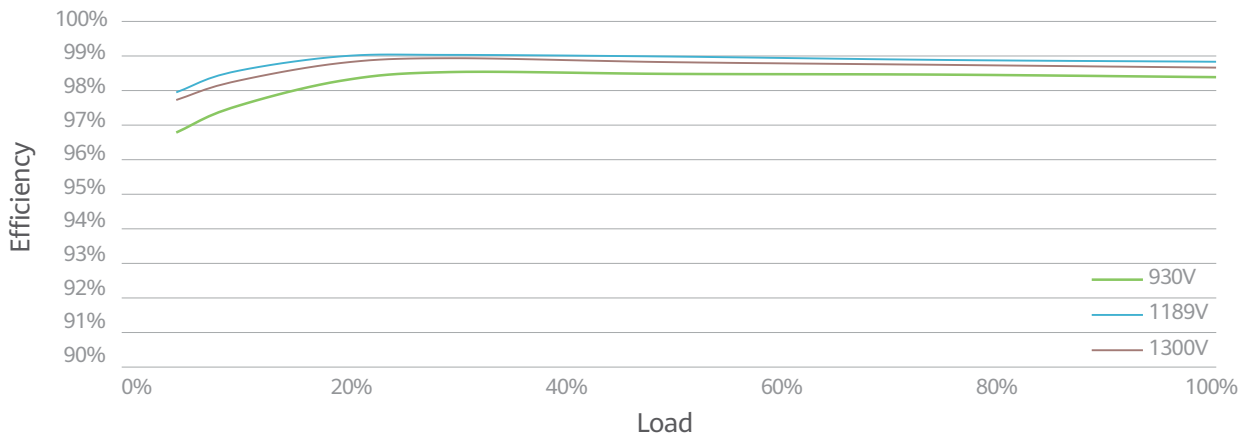
Smart String Inverter

Model:SUN2000-330KTL-H1

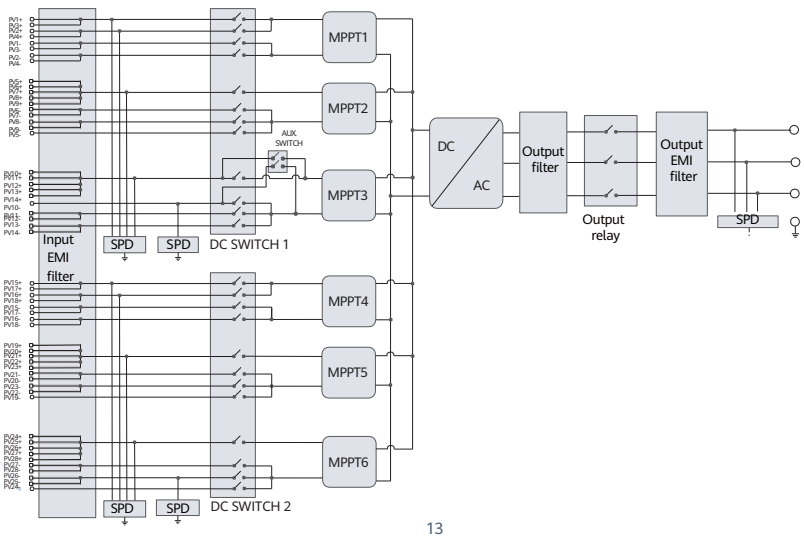
For APAC, LATAM & EUROPE

- Max. Efficiency ≥ 99.0%
- Smart Connector-level Detection (SCLD)
- Smart Self-cleaning Fan (SSCF)
- IP66 Protection
- MBUS Supported
- Smart String-level Disconnection (SSLD)
- Smart IV Curve Diagnosis Supported
- Surge Arresters for DC & AC

Efficiency Curve



Circuit Diagram



Technical Specifications

Efficiency	
Max. Efficiency	99.03%
European Efficiency	98.8%
Input	
Max. Input Voltage	1,500 V
Number of MPPT	6
Max. Current per MPPT	65 A
Max. Short Circuit Current per MPPT	115 A
Max. PV Inputs per MPPT	4/5/5/4/5/5
Start Voltage	550 V
MPPT Operating Voltage Range	500 V ~ 1,500 V
Nominal Input Voltage	1,080 V
Output	
Nominal AC Active Power	275,000 W
Max. AC Apparent Power	330,000 VA
Max. AC Active Power (cosϕ=1)	330,000 W
Nominal Output Voltage	800 V, 3W + PE
Rated AC Grid Frequency	50 Hz / 60 Hz
Nominal Output Current	198.5 A
Max. Output Current	238.2 A
Adjustable Power Factor Range	0.8 LG ... 0.8 LD
Total Harmonic Distortion	THD_i < 1% (Rated)
Protection	
Smart String-level Disconnection (SSLD)	Yes
Smart Connector-level Detection (SCLD)	Yes
AC Overcurrent Protection	Yes
DC Reverse-polarity Protection	Yes
PV-array String Fault Detection	Yes
DC Surge Arrester	Type II
AC Surge Arrester	Type II
DC Insulation Resistance Detection	Yes
Residual Current Detection Unit	Yes
Communication	
Display	LED Indicators, USB data cable + APP
USB	Yes
MBUS	Yes
RS485	Yes
General	
Dimensions (W x H x D)	1,048 x 753 x 395 mm
Weight (with mounting plate)	≤ 112 kg
Operating Temperature Range	-30°C ~ 60°C
Cooling Method	Smart Air Cooling
Max. Operating Altitude without Derating	4,000 m
Relative Humidity	0 ~ 100% (Non-condensing)
DC Connector	HH4SFD4TMS / HH4SMD4TMS
AC Connector	Support OT / DT Terminal (Max. 400 mm^2)
Protection Degree	IP 66
Anti-corrosion Protection	C5-Medium
Topology	Transformerless
Standards Compliance	
IEC 62109-1/-2, IEC 62920, IEC 60947-2, EN 50549-2, IEC 61683, etc.	

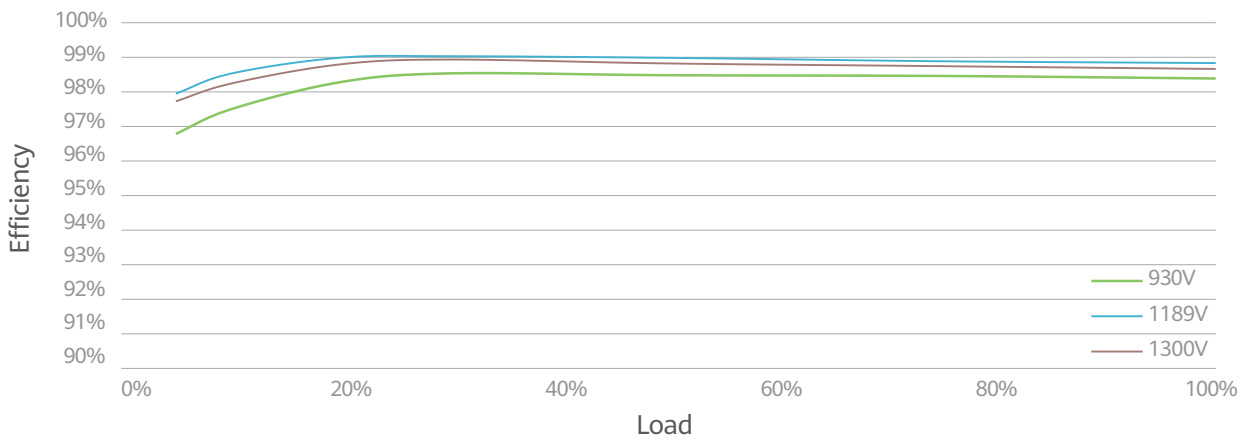
Smart String Inverter

Model:SUN2000-330KTL-H2

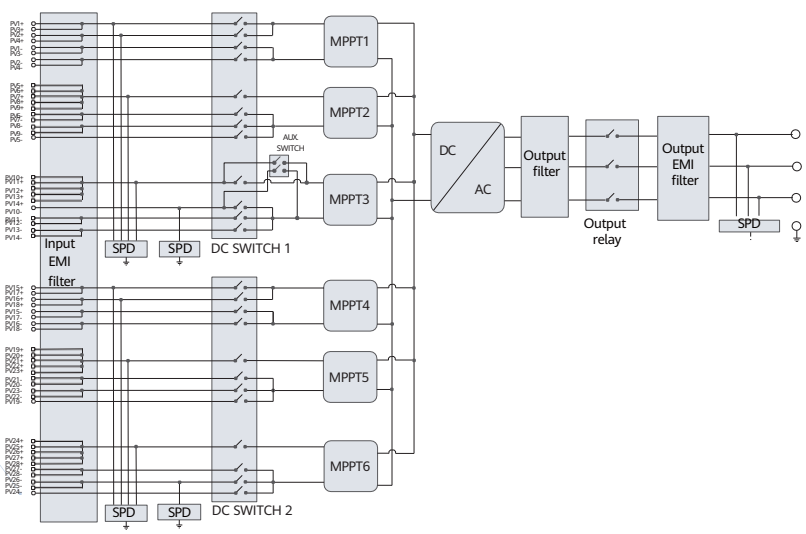
For MEA, Eurasian

- **Max. Efficiency ≥ 99.0%**
- **Smart Connector-level Detection (SCLD)**
- **Smart Self-cleaning Fan (SSCF)**
- **IP66 Protection**
- **MBUS Supported**
- **Smart String-level Disconnection (SSLD)**
- **Smart IV Curve Diagnosis Supported**
- **Surge Arresters for DC & AC**

Efficiency Curve



Circuit Diagram



Technical Specifications

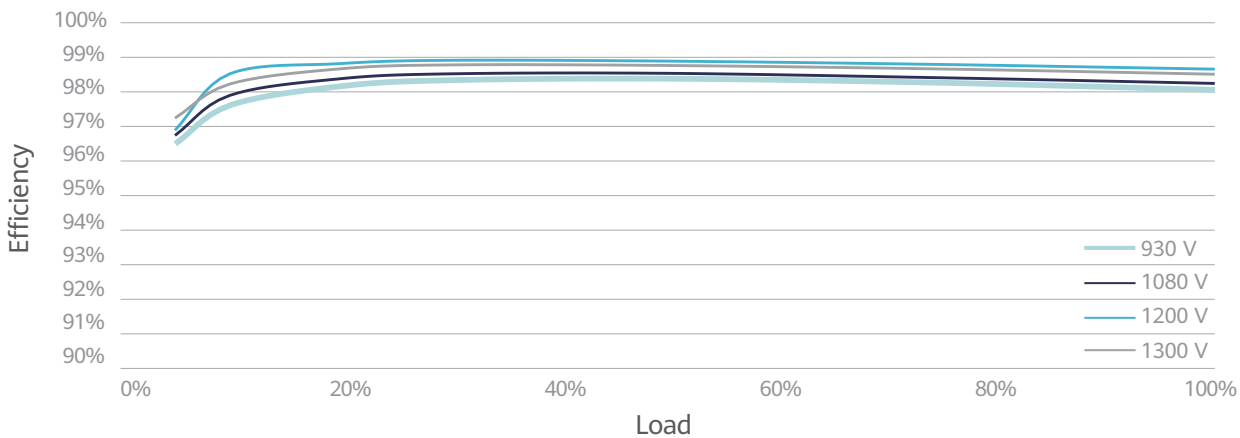
Efficiency	
Max. Efficiency	> 99.0%
European Efficiency	> 98.8%
Input	
Max. Input Voltage	1,500 V
Number of MPPT	6
Max. Current per MPPT	65 A
Max. Short Circuit Current per MPPT	115 A
Max. PV Inputs per MPPT	4/5/5/4/5/5
Start Voltage	550 V
MPPT Operating Voltage Range	500 V ~ 1,500 V
Nominal Input Voltage	1,080 V
Output	
Nominal AC Active Power	275,000 W[1]
Max. AC Apparent Power	330,000 VA
Max. AC Active Power (cosϕ=1)	330,000 W
Nominal Output Voltage	800 V, 3W + PE
Rated AC Grid Frequency	50 Hz / 60 Hz
Nominal Output Current	198.5 A
Max. Output Current	238.2 A
Adjustable Power Factor Range	0.8 LG ... 0.8 LD
Total Harmonic Distortion	THD_i < 1% (Rated)
Protection	
Smart String-level Disconnection (SSLD)	Yes
Smart Connector-level Detection (SCLD)	Yes
AC Overcurrent Protection	Yes
DC Reverse-polarity Protection	Yes
PV-array String Fault Detection	Yes
DC Surge Arrester	Type II
AC Surge Arrester	Type II
DC Insulation Resistance Detection	Yes
Residual Current Detection Unit	Yes
Communication	
Display	LED Indicators, USB data cable + APP
USB	Yes
MBUS	Yes
RS485	Yes
General	
Dimensions (W x H x D)	1,048 x 753 x 395 mm
Weight (with mounting plate)	≤ 112 kg
Operating Temperature Range	-30°C ~ 60°C
Cooling Method	Smart Air Cooling
Max. Operating Altitude without Derating	4,000 m
Relative Humidity	0 ~ 100% (Non-condensing)
DC Connector	HH4SFD4TMS / HH4SMD4TMS
AC Connector	Support OT / DT Terminal (Max. 400 mm^2)
Protection Degree	IP 66
Anti-corrosion Protection	C5-Medium
Topology	Transformerless
Standards Compliance	
IEC 62109-1/-2, IEC 62920, IEC 60947-2, EN 50549-2, IEC 61683, etc.	

1: Environmental temperature is 50°C

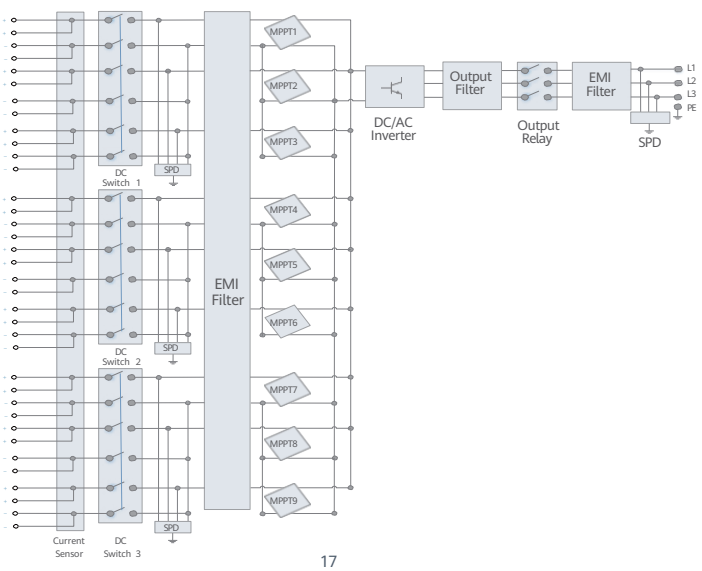
Smart String Inverter
Model:SUN2000-215KTL-H0

- 9 MPPTs
- Max. Efficiency ≥99.0%
- Smart String-level Disconnection
- Smart I-V Curve Diagnosis Supported
- MBUS Supported
- Fuse Free Design
- Surge Arresters for DC & AC
- IP66 Protection

Efficiency Curve



Circuit Diagram



Technical Specifications

Efficiency	
Max. Efficiency	99.00%
European Efficiency	98.80%
Input	
Max. Input Voltage	1,500 V
Max. Current per MPPT	30 A
Max. Short Circuit Current per MPPT	50 A
Start Voltage	550 V
MPPT Operating Voltage Range	500 V ~ 1,500 V
Nominal Input Voltage	1,080 V
Number of Inputs	18
Number of MPPT	9
Output	
Nominal AC Active Power	200,000 W
Max. AC Apparent Power	215,000 VA
Max. AC Active Power (cosϕ=1)	215,000 W
Nominal Output Voltage	800 V, 3W + PE
Rated AC Grid Frequency	50 Hz / 60 Hz
Nominal Output Current	144.4 A
Max. Output Current	155.2 A
Adjustable Power Factor Range	0.8 LG ... 0.8 LD
Total Harmonic Distortion	THD_i < 1% (Rated)
Protection	
Smart String-level Disconnection (SSLD)	Yes
AC Overcurrent Protection	Yes
DC Reverse-polarity Protection	Yes
PV-array String Fault Detection	Yes
DC Surge Arrester	Type II
AC Surge Arrester	Type II
DC Insulation Resistance Detection	Yes
Residual Current Detection Unit	Yes
Communication	
Display	LED Indicators, USB data cable + APP
USB	Yes
MBUS	Yes
RS485	Yes
General	
Dimensions (W x H x D)	1,035 x 700 x 365 mm
Weight (with mounting plate)	≤ 86 kg
Operating Temperature Range	-25°C ~ 60°C
Cooling Method	Smart Air Cooling
Max. Operating Altitude without Derating	4,000 m
Relative Humidity	0 ~ 100% (Non-condensing)
DC Connector	MC4 EVO2
AC Connector	Support OT / DT Terminal
Protection Degree	IP66
Anti-corrosion Protection	C5-Medium
Topology	Transformerless
Standards Compliance	
IEC 62109-1/-2, IEC 62920, EN 50549-2, EN 50530, etc.	

Smart Transformer Station

Model:JUPITER-9000K/6000K/3000K-H1(built-in SACU)

Simple

Prefabricated and pre-tested, no Internal cabling needed onsite Compact 20' HC container design for easy transportation

Efficient

High efficiency transformer for higher yields Lower self-consumption for higher yields

Safe

Meets IEC 61641, Up to Class C 1 arcing protection on LV side Update the function for MV protection, Change to Upward arc discharge, Meets IEC 62271-202 IAC-A

Smart

Real-time detection of transformer, LV panel and RMU high precision sensor of LV electricity parameters Remote control of ACB and MV circuit breaker

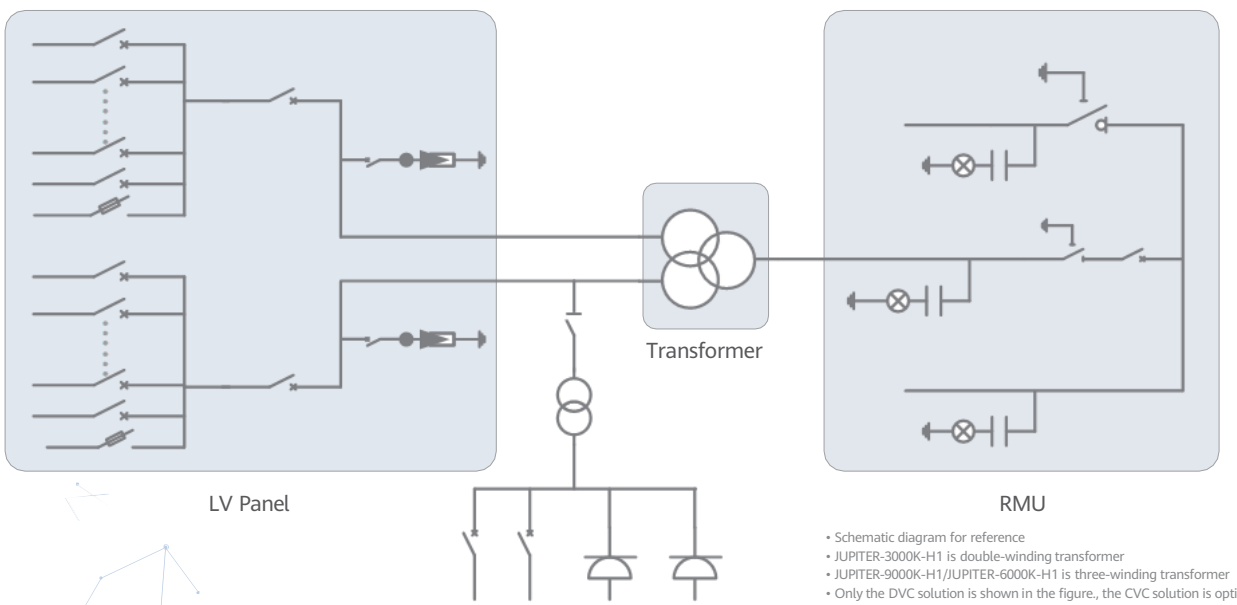
Reliable

Robust design against harsh environments optimal cooling Design for high availability and easy O&M Comprehensive tests from components, device to solution

Environmental protection

STS Can support natural ester vegetable oils Environmentally friendly, easy to degrade, 98% degradable in 28 days High flash point, > 350°C, not easily combusti-bleOil-free sump design, Simplify O&M

Schematic Diagram



- Schematic diagram for reference
- JUPITER-3000K-H1 is double-winding transformer
- JUPITER-9000K-H1/JUPITER-6000K-H1 is three-winding transformer
- Only the DVC solution is shown in the figure., the CVC solution is optional

Technical Specifications

Model	JUPITER-9000K-H1(built-in SACU)	JUPITER-6000K-H1(built-in SACU)	JUPITER-3000K-H1(built-in SACU)
Input			
Available Inverters / PCS	SUN2000-330KTL-H1 / SUN2000-330KTL-H2 / LUNA2000-213KTL-H0		
Max. MCCB inputs	30	22	12[1]/11
Max. LV AC Inputs	60[2]	44	24[2]/12
AC Power	9,000 kVA @40°C[3]	6,600 kVA @40°C[3]	3,300 kVA @40°C[4]
Rated Input Voltage	800 V		
LV Panel Segregation	Form 2b		
LV Main Switches	ACB (4,000 A, 2 x 1 pcs)	ACB (2,900 A, 2 x 1 pcs)	ACB (2,900 A, 1x1 pcs)
LV Main Switches [4]	MCCB (400 A, 2 x 15 pcs)	MCCB (400 A, 2 x 11 pcs)	MCCB (400 A, 11 pcs)
Output			
Rated Output Voltage	10~35 kV[4]		
Frequency	50 Hz / 60 Hz		
Transformer Type	Oil-immersed, Conservator Type		
Transformer Cooling Type	Mineral Oil：ONAN / Natural Ester：KNAN		
Transformer Tappings	± 2 x 2.5%		
Transformer Oil Type	Mineral Oil (PCB Free)/Natural ester oil (Optional)		
Transformer Vector Group	Dy11-y11		Dy11
Transformer Min. Peak Efficiency Index	Tier 1 or Tier 2 In Accordance with EN 50588-1		
RMU Type	SF_6 Gas Insulated		
RMU Transformer Protection Unit	MV Vacuum Circuit Breaker Unit		
RMU Cable Incoming / Outgoing Unit	Direct Cable Unit or Cable Load Break Switch Unit		
Auxiliary Transformer	Dry Type Transformer, 5 kVA, Single-phase, li0/50kVA, Three-phase, Dyn11 (Optional)		
Output Voltage of Auxiliary Transformer	400/230/220/210V		
Protection			
Transformer Detection & Protection	Oil Level, Oil Temperature, Oil Pressure and Buchholz		
Protection Degree of MV & LV Room	IP 54		
Internal Arcing Fault of STS	Standard IAC A 20 kA 1s/ IAC A 25 kA 1s (Optional)		
MV Arc Releasing	MV Upward Arc Releasing for Higher Safety, Meets IEC 62271-202 IAC-A		
LV Arc Releasing	Meets IEC 61641 up to Class C arcing protection on LV side		
MV Relay Protection	DVC/CVC Standard 50/51, 50N/51N DVC High Standard 50/51, 50N/51N, 87, 50BF, 51G, Inrush Blocking, Watchdog, 49T (External trip), FR (Optional) CVC High Standard 50/51, 50N/51N, 49, 86, 27, 59, 79, 74, 59N, 50BF, Inrush Blocking, Watchdog, 49T(External Trip), FR (Optional)		
LV Overvoltage Protection	Type I+II		
Anti-corrosion Protection	C5-M		
Features			
2 kVA UPS	Optional[5]		
MV Surge Arrester for Transformer	Optional[5]		
IMD License	Optional[5]		
General			
Dimensions (W x H x D)	6,058 x 2,896 x 2,438 mm (20' HC ISO Container)		
Weight	< 28 t	< 23 t	< 17 t
Operating Temperature Range	-25°C ~ 60°C[6]		
Relative Humidity	0% ~ 95% (Non-condensing)		
Max. Operating Altitude	1,000 m[7]		
MV-LV AC Connections	Prewired and Pretested, No Internal Cabling Onsite		
LV & MV Room Cooling	Smart Cooling without Air-across for Higher Availability		
Communication	Modbus TCP, Preconfigured with SmartACU		
Standards Compliance			
IEC 62271-202, EN 50588-1, IEC 60076, IEC 62271-200, IEC 61439-1			

1、only for GFM version
2、one MCCB can aggregate one inverter and one PCS at the same time，Max. LV AC Inputs means Theoretical number of full-access PCS
3、More detailed AC power of STS, please refer to the de-rating curve.
4、Rated output voltage from 10 kV to 35 kV, more available upon request
5、Extra expense needed for optional features which standard product doesn't contain, more options upon request.
6、When ambient temperature ≥55℃, awning shall be equipped for STS on site by customer. 7
、For higher operating altitude, please consult with Huawei.

Smart Transformer Station

Model:JUPITER-9000K-H0/STS-6000K/3000K-H1

Simple

Prefabricated and Pre-tested, No Internal Cabling Needed OnsiteCompact 20' HC Container
Design for Easy Transportation

Efficient

High Efficiency Transformer for Higher Yields
Lower Self-consumption for Higher Yields

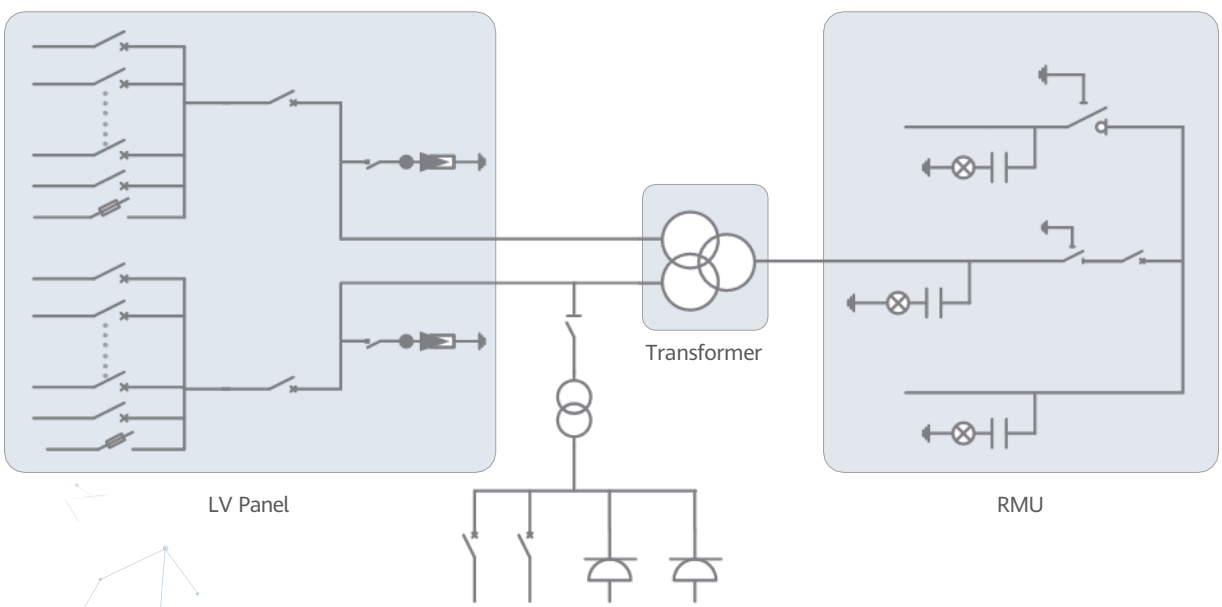
Smart

Real-time Detection of Transformer, LV Panel and RMU
High Precision Sensor of LV Electricity Parameters
Remote Control of ACB and MV Circuit Breaker

Reliable

Robust Design against Harsh Environments
Optimal Cooling Design for High Availability and Easy O&M
Comprehensive Tests from Components, Device to Solution

Schematic Diagram



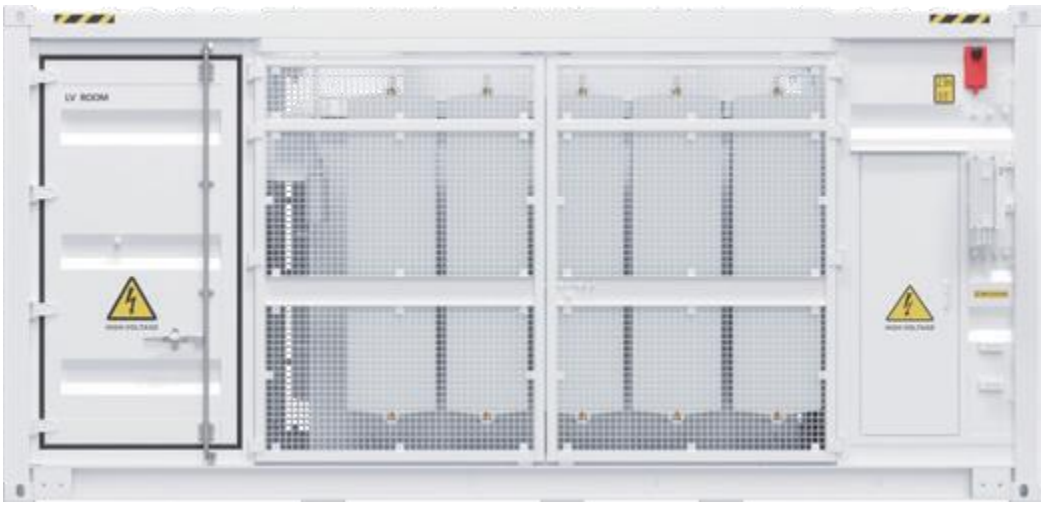
Technical Specifications

Model	JUPITER-9000K-H0	STS-6000K-H1	STS-3000K-H1
Input			
Available Inverters	SUN2000-213KTL / LUNA2000-200KTL		
Max. LV AC Inputs	44	34	17
AC Power	9,000 kVA @40°C[1]	6,800 kVA @40°C[1]	3,400 kVA @40°C[1]
Rated Input Voltage	800 V		
LV Panel Segregation	Form 2b		
LV Main Switches	ACB (4,000 A, 2 x 1 pcs)	ACB (2,900 A, 2 x 1 pcs)	ACB (2,900 A, 1 pcs)
LV Main Switches for SUN2000-215KTL-H0	MCCB (250 A, 2 x 22 pcs)	MCCB (250 A, 2 x 17 pcs)	MCCB (250 A, 17 pcs)
Output			
Rated Output Voltage	10~35 kV[2]		
Frequency	50 Hz / 60 Hz		
Transformer Type	Oil-immersed, Conservator Type		
Transformer Cooling Type	ONAN		
Transformer Tappings	± 2 x 2.5%		
Transformer Oil Type	Mineral Oil (PCB Free)		
Transformer Vector Group	Dy11-y11		Dy11
Transformer Min. Peak Efficiency Index	Tier 1 or Tier 2 In Accordance with EN 50588-1		
RMU Type	SF_6 Gas Insulated		
RMU Transformer Protection Unit	MV Vacuum Circuit Breaker Unit		
RMU Cable Incoming / Outgoing Unit	Direct Cable Unit or Cable Load Break Switch Unit		
Auxiliary Transformer	Dry Type Transformer, 5 kVA, Single-phase, li0		Dry Type Transformer, 5 kVA, Three-phase, Dyn11
Output Voltage of Auxiliary Transformer	230 / 127 Vac		400 / 230 Vac or 220 / 127 Vac
Protection			
Transformer Detection & Protection	Oil Level, Oil Temperature, Oil Pressure and Buchholz		
Protection Degree of MV & LV Room	IP 54		
Internal Arcing Fault of STS	IAC A 20 kA 1s		
MV Relay Protection	50/51, 50N/51N		
LV Overvoltage Protection	Type I+II		
Anti-rodent Protection	C5-Medium		
Features			
2 kVA UPS	Optional[3]		
MV Surge Arrester for MV VCB	Optional[3]		
General			
Dimensions (W x H x D)	6,058 x 2,896 x 2,438 mm (20′ HC ISO Container)		
Weight	< 28 t	< 22 t	< 15 t
Operating Temperature Range	-25°C ~ 60°C[4]		
Relative Humidity	0% ~ 95% (Non-condensing)		
Max. Operating Altitude	1,000 m[5]		
MV-LV AC Connections	Prewired and Pretested, No Internal Cabling Onsite		
LV & MV Room Cooling	Smart Cooling without Air-across for Higher Availability		
Communication	Modbus TCP, Preconfigured with SmartACU2000D		Modbus RTU, Preconfigured with SmartACU2000D
Standards Compliance			
IEC 62271-202, EN 50588-1, IEC 60076, IEC 62271-200, IEC 61439-1			

1: More detailed AC power of STS, please refer to the de-rating curve.
2: Rated output voltage from 10 kV to 35 kV, more available upon request
3: Extra expense needed for optional features which standard product doesn't contain, more options upon request.
4: When ambient temperature ≥55°C, awning shall be equipped for STS on site by customer.
5: For higher operating altitude, pls consult with Huawei.

Smart Transformer Station(Preliminary)

Model:JUPITER-11000K/7000K/3000K-HD1(built-in SACU)



Simple

Prefabricated and Pre-tested, No Internal Cabling Needed Onsite Compact 20' HC Container Design for Easy Transportation

Efficient

High Efficiency Transformer for Higher Yields Lower Self-consumption for Higher Yields

Safe

Meets IEC 61641; Up to Class C arcing protection on LV side; Update the function for MV protection; Change to upward arc discharge; Meets IEC 62271-202 IAC-A

Smart

Real-time Detection of Transformer, LV Panel and RMUHigh Precision Sensor of LV Electricity Parameters Remote Control of ACB and MV Circuit Breaker

Reliable

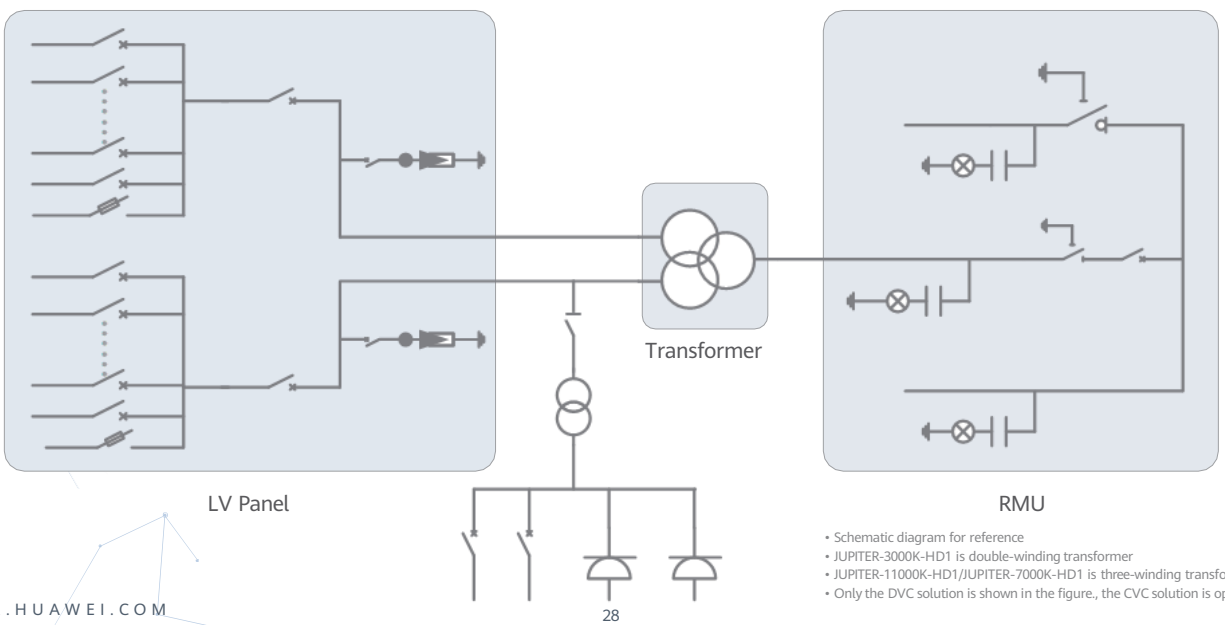
Robust Design against Harsh Environments Optimal Cooling Design for High Availability and Easy O&M; Comprehensive Tests from Components; Device to Solution

Environmental protection

STS Can support natural ester vegetable oils Environmentally friendly Oil-free sump design, Simplify O&M Natural gas insulation, free of F-gases, is more environmental friendly. Voltage ≤24KV

1、More detailed AC power of STS, please refer to the de-rating curve.
2、Rated output voltage from 10 kV to 35 kV, more available upon request.
3、Natural Gas Insulated, up to 24 kV, the switchgear contains the insulating gas Clean Air 0543. Clean Air is a natural gas (Natural-Origin-Gas) according to IEC 62271-4.
4、Extra expense needed for optional features which standard product doesn't contain, more options upon request.
5、When ambient temperature ≥55℃, awning shall be equipped for STS on site by customer.
6、For higher operating altitude, please consult with Huawei.

Schematic Diagram



- Schematic diagram for reference
- JUPITER-3000K-HD1 is double-winding transformer
- JUPITER-11000K-HD1/JUPITER-7000K-HD1 is three-winding transformer
- Only the DVC solution is shown in the figure., the CVC solution is optional

Technical Specifications

Model	JUPITER-11000K-HD1 (built-in SACU)	JUPITER-7000K-HD1 (built-in SACU)	JUPITER-3000K-HD1 (built-in SACU)
Input			
Available Inverters / PCS	SUN2000-400+KTL-H1 / SUN2000-400+KTL-H2		
Max. MCCB inputs	24	16	8
Max. LV AC Inputs	24	16	8
AC Power	11,040 kVA @40°C[1]	7,360 kVA @40°C[1]	3,680 kVA @40°C[1]
Rated Input Voltage	1000 V		
LV Panel Segregation	Form 2b		
LV Main Switches	ACB (4,000 A, 2 x 1 pcs)	ACB (2,900 A, 2 x 1 pcs)	ACB (2,900 A, 1x1 pcs)
LV Main Switches [4]	MCCB (400 A, 2 x 15 pcs)	MCCB (400 A, 2 x 8 pcs)	MCCB (400 A, 8 pcs)
Output			
Rated Output Voltage	10~35 kV[2]		
Frequency	50 Hz or 60 Hz		
Transformer Type	Oil-immersed, Conservator Type		
Transformer Cooling Type	Mineral Oil: ONAN Natural Ester: KNAN		Mineral Oil: ONAF
Transformer Tappings	± 2 x 2.5%		
Transformer Oil Type	Mineral Oil (PCB Free)/Natural ester oil (Optional)		
Transformer Vector Group		Dy11-y11	Dy11
Transformer Min. Peak Efficiency Index	Tier 1 or Tier 2 In Accordance with EN 50588-1		
RMU Type	SF6 Gas Insulated/Natural Gas Insulated3		
RMU Transformer Protection Unit	MV Vacuum Circuit Breaker Unit		
RMU Cable Incoming / Outgoing Unit	Direct Cable Unit or Cable Load Break Switch Unit		
Auxiliary Transformer	Dry Type Transformer, 5 kVA, Single-phase, li0/50kVA, Three-phase, Dyn11 (Optional)		
Output Voltage of Auxiliary Transformer	400/230/220/210V		
Protection			
Transformer Detection & Protection	Oil Level, Oil Temperature, Oil Pressure and Buchholz		
Protection Degree of MV & LV Room	IP 54		
Internal Arcing Fault of STS	Standard IAC A 20 kA 1s/ IAC A 25 kA 1s (Optional)		
MV Arc Releasing	MV Upward Arc Releasing for Higher Safety, Meets IEC 62271-202 IAC-A		
LV Arc Releasing	Meets IEC 61641 up to Class C arcing protection on LV side		
MV Relay Protection	DVC/CVC Standard 50/51, 50N/51N DVC High Standard 50/51, 50N/51N, 87, 50BF, 51G, Inrush Blocking, Watchdog, 49T (External trip), FR (Optional) CVC High Standard 50/51, 50N/51N, 49, 86, 27, 59, 79, 74, 59N, 50BF, Inrush Blocking, Watchdog, 49T(External Trip), FR (Optional)		
LV Overvoltage Protection	Type I+II		
Anti-corrosion Protection	C5-M		
Features			
2 kVA UPS	Optional[4]		
MV Surge Arrester for Transformer	Optional[4]		
IMD License	Optional[4]		
General			
Dimensions (W x H x D)	6,058 x 2,896 x 2,438 mm (20' HC ISO Container)		
Weight	< 28 t	< 23 t	< 17 t
Operating Temperature Range	-25°C ~ 60°C[5]		
Relative Humidity	0% ~ 95% (Non-condensing)		
Max. Operating Altitude	1,000 m[6]		
MV-LV AC Connections	Prewired and Pretested, No Internal Cabling Onsite		
LV & MV Room Cooling	Smart Cooling without Air-across for Higher Availability		
Communication	Modbus TCP, Preconfigured with SmartACU		
Standards Compliance			
IEC 62271-202, EN 50588-1, IEC 60076, IEC 62271-200, IEC 61439-1			

1 -only for Jupiter 6000k-H1 and Jupiter 3000k-H1
2 -only for GFM version
3 -one MCCB can aggregate one inverter and one PCS at the same time, Max. LV AC Inputs means Theoretical number of full-access PCS
4 -More detailed AC power of STS, please refer to the de-rating curve.
5 -Rated output voltage from 10 kV to 35 kV, more available upon request
6 -Extra expense needed for optional features which standard product doesn't contain, more options upon request.
7 -When ambient temperature ≥55°C, awning shall be equipped for STS on site by customer.
8 -For higher operating altitude, please consult with Huawei.

DC LV Panel
Model:DCBOX-9/5-H0

Technical Specifications

Electrical	
Max. Input Voltage	1,500 V
Nominal Input Voltage	1,200 V
Max. Branch Current for Battery Rack Side	321 A
Max. Branch Current for PCS Side	193 A
Number of DC Circuit Breaker	14
Max. Input Number of Battery Rack	9
Max. Input Number of PCS	5
Max. Convergence Capacity	5 x 193 A
Protection	
DC Overcurrent Protection	Yes
Environment	
Operating Temperature Range	-30°C ~ 60°C
Relative Humidity	0 ~ 100% (Non-condensing)
Max. Operating Altitude	4,000 m
General	
Cable Entries	Top in for PCS & Bottom in for Battery Rack
Dimensions (W x H x D)	2,040 x 1,415 x 975 mm
Weight (Without Smart PCS)	≤ 750 kg
DC Connector / AC Connector	OT Terminal
Protection Degree	IP55
Installation Options	Grounding

1 -The DCBOX can work with the LUNA2000-200KTL series models.

Distribution Transformer
Model:DTS-200K-D0

Technical Specifications

Electrical	
AC Power	210 kVA@ 400 Vac / 4 kVA@ 110 Vac
Rated Input Voltage	800 Vac
Max. Input Current at Nominal Voltage	151.6 A
Rated Output Voltage	400V (3P) /110V (1P)
Rated Frequency	50 / 60 Hz
Transformer Type	Dry Type
Transformer Cooling Type	AF
Transformer Vectoring Group	Dyn11yn11
Transformer Tappings	± 2 x 2.5%
Transformer Winding	Al
Transformer Insulation Class	H
Transformer Impedance (at 145°C)	4% (±10%) @50Hz / 4.8% (±10%) @60Hz
Transformer No-load Loss	≤ 500 W (+15%)
Transformer Load Loss	≤ 3,044 W (+15%)
Cablings	
Number of outputs	Five MCCBs, each connected to two outputs
Cabling mode	Routed in and out from the bottom
Protection	
Protection Degree	IP 55
LV SPD	Type II
Transformer Protection	Transformer Temperature Protection
Environment	
Operating Temperature Range	- 30°C ~ 55°C
Relative Humidity	0% ~ 95% (Non-condensing)
Max. Operating Altitude	4,000 m
General	
Dimensions (W x H x D)	900 x 2,100 x 1,200 mm
Weight	< 1.3 t
Communication Mode	Dry Contacts
Cooling Type	Smart Cooling without Air-across for Higher Availability
Standards Compliance	
IEC 60076, IEC 61439	

Smart Array Controller
Model:SmartACU2000D

With SmartPID2000 Module

Smart
Support one-click commissioning
Patented anti-PID module

Simple
SmartPID2000 & Smartlogger3000B
pre-installed with multiple interfaces

Reliable
Industrial-level application
and high reliability

Technical Specifications	
SmartLogger	SmartLogger3000B x 1
SmartModule1000A	Standard with 1
RS485	COM x 6, 1,200 / 2,400 / 4,800 / 9,600 / 19,200 / 115,200 bps
Number of MBUS Module [1]	2
Number of SmartPID2000	2
Switch with 4*SFP and 8*100 / 1,000 Mbps	2
Environment	
Operating Temperature Range	-40°C ~ 60°C
Relative Humidity	0% ~ 100% (Non-condensing)
Max. Operating Altitude	4,000 m
Electrical	
AC Input Voltage for Cabinet	100 V ~ 240 V, L / N (L)+ PE
AC Input Voltage for MBUS	380 V ~ 800 V, 3Ph
AC Input Voltage for PID	380 V ~ 800 V, 3Ph + FE (Functional Earth)
AC Input Frequency	50 Hz / 60 Hz
Power Supply	Standard: 12 V DC
Mechanical	
Cable Entries	Bottom in & out
Maintenance	Front
Dimensions (W x H x D)	880mm×770mm×369mm
Weight	66kg
Protection Degree	IP65
Installation Options	Wall Mounting, Rack Mounting, Pole Mounting

1: Compatible with communication mode of PLC (Power Line Communication).

Smart Array Controller
Model:SmartACU2000F(Preliminary)

With SmartPID2000 Module

Without SmartPID2000 Module

AC Direct Sampling

MBUS Dual Channel

Fast Power Scheduling

Fault Recording

Technical Specifications

Model	SmartACU2000F-F-00	SmartACU2000F-F-01	SmartACU2000F-F-02	SmartACU2000F-F-03
Configuration				
SmartLogger	SmartLogger3000B x 1			
SmartModule1000A	Optional			Standard with 1
Communication	SFP/ETH/MBUS/RS485			
Number of MBUS Module	1	1	2	2
Number of SmartPID2000	0	1	2	2
Switch with 4*SFP and 8*100 / 1,000 Mbps	Optional with 1			Standard with 2
Environment				
Operating Temperature Range	-40°C ~ 60°C			
Storage Temperature Range	-40°C ~ 70°C			
Relative Humidity	0%RH ~ 100%RH			
Max. Operating Altitude	5,000 m			
Electrical				
AC Input Voltage for Cabinet	100 V ~ 240 V, L / N (L)+ PE			
AC Input Voltage for MBUS	380 V ~ 800 V, 3Ph			
AC Input Voltage for PID	380 V ~ 800 V, 3Ph + FE (Functional Earth)			
AC Input Frequency	50 Hz / 60 Hz			
Single-phase Input Power	60W Max			
Three-phase Input Power	5W Max	480W Max	2×330W Max	
Mechanical				
Cable Entries	Bottom in & out			
Maintenance	Front			
Dimensions (W x H x D)	640mm×770mm×365mm	880mm×770mm×369mm		
Weight	33kg	54kg	64kg	66kg
Protection Degree	IP65			
Installation Options	Wall Mounting, Rack Mounting, Pole Mounting			
Standards Compliance				
IEC 62368-1, IEC 60950-22, RoHS, REACH, WEEE, etc.				

► SmartLogger5000A(Preliminary)

One-click Commissioning

Multiple Communication Protocols

Safe and Reliable

Technical Specifications

Communication	
WAN	WAN x 1, 10/100/1000 Mbps
LAN	LAN x 1, 10/100/1000 Mbps
GE	GE x 4, 10/100/1000 Mbps
SFP	SFP x 2, 100/1000 Mbps
RS485	COM x 3, 19200/38400/115200 bps
MBUS	MBUS x 1, three-phase input (dual channel), 1000VAC
DI/DO	DI x 4, DO x 2
AI/DI	AI x 4, Compatible with 4-channel DI Input
Voltage/Current Measurement	
Current Detection	Support
Voltage Detection	Support
Communication Protocol	
Device Access	80
Southbound Protocol	ModBus-RTU, ModBus-TCP
Northbound Protocol	ModBus-TCP, IEC60870-5-104, IEC61850-GOOSE
Interaction	
LED	Support
APP	WLAN Connection, For Local Debugging
Environment	
Operating Temperature Range	-40°C ~ 60°C
Storage Temperature Range	-40°C ~ 70°C
Relative Humidity	5% ~ 95%
Max. Operating Altitude	5,000 m (16,404 ft.)
Electrical	
AC Power Supply	100 V ~ 240 V, 50 Hz/60 Hz
DC Power Supply	12V / 24V
Power	Typical 12.5W
Mechanical	
Dimensions (W x H x D)	225 x 160 x 44 mm
Weight	2 kg (4.4 lb.)
Protection Degree	IP20
Standards Compliance	
IEC62368-1, IEC61010-1&-2-30, EN301 489-1, EN301 489-17, EN300 328, etc.	

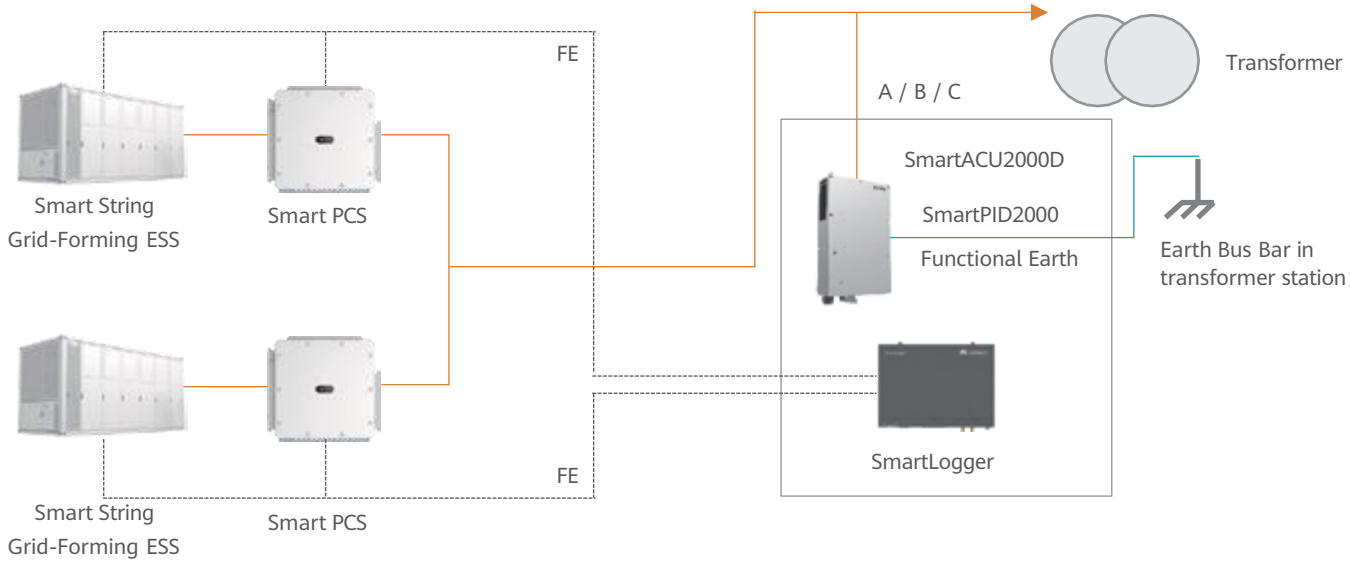
Inside Smart Array Controller
Model:SmartPID2000

The SmartPID2000 Module is installed in the SmartACU2000D cabinet and support continuous DC & AC insulation detection with optional Smart IMD.

Smart
Data read and software upgrade through USB or the embedded Web

Safe & Reliable
Inject LV AC voltage to earth
Continuous DC & AC insulation detection with optional Smart IMD

SmartPID2000 Solution Diagram



Note:
1 - The SmartPID module could ONLY be deployed in utility scenarios where the LV sides of transformer stations are IT system.
2 - The SmartPID module must work with FusionSolar SmartLoggers and smart PV controllers / smart PCS.

Smart Microgrid Controller
Model:SPPC2000-MGCC

POC PT/CT Direct Sampling

Multi-time scale frequency & voltage control

High reliability of power supply

PV &BESS &DG economic scheduling

Model	SPPC2000-MGCC A01	SPPC2000-MGCC A02
Device Management		
Networking Mode	Active/Standby and Master-Slave Control Mode	
Features		
Seamless planned on/off-grid switching	0ms	
Seamless unplanned on/off-grid switching	No more than 200 ms	
Multi-time-scale frequency and voltage control	Response delay < 10 ms	
Waveform Recording Function	Supports Instantaneous Value (0.5ms) and rms Value Recording of Current and Voltage	
Time Synchronization Function	Supports IRIGB (≤ 1 ms) and Other Time Synchronization Protocols (e.g., NTP)	
Circuit Breaker Status Acquisition and Control	Yes	
Simulation Model	PSSE, DigSILENT, PSCAD	
PT/CT Sampling current	1A	5A
Coordinated control	Supports black start, PV&BESS&DG economic scheduling , anti-counterflow control, demand control, TOU	
Communication interaction		
Ethernet	6 + 2	
Optical Ethernet	SFP x 2, 100 / 1,000 Mbps	
RS485	C OM x 4	
Current/Voltage Sampling	6U + 6I	
CAN	2	
Communication protocol	Modbus-TCP, IEC60870-5-104, GOOSE	
Interaction		
WEB	support	
HMI	Smart Energy Management System	

General Parameters			
Dual power supply	AC: 90 V ~ 264 V, 47 Hz ~ 63 Hz DC: 110 V ± 10%, 220 V ± 10%	Weight	≤ 80 kg(Without Pallet and Optional Components)
Rated AC power	90W	Dimensions (H/L/W)	1000 x 650 x 650 mm (Within Base 100mm)
Rated DC power	60 W (Excluding Network Switches)	Operating Temperature Range	-25℃ ~ 60℃
Rated AC Input Frequency	50Hz/60Hz	Relative Humidity	0% ~ 100% (Non-condensing)
DC/AC Surge Arrester	Type II	Maximum operating altitude	4,000 m
Current Sampling Precision	0.2%	Protection grade	IP55
Voltage Sampling Precision	0.2%	Anticorrosion grade	C5-Medium
Power Precision	0.5%	Installation mode	Floor Mounting / Wall Mounting

Smart Energy Management System
Model:SPMS2000

Efficient O&M

Multi-level visualized configuration monitoring
One-click sequential control
Second-level historical curve

Economic scheduling

Benefit Analysis
power generation plan curve
BESS TOU

Intelligent diagnosis

Full-link diagnosis of PV plants
Smart I-V Curve Diagnosis Smart Health Guard

Secure and reliable

IEC62443 certification
Redundant design, high availability
GW-level microgrid monitoring in seconds

Technical Specifications

Parameter Type	Parameter Description		
cabinet			
W x D x H	600mm×2200mm×1200mm (47u)	Weight	Net weight approx. 210 kg, full configuration approx. 600 kg
Temperature	5 - 30°C	Power Supply	200V~240V, 50/60Hz
Protection Grade	IP20	Altitude	≤4000m
Server			
Model	TaiShan 200 (2280)	Hard Disk	8*1.92T SATA SSD
W x D x H	482.6mm*790mm*88.9mm. (2U)	Fan	Four hot-swappable fans in N+1 redundancy
CPU	2*Kunpeng 920 - 48core @2.6GHz	External Interface	8*GE
Database	GaussDB	Power supply	2 x 900 W, 1+1 Redundancy
Operating system	EulerOS	Net weight	Approx. 30 kg
Memory	4*64G	Certification	CCC/CE, etc.
Switches			
Model	CloudEngine S5735-S24ST4XE-V2	CloudEngine S5735-S24T4XE-V2	
W x D x H	420mm*442mm*43.6mm (1U)	420mm*442mm*43.6mm (1U)	
Net Weight	4.95 kg	4.34 kg	
Memory	2GB	2GB	
Power Supply	2*180W, 1+1 redundancy	2*180W, 1+1 redundancy	
Interface	Eight gigabit electrical ports, four 10GE optical ports, and 24 gigabit optical ports	24 GE electrical ports and 4 10GE optical ports	
Rated Voltage	100V AC~240V AC; 50/60Hz	100V AC~240V AC; 50/60Hz	
Certification	CE/VCCI, etc.	CE/VCCI, etc.	

Smart Health Guard

Smart Health Guard applies Smart technology to analyze real-time operational data from energy storage plant. By fully inspecting the entire plant—from cells, battery packs, racks, BESS cabinets, PCSs, arrays, to grid connection points—it processes collected data through multiple fault mechanism models and big data analytics for risk identification. It helps customers achieve risk early warning and maintenance guidance. Highly efficient digitalized operations and maintenance reduce the investment and ensure the safe, healthy, and stable high-quality operation of energy storage plant.

Full-Link Monitoring

C2G Full- Link Data Monitoring
Ms-level high-precision sampling, data processing over 100M times/day

Smart Warning

24h real-time monitoring and analysis
1-7 day risk advance warning, supporting proactive defense

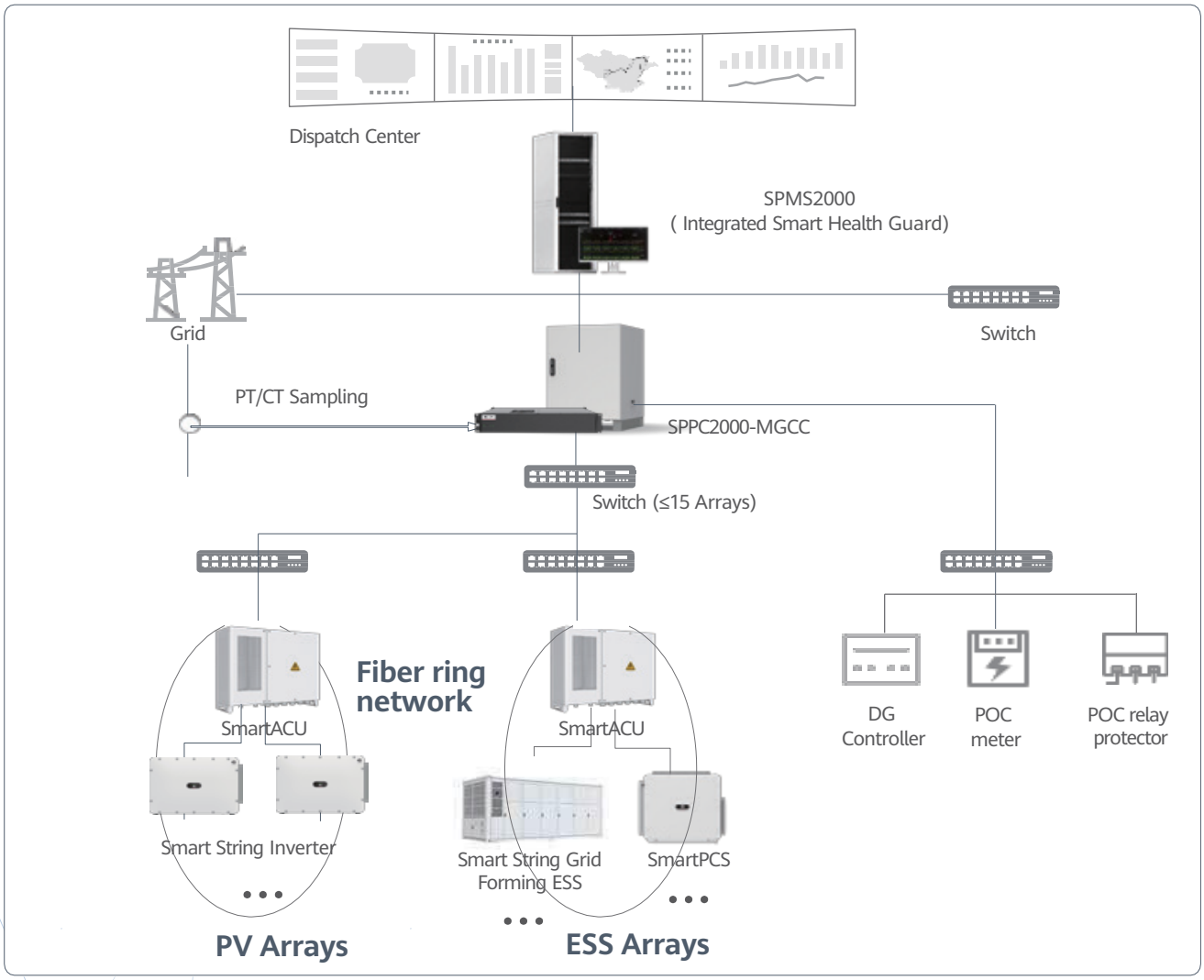
Expert Diagnosis

30+ risks identified, with root cause analysis Precision rate >90%

Plant-Wide Evaluation

Detailed diagnostic report, with O&M guidance Multi-dimensional reports exportable to guide predictive maintenance

Grid Networking Architecture



Success Stories

2.5 MW PV + 2MWh BESS

Light up villages by the Amazon

COD : 2022.11
Location: Peru

8MWh BESS

Poderosa Mining Microgrid

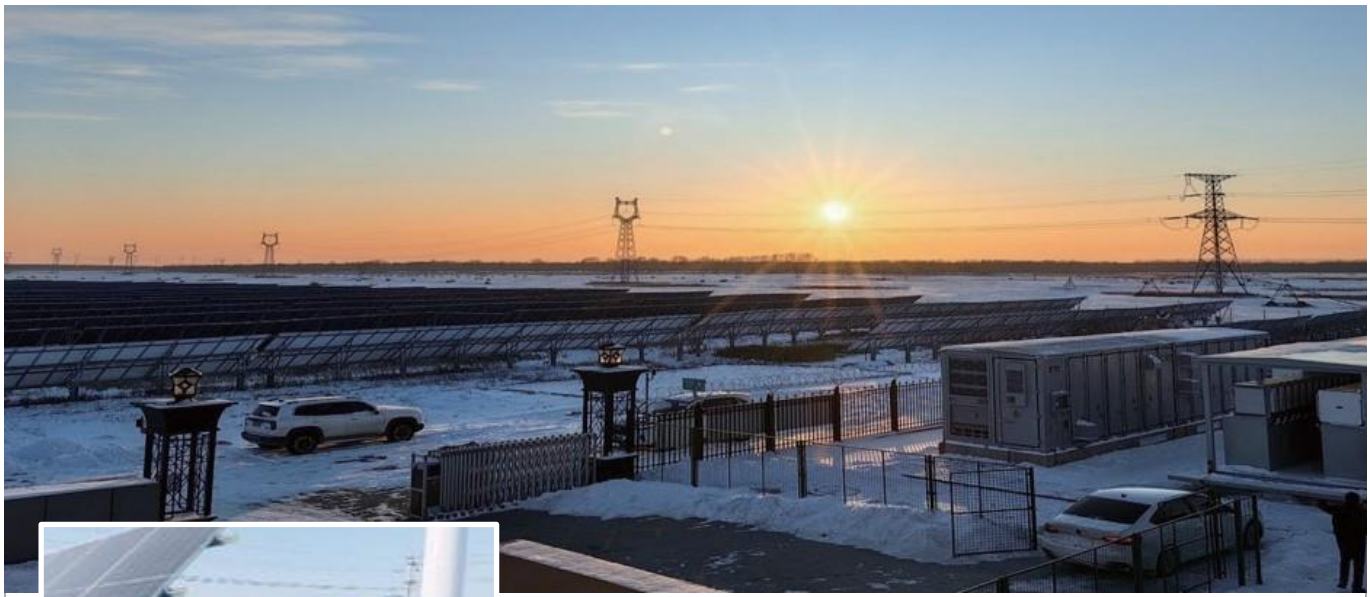
COD : 2023.10
Location: Peru

Success Stories

400 MW PV + 1.3 GWh BESS

World’s Largest 100% PV + ESS Microgrid Project

COD: 2023.10
Location: Saudi Arabia



50kW wind+400kW PV+2MWh BESS

China's first oil and gas "wind storage heat load" low-China carbon oilfields microgrid project

COD：2023.10
Location: Heilongjiang.

Success Stories

200kW wind+422kW PV+2MWh BESS

Trading Red Lake Zero Carbon Service Area Microgrid Demonstration Project

COD: 2023.10
Location: Heilongjiang. China

8 MW PV+4MWh BESS

Mabende Mine Microgrid Phase I

COD: 2024.11
Location: Congo - Kinshasa

Success Stories

35MW PV+24MWh BESS

REA EEP02 University Campus Microgrid

COD：2024.12
Location: Nigeria

2 MW PV+4MWh BESS

Kibali Gold Mine Microgrid Project

COD：2025.Q1
Location: Congo- Kinshasa

Success Stories

6 MW PV+12MWh BESS

High-altitude (4000m) off-grid PV&BESS project in Latin America

COD：2025.Q1
Locaton: Argentina

36.5MW PV+90MWh BESS

Mongolia's first mine microgrid project

COD：2025Q2
Location : Mongolia

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