

A photograph of a large solar panel farm in a rural, grassy area. The panels are arranged in neat rows, and the background shows a field of dry grass under a clear sky.

# ESS Brochure

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Energizing the future

# About us

## We are committed to energizing the future with clean energy

Shenzhen ATESS Power Technology Co., Ltd. is a subsidiary of Growatt group, headquartered in GROWATT-ATESS Industrial Park, Shuitian 4th Industrial Zone, Bao'an District, Shenzhen. The park covers an area of 31,600 m<sup>2</sup> and the manufacturing center covers an area of 25,000 m<sup>2</sup>. It is a comprehensive smart industrial park integrating R&D, manufacturing, and sales of new energy products.



ESS & EV charging solutions supplier



31,600 m<sup>2</sup> industrial park



Thousands of tonnes of CO<sub>2</sub> emission reduced



Clean power delivered to 100,000+ users



12 years experience in ESS



200,000+ EV chargers installed



# Milestone

**2015**  
Started EV charger business

**2013**  
Started ESS business

**2016**  
Started EV  
part business

**2018**  
Top 3 supplier in the Thailand  
ESS market

**2019**  
Top 3 EV charger supplier  
in the UK market

**2020**  
Approved as a specialized and  
sophisticated enterprise producing new  
and unique products

**2022**  
No.1 in the C&I ESS  
sector in South Africa

# Our History

# Our R&D team

ATESS boasts an R&D team of over 100 highly experienced engineers. Our laboratory is fully equipped with advanced testing instruments to ensure top-notch product performance and quality, as well as customers' needs. We dedicate around 15% of our annual revenue to research and development each year to keep our products competitive.

**100+**

100+ R&D engineers

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**12**

12 years experience

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**50%+**

50%+ engineers with master's degree

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**15%**

15% of annual revenue as R&D investment



# Branches



## Our vision

Over the past years, ATESS has helped thousands of users and companies produce and consume green energy independently according to their individual needs, saving millions of tonnes of CO<sub>2</sub> emission. This motivates us to continually strive to create and innovate, on the universal carbon neutralization goal, and also a greener future energized by renewable energy technology.

- 📍 Headquarter
- Office/warehouse

**85+**  
**Countries**

Delivered clean power to 85+ Countries

**15**  
**Branches**

15 Offices and warehouses Worldwide

**7**  
**Years**

Systems operating 7+ years

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# HPS5000TLS/7500TLS/10000TLS

5-10kW single phase all-in-one hybrid inverter for home, school or villa application.

## Features

-  All-in-one hybrid inverter
-  Compact design
-  Touchscreen LCD
-  Seamless on/off grid transfer within 10 ms
-  Support remote control of DG
-  Programmable working mode



	HPS5000TLS	HPS7500TLS	HPS10000TLS
<b>AC(on-grid)</b>			
Apparent power	6.25kVA	9.4kVA	12.5kVA
Rated power	5kW	7.5kW	10kW
Rated voltage	230V	230V	230V
Rated current	21.5A	32.6A	43.4A
Voltage range	210V-250V	210V-250V	210V-250V
Rated frequency	50/60Hz	50/60Hz	50/60Hz
Frequency range	47~51.5/57~61.5Hz	47~51.5/57~61.5Hz	47~51.5/57~61.5Hz
THDI	<3%	<3%	<3%
PF	0.8 lagging~0.8 leading	0.8 lagging~0.8 leading	0.8 lagging~0.8 leading
AC connection	L/N/PE	L/N/PE	L/N/PE

	HPS5000TLS	HPS7500TLS	HPS10000TLS
<b>AC(off-grid)</b>			
Apparent power	6.25kVA	9.4kVA	12.5kVA
Rated power	5kW	7.5kW	10kW
Rated voltage	230V	230V	230V
Rated current	21.5A	32.6A	43.4A
THDU	≤2% linear	≤2% linear	≤2% linear
Rated frequency	50/60Hz	50/60Hz	50/60Hz
Overload capability	110%-10 mins 120%-1 min	110%-10 mins 120%-1 min	110%-10 mins 120%-1 min

	HPS5000TLS	HPS7500TLS	HPS10000TLS
<b>DC (Battery and PV)</b>			
Max. PV Open-circuit voltage	600V	750V	750V
Max. PV power	6kWp	9kWp	12kWp
PV MPPT voltage range	125V-550V	370V-600V	370V-600V
Number of MPPT	2	2	2
Recommended rated battery voltage	300V	350V	450V
Battery voltage range	230-600V	280-700V	280-700V
Full load battery voltage range	250-600V	300-700V	400-700V
Max. charge/discharge power	5kW	7.5kW	10kW
Max. charge/discharge current	25A	25A	25A

	HPS5000TLS	HPS7500TLS	HPS10000TLS
<b>General Information</b>			
Protection devices	PV DC switch, battery breaker and fuse, PV fuse, AC input breaker, load breaker		
Protection degree	IP65	IP65	IP65
Noise emission	<65dB(A)@1m	<65dB(A)@1m	<65dB(A)@1m
Operating temperature	-25 °C~+55 °C	-25 °C~+55 °C	-25 °C~+55 °C
Cooling method	Forced-air	Forced-air	Forced-air
Relative humidity	0-95% non-condensing	0-95% non-condensing	0-95% non-condensing
Max. altitude	6000m (derate over 3000m)	6000m (derate over 3000m)	6000m (derate over 3000m)
Dimension (W/H/D)	600/700/250mm	600/700/250mm	600/700/250mm
Weight	50kg	50kg	50kg
Topology	Transformerless	Transformerless	Transformerless
Lightning protection	Type II	Type II	Type II
Transfer between on/off grid	Automatic≤10ms	Automatic≤10ms	Automatic≤10ms
Standby consumption	<20W	<20W	<20W

	HPS5000TLS	HPS7500TLS	HPS10000TLS
<b>Communication</b>			
Display	Touch screen	Touch screen	Touch screen
Communication	RS485/CAN	RS485/CAN	RS485/CAN

	HPS5000TLS	HPS7500TLS	HPS10000TLS
<b>Certificate</b>			
	CE , MEA , PEA , EN 61000-6-4:2007+A1:2011 , EN61000-6-2:2005 , EN62109-1:2010 , EN62109-2:2011		

# HPS7500TL/10000TL

Up to 10kW three phase all-in-one hybrid inverter for villa, school or small factory application.

## Features

-  All-in-one hybrid inverter
-  Compact design
-  Touchscreen LCD
-  Seamless on/off grid transfer within 10 ms
-  Support remote control of DG
-  Programmable working mode



### HPS7500TL

### HPS10000TL

AC(on-grid)	HPS7500TL	HPS10000TL
Apparent power	9.4kVA	12.5kVA
Rated power	7.5kW	10kW
Rated voltage	400V	400V
Rated current	10.8A	14.4A
Voltage range	360V-440V	360V-440V
Rated frequency	50/60Hz	50/60Hz
Frequency range	47~51.5/57~61.5Hz	47~51.5/57~61.5Hz
THDI	<3%	<3%
PF	0.8 lagging~0.8 leading	0.8 lagging~0.8 leading
AC connection	3/N/PE	3/N/PE

AC(off-grid)	HPS7500TL	HPS10000TL
Apparent power	9.4kVA	12.5kVA
Rated power	7.5kW	10kW
Rated voltage	400V	400V
Rated current	10.8A	14.4A
THDU	≤2% linear	≤2% linear
Rated frequency	50/60Hz	50/60Hz
Overload capability	110%-10 mins 120%-1 min	110%-10 mins 120%-1 min

DC (Battery and PV)	HPS7500TL	HPS10000TL
Max. PV Open-circuit voltage	750V	750V
Max. PV power	9kWp	12kWp
PV MPPT voltage range	370V-600V	370V-600V
Number of MPPT	2	2
Recommended rated battery voltage	350V	450V
Battery voltage range	280-700V	280-700V
Full load battery voltage range	300-700V	400-700V
Max. charge/discharge power	7.5kW	10kW
Max. charge/discharge current	25A	25A

General Information	HPS7500TL	HPS10000TL
Protection devices	PV DC switch, battery breaker and fuse, PV fuse, AC input breaker, load breaker	
Protection degree	IP65	IP65
Noise emission	<65dB(A)@1m	<65dB(A)@1m
Operating temperature	-25 °C~+55 °C	-25 °C~+55 °C
Cooling method	Forced-air	Forced-air
Relative humidity	0-95% non-condensing	0-95% non-condensing
Max. altitude	6000m (derate over 3000m)	6000m (derate over 3000m)
Dimension (W/H/D)	600/700/250mm	600/700/250mm
Weight	50kg	50kg
Topology	Transformerless	Transformerless
Lightning protection	Type II	Type II
Transfer between on/off grid	Automatic≤10ms	Automatic≤10ms
Standby consumption	<20W	<20W

Communication	HPS7500TL	HPS10000TL
Display	Touch screen	Touch screen
Communication	RS485/CAN	RS485/CAN



Certificate	HPS7500TL	HPS10000TL
	CE , MEA , PEA , EN 61000-6-4:2007+A1:2011 , EN61000-6-2:2005 , EN62109-1:2010 , EN62109-2:2011	



# HPS15000TL/HPS20000TL

15-20kW three phase all-in-one hybrid inverter for small commercial use.

## Features

-  All-in-one hybrid inverter
-  Compact design
-  Touchscreen LCD
-  Seamless on/off grid transfer within 10 ms
-  Max. 4 units in parallel for on&off grid operation
-  Support remote control of DG
-  Programmable working mode
-  Multiple MPPT inputs



### HPS15000TL

### HPS20000TL

#### AC(on-grid)

Apparent power	16kVA	22kVA
Rated power	15kW	20kW
Rated voltage	400V	400V
Rated current	21A	28A
Voltage range	360V-440V	360V-440V
Rated frequency	50/60Hz	50/60Hz
Frequency range	47~51.5/57~61.5Hz	47~51.5/57~61.5Hz
THDI	<3%	<3%
PF	0.8 lagging~0.8 leading	0.8 lagging~0.8 leading
AC connection	3/N/PE	3/N/PE

#### AC(off-grid)

Apparent power	16kVA	22kVA
Rated power	15kW	20kW
Rated voltage	400V	400V
Rated current	21A	28A
THDU	≤2% linear	≤2% linear
Rated frequency	50/60Hz	50/60Hz
Overload capability	110%-10 mins 120%-1 min	110%-10 mins 120%-1 min

#### DC (Battery and PV)

Max. PV Open-circuit voltage	1000V	1000V
Max. PV power	23kWp	30kWp
PV MPPT voltage range	125V-850V	125V-850V
Number of MPPT	2	2
PV input/MPPT	2/2	2/2
PV input current	40/40A	40/40A
Max. PV Isc	60/60A	60/60A
Max. PV Isc/Channel	20A	20A
Battery voltage range	260-700V	260-700V
Full load battery voltage range	300-700V	300-700V
Max. charge/discharge power	15kW	20kW
Max. charge/discharge current	50A	66A

#### General Information

Protection devices	PV DC switch, PV fuse, battery breaker and fuse	PV DC switch, PV fuse, battery breaker and fuse
Protection degree	IP54	IP54
Noise emission	<65dB(A)@1m	<65dB(A)@1m
Operating temperature	-25 °C~+55 °C	-25 °C~+55 °C
Cooling method	Forced-air	Forced-air
Relative humidity	0-95% non-condensing	0-95% non-condensing
Max. altitude	5000m (derate over 3000m)	5000m (derate over 3000m)
Dimension (W/H/D)	450/635/225mm	450/635/225mm
Weight	45kg	45kg
Topology	Transformerless	Transformerless
Lightning protection	Type II	Type II
Transfer between on/off grid	Automatic≤10ms	Automatic≤10ms
Standby consumption	<20W	<20W

#### Communication

Display	Touch screen	Touch screen
Communication	RS485/CAN	RS485/CAN

#### Certificate

CE , EN IEC 61000-6-4:2019 , EN 61000-3-12:2011 , EN IEC 61000-3-11:2019 , EN IEC 61000-6-2:2019 , EN62109-1:2010 , EN62109-2:2011 , NRS097-2-1:2017

# HPS30000TL HPS40000TL/HPS50000TL

30-50kW three phase all-in-one hybrid inverter for small commercial use.

## Features

-  All-in-one hybrid inverter
-  Compact design
-  Touchscreen LCD
-  Seamless on/off grid transfer within 10 ms
-  Max. 8 units in parallel for on&off grid operation
-  Support remote control of DG
-  Programmable working mode
-  Multiple MPPT inputs

\*Note: Parallel operation for 4 inverters is available.  
8 inverters in Parallel is currently being tested.



	HPS30000TL	HPS40000TL	HPS50000TL
<b>AC(on-grid)</b>			
Apparent power	33kVA	44kVA	55kVA
Rated power	30kW	40kW	50kW
Rated voltage	400V	400V	400V
Rated current	43A	57A	72A
Voltage range	360V-440V	360V-440V	360V-440V
Rated frequency	50/60Hz	50/60Hz	50/60Hz
Frequency range	47~53/57~63Hz	47~53/57~63Hz	47~53/57~63Hz
THDI	<3%	<3%	<3%
PF	0.8 lagging~0.8 leading	0.8 lagging~0.8 leading	0.8 lagging~0.8 leading
AC connection	3/N/PE	3/N/PE	3/N/PE

	HPS30000TL	HPS40000TL	HPS50000TL
<b>AC(off-grid)</b>			
Apparent power	33kVA	44kVA	55kVA
Rated power	30kW	40kW	50kW
Rated voltage	400V	400V	400V
Rated current	43A	57A	72A
THDU	≤2% linear	≤2% linear	≤2% linear
Rated frequency	50/60Hz	50/60Hz	50/60Hz
Overload capability	110%-10 mins 120%-1 min	110%-10 mins 120%-1 min	110%-10 mins 120%-1 min

	HPS30000TL	HPS40000TL	HPS50000TL
<b>DC (Battery and PV)</b>			
Max. PV Open-circuit voltage	1000V	1000V	1000V
Max. PV power	45kWp	60kWp	75kWp
PV MPPT voltage range	125V-850V	125V-850V	125V-850V
Number of MPPT	3	3	3
PV input/MPPT	2/3/3	2/3/3	2/3/3
PV input current	40/60/60A	40/60/60A	40/60/60A
Max. PV Isc	60/90/90A	60/90/90A	60/90/90A
Max. PV Isc/Channel	20A	20A	20A
Battery voltage range	260-700V	260-700V	260-700V
Full load battery voltage range	350-720V	430-700V	500-700V
Max. charge/discharge power	30kW	40kW	50kW
Max. charge/discharge current	100A	100A	100A

	HPS30000TL	HPS40000TL	HPS50000TL
<b>General Information</b>			
Protection devices	PV DC switch, PV fuse, battery breaker and fuse	PV DC switch, PV fuse, battery breaker and fuse	PV DC switch, PV fuse, battery breaker and fuse
Protection degree	IP54	IP54	IP54
Noise emission	<65dB(A)@1m	<65dB(A)@1m	<65dB(A)@1m
Operating temperature	-25 °C~+55 °C	-25 °C~+55 °C	-25 °C~+55 °C
Cooling method	Forced-air	Forced-air	Forced-air
Relative humidity	0-95% non-condensing	0-95% non-condensing	0-95% non-condensing
Max. altitude	5000m (derate over 3000m)	5000m (derate over 3000m)	5000m (derate over 3000m)
Dimension (W/H/D)	600/990/280mm	600/990/280mm	600/990/280mm
Weight	90kg	90kg	90kg
Topology	Transformerless	Transformerless	Transformerless
Lightning protection	Type II	Type II	Type II
Transfer between on/off grid	Automatic≤10ms	Automatic≤10ms	Automatic≤10ms
Standby consumption	<20W	<20W	<20W





	HPS30000TL	HPS40000TL	HPS50000TL
<b>Communication</b>			
Display	Touch screen	Touch screen	Touch screen
Communication	RS485/CAN	RS485/CAN	RS485/CAN

	HPS30000TL	HPS40000TL	HPS50000TL
<b>Certificate</b>			
	CE , EN IEC 61000-6-4:2019 , EN 61000-3-12:2011 , EN IEC 61000-3-11:2019 , EN IEC 61000-6-2:2019 , EN62109-1:2010 , EN62109-2:2011 , NRS097-2-1:2017		

# HPS30/50 HPS100/120/150

Large capacity all-in-one hybrid inverter for commercial application, supporting up to 600kW system capacity.

## Features

-  All-in-one hybrid inverter
-  Seamless on/off grid transfer within 10 ms
-  Programmable working mode
-  Support remote control of DG
-  Touchscreen LCD
-  Quadruple capacity by paralleling 4 units



	HPS30	HPS50	HPS100	HPS120	HPS150
<b>AC(on-grid)</b>					
Apparent power	33kVA	55kVA	110kVA	132kVA	165kVA
Rated power	30kW	50kW	100kW	120kW	150kW
Rated voltage	400V	400V	400V	400V	400V
Rated current	43A	72A	144A	173A	217A
Voltage range	360V-440V	360V-440V	360V-440V	360V-440V	360V-440V
Rated frequency	50/60Hz	50/60Hz	50/60Hz	50/60Hz	50/60Hz
Frequency range	45~55/55~65Hz	45~55/55~65Hz	45~55/55~65Hz	45~55/55~65Hz	45~55/55~65Hz
THDI	<3%	<3%	<3%	<3%	<3%
PF	0.8 lagging~0.8 leading	0.8 lagging~0.8 leading	0.8 lagging~0.8 leading	0.8 lagging~0.8 leading	0.8 lagging~0.8 leading
AC connection	3/N/PE	3/N/PE	3/N/PE	3/N/PE	3/N/PE
AC input	60kVA	100kVA	200kVA	240kVA	240kVA

	HPS30	HPS50	HPS100	HPS120	HPS150
<b>AC(off-grid)</b>					
Apparent power	33kVA	55kVA	110kVA	132kVA	165kVA
Rated power	30kW	50kW	100kW	120kW	150kW
Rated voltage	400V	400V	400V	400V	400V
Rated current	43A	72A	144A	173A	217A
THDU	≤2% linear	≤2% linear	≤2% linear	≤2% linear	≤2% linear
Rated frequency	50/60Hz	50/60Hz	50/60Hz	50/60Hz	50/60Hz
Overload capability	110%-10 mins 120%-1 min	110%-10 mins 120%-1 min	110%-10 mins 120%-1 min	110%-10 mins 120%-1 min	110%-10 mins 120%-1 min

	HPS30	HPS50	HPS100	HPS120	HPS150
<b>DC (Battery and PV)</b>					
Max. PV open-circuit voltage	1000V DC	1000V DC	1000V DC	1000V DC	1000V DC
Max. PV power	45kWp	75kWp	150kWp	180kWp	225kWp
PV MPPT voltage range	480V-800V DC	480V-800V DC	480V-800V DC	480V-800V DC	480V-800V DC
Battery voltage range at Max. charge power	450V-600V	500V-600V	500V-600V	517V-600V	500V-600V
Battery voltage range	352V-600V	352V-600V	352V-600V	352V-600V	352V-600V
Max. charge power	45kW	75kW	150kW	180kW	225kW
Max. discharge power	33kW	55kW	110kW	132kW	165kW
Max. charge current	100A	150A	300A	350A	450A
Max. discharge current	93A	156A	313A	374A	467A

	HPS30	HPS50	HPS100	HPS120	HPS150
<b>General Information</b>					
Protection degree	IP20	IP20	IP20	IP20	IP20
Noise emission	<65dB(A)@1m	<65dB(A)@1m	<65dB(A)@1m	<65dB(A)@1m	<65dB(A)@1m
Operating temperature	-25 °C~+55 °C	-25 °C~+55 °C	-25 °C~+55 °C	-25 °C~+55 °C	-25 °C~+55 °C
Cooling method	Forced-air	Forced-air	Forced-air	Forced-air	Forced-air
Relative humidity	0-95% non-condensing	0-95% non-condensing	0-95% non-condensing	0-95% non-condensing	0-95% non-condensing
Max. altitude	6000m (derate over 3000m)	6000m (derate over 3000m)	6000m (derate over 3000m)	6000m (derate over 3000m)	6000m (derate over 3000m)
Dimension (W/H/D)	700/1660/600mm	950/1860/750mm	1200/1900/800mm	1200/1900/800mm	1200/1900/800mm
Weight	355kg	610kg	948kg	1025kg	1230kg
Build-in transformer	Yes	Yes	Yes	Yes	Yes
Lightning protection	Type II	Type II	Type II	Type II	Type II
Transfer between on/off grid	Automatic≤10ms	Automatic≤10ms	Automatic≤10ms	Automatic≤10ms	Automatic≤10ms
Standby consumption	<30W	<30W	<30W	<30W	<30W

	HPS30	HPS50	HPS100	HPS120	HPS150
<b>Communication</b>					
Display	Touch screen	Touch screen	Touch screen	Touch screen	Touch screen
Communication	RS485/CAN	RS485/CAN	RS485/CAN	RS485/CAN	RS485/CAN






	HPS30	HPS50	HPS100	HPS120	HPS150
<b>Certificate</b>					
	CE , MEA , PEA , UKCA , AS 4777.2 , EN 61000-6-2:2019 , EN 61000-6-4:2019 , EN62109-1:2010 , EN62109-2:2011 , EN 50549-1:2019 , IEC62109.1 , IEC62109.2 , NRS 097-2-1:2017 , G99 , VDE-AR-N 4105:2018,DIN VDE V 0124-100:2020-06, PSE:2018-12, DEWA				

\* The MPPT voltage of PV strings should be 50~200V higher than the Max battery voltage.

# PCS100/250/500/630/1000

Bidirectional battery inverter from 100kW to 1000kW, can be used alone or with solar charge controllers and other accessories for different application scenarios.

## Features

-  Paralleling multiple units
-  Programmable working mode
-  Flexible configuration
-  Touchscreen LCD
-  Support remote control of DG



	PCS100	PCS250	PCS500	PCS630	PCS1000
<b>AC(on-grid)</b>					
Apparent power	110kVA	275kVA	550kVA	693kVA	1100kVA
Rated power	100kW	250kW	500kW	630kW	1000kW
Rated voltage	400V	400V	400V	400V	400V
Rated current	144A	361A	722A	909A	1443A
Voltage range	360V-440V	360V-440V	360V-440V	360V-440V	360V-440V
Rated frequency	50/60Hz	50/60Hz	50/60Hz	50/60Hz	50/60Hz
Frequency range	45~55/55~65Hz	45~55/55~65Hz	45~55/55~65Hz	45~55/55~65Hz	47~51.5/57~61.5Hz
THDI	<3%	<3%	<3%	<3%	<3%
PF	0.8 lagging~0.8 leading	0.8 lagging~0.8 leading	0.8 lagging~0.8 leading	0.8 lagging~0.8 leading	0.8 lagging~0.8 leading
AC connection	3/N/PE	3/N/PE	3/N/PE	3/PE	3/PE
Max. rectified power	100kW	250kW	500kW	630kW	750kW

	PCS100	PCS250	PCS500	PCS630	PCS1000
<b>AC(off-grid)</b>					
Apparent power	110kVA	275kVA	550kVA	693kVA	1100kVA
Rated power	100kW	250kW	500kW	630kW	1000kW
Rated voltage	400V	400V	400V	400V	400V
Rated current	144A	361A	722A	909A	1443A
THDU	≤2% linear	≤2% linear	≤2% linear	≤2% linear	≤2% linear
Rated frequency	50/60Hz	50/60Hz	50/60Hz	50/60Hz	50/60Hz
Overload capability	110%-10 mins 120%-1 min	110%-10 mins 120%-1 min	110%-10 mins 120%-1 min	110%-10 mins 120%-1 min	110%-10 mins 120%-1 min
Max. rectified power	100kW	250kW	500kW	630kW	750kW

	PCS100	PCS250	PCS500	PCS630	PCS1000
<b>DC (Battery)</b>					
Rated power	100kW	250kW	500kW	630kW	1000kW
Current regulation	±1%	±1%	±1%	±1%	±1%
Voltage regulation	±1%	±1%	±1%	±1%	±1%
Voltage ripple	<3%	<3%	<3%	<3%	<3%
Current ripple	<2%	<2%	<2%	<2%	<2%
Voltage range	500V-820V	500V-820V	600V-900V	600V-900V	650V-860V
Max. charge/discharge current	220A	550A	917A	1155A	1154A/1600A

	PCS100	PCS250	PCS500	PCS630	PCS1000
<b>General Information</b>					
Max. efficiency	97.10%	97.30%	98.50%	98.50%	99.0%
Protection degree	IP20	IP20	IP20	IP20	IP20
Noise emission	<65dB(A)@1m	<65dB(A)@1m	<65dB(A)@1m	<65dB(A)@1m	<65dB(A)@1m
Operating temperature	-25°C~+55°C	-25°C~+55°C	-25°C~+55°C	-25°C~+55°C	-25°C~+55°C
Cooling method	Forced-air	Forced-air	Forced-air	Forced-air	Forced-air
Relative humidity	0-95% non-condensing	0-95% non-condensing	0-95% non-condensing	0-95% non-condensing	0-95% non-condensing
Max. altitude	6000m (derate above 3000m)	6000m (derate above 3000m)	6000m (derate above 3000m)	6000m (derate above 3000m)	6000m (derate over 3000m)
Dimension(W/H/D)	1100/1890/850mm	1600/2080/850mm	1200/1900/800mm	1200/1900/800mm	1510/1900/850mm
Weight	820kg	1465kg	870kg	900kg	1500kg
Build-in transformer	Yes	Yes	No	No	No
Lightning protection	Type II	Type II	Type II	Type II	Type II
Transfer between on/off grid	Manual(default) Automatic(optional) ≤10ms	Manual(default) Automatic(optional) ≤10ms	Manual(default) Automatic(optional) ≤10ms	Manual(default) Automatic(optional) ≤10ms	Manual(default) Automatic(optional) ≤10ms

	PCS100	PCS250	PCS500	PCS630	PCS1000
<b>Communication</b>					
Display	Touch screen	Touch screen	Touch screen	Touch screen	Touch screen
Communication	RS485/CAN	RS485/CAN	RS485/CAN	RS485/CAN	RS485/CAN

	PCS100	PCS250	PCS500	PCS630	PCS1000
<b>Certificate</b>					
PCS100/250/500/630	CE, MEA, PEA, EN 61000-6-2:2019, EN 61000-6-4:2019, EN62109-1:2010, EN62109-2:2011, NRS 097-2-1:2017, VDE 0126, UTE C-15-712, EN 50549-1:2019, AS/NZS 4777.2:2020, AS IEC 62477-1:2016, NC RFG, G99, DEWA Annex D.3:2016, CEI 0-16:2022, EN 62920:2017+A1:2021				
PCS1000	CE, EN 61000-6-4:2019, EN 55011:2016+A2:2021, EN 61000-6-2:2019, RPPs:2022				

# PBD250

1000V level DC to DC solar charge controller, used together with ATESS PCS and Bypass for large scale solar projects.

## Features

- Multiple units parallelable
- Modular design
- Up to 5 MPPTs
- Transformerless design



## PBD250

### Input (PV)

Max. PV power	250kW
MPPT voltage range	350V-850V
Full load MPPT voltage range	480V-850V
Max. input current	575A(115A*5)
Number of MPPT	5

### Output (Battery and PCS)

Output voltage	600V-900V
Max. charge power	250kW
Max. charge current	416A
Max. charge efficiency	99%

### Protection

Input & output OV/UV protection	Yes
Input & output OC protection	Yes
Short circuit protection	Yes
Over temperature protection	Yes
Lightning protection	Type II
DC breaker	Yes
Emergency stop	Yes

### General Information

Protection degree	IP20
Noise emission	<65dB(A)@1m
Operating temperature	-25 °C~+55 °C
Cooling method	Forced-air
Relative humidity	0-95% non-condensing
Max. altitude	6000m (derate over 3000m)
Dimension (W/H/D)	800/1900/650mm
Weight	289kg
Topology	Transformerless
Standby power	<100W

### Communication

Display	Touch screen
Communication	RS485/CAN





### Certificate

CE

# RTF300/600

Modular rectifier cabinet, 300KW and 600KW optional, can be combined with ATESS PCS to form a DC coupling solution, suitable for large industrial scenarios.

## Features

-  AC-DC converter only
-  Flexible configuration
-  Touchscreen LCD
-  Paralleling multiple units



	RTF300	RTF600
<b>AC(on-grid)</b>		
Rated power	280kW	600kW
Rated voltage	400V	400V
Rated current	404A	866A
Voltage range	360V-440V	360V-440V
Rated frequency	50±10%	50±10%
PF	≥0.98	≥0.98
THDI	≤5%	≤5%
Efficiency	≥95%	≥95%

<b>DC(output)</b>		
Voltage range	200Vdc-950Vdc (full above 500V derate below 500V)	200Vdc-950Vdc (full above 500V derate below 500V)
Max. output current	560A	1200A
Output current ripple	≤1%	≤1%
Voltage accuracy	≤0.5%	≤0.5%
Current accuracy	≤1%	≤1%

<b>General Information</b>		
Nosie emission	≤68Db(A)@1m	≤68Db(A)@1m
Operating temperature	-40 °C~+45 °C, full load; 45 °C~55 °C, half load	-40 °C~+45 °C, full load; 45 °C~55 °C, half load
Storage temperature	-40 °C~85 °C	-40 °C~85 °C
Relative humidity	0~95% non-condensing	0~95% non-condensing
Max. altitude	< 2000m	< 2000m
Cooling method	Forced-air	Forced-air
Dimension (W/H/D)	1204/1958/853mm	1204/1958/853mm
Weight	245kg	350kg





<b>Communication</b>		
Display	Touch screen	Touch screen
Communication	RS485/CAN	RS485/CAN

<b>Certificate</b>		
CE		

# Bypass100/250/500/630/1000

ATESS bypass cabinet is designed to be used together with the bidirectional battery inverter to realize seamless transfer between on-grid and off-grid modes automatically.

## Features

-  Import/export control
-  Seamless on/off grid transfer within 10ms
-  Flexible management
-  DG connection supported



	Bypass100	Bypass250	Bypass500	Bypass630	Bypass1000
Rated voltage	400V	400V	400V	400V	400V
Rated current	144A	360A	722A	910A	1444A
Rated frequency	50Hz	50Hz	50Hz	50Hz	50Hz
Rated power	100KVA	250KVA	500KVA	630KVA	1000KVA
Max. current	175A	435A	866A	1091A	1732A
Transfer between on/off grid	Automatic≤10ms	Automatic≤10ms	Automatic≤10ms	Automatic≤10ms	Automatic≤10ms
Power limit(grid)	Yes	Yes	Yes	Yes	Yes
PV inverter breaker	250A	630A	1250A	1250A	2000A/3P
PCS breaker	250A	630A	1250A	1250A	2000A/3P
Grid breaker	250A	630A	1250A	1250A	2000A/3P
Load breaker	250A	630A	1250A	1250A	2000A/3P
Bypass breaker	250A	630A	1250A	1250A	1600A/3P
DG breaker	250A	630A	1250A	1250A	2000A/3P
Lightning protection	Type II	Type II	Type II	Type II	Type II
Protection degree	IP20	IP20	IP20	IP20	IP20
Relative humidity	0-95% non-condensing	0-95% non-condensing	0-95% non-condensing	0-95% non-condensing	0-95% non-condensing
Operating temperature	-25 °C~+55 °C	-25 °C~+55 °C	-25 °C~+55 °C	-25 °C~+55 °C	-25 °C~+55 °C
Dimension (W/H/D)	700/1630/500mm	700/1800/500mm	1600/1900/800mm	1600/1900/800mm	2850/2100/800mm
Weight	135kg	205kg	900kg	1040kg	1500kg
Communication	RS485/CAN	RS485/CAN	RS485/CAN	RS485/CAN	RS485/CAN

# ATS30/50/100/150

The ATS is an accessory of the HPS. When both the grid and DG need to access the HPS, the ATS will be used to switch between the grid and DG automatically.

## Features

-  HPS compatible
-  Flexible management
-  Transfer automatically between grid and DG
-  Support remote control of DG

	ATS30	ATS50	ATS100	ATS150
Rated voltage	400V	400V	400V	400V
Rated current	86A	144A	288A	346A
Rated frequency	50/60Hz	50/60Hz	50/60Hz	50/60Hz
Rated power	60kVA	100kVA	200kVA	240kVA
Output breaker	100A	250A	400A	630A
Grid breaker	100A	250A	400A	630A
DG breaker	100A	250A	400A	630A
Lightning protection	Type II	Type II	Type II	Type II
Protection degree	IP20	IP20	IP20	IP20
Relative humidity	0~95% non-condensing	0~95% non-condensing	0~95% non-condensing	0~95% non-condensing
Operating temperature	-25°C~+55°C	-25°C~+55°C	-25°C~+55°C	-25°C~+55°C
Dimension (W/H/D)	600/1500/450mm	600/1500/450mm	700/1650/500mm	700/1650/500mm
Weight	75kg	77kg	125kg	125kg
Communication	RS485/CAN	RS485/CAN	RS485/CAN	RS485/CAN



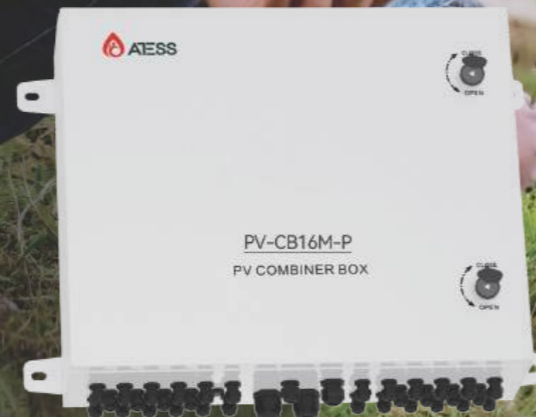
# PV-CB8M

# PV-CB16M-P

The PV combiner box is an accessory for multiple PV strings connections, and it is with a smart controller inbuilt for monitoring, along with comprehensive protections including the fuse and SPD.

## Features

-  Lightning protection
-  IP65 environment compatibility
-  RS485 communication interface
-  Monitoring function
-  Flexible design with 8 or 16 optional inputs
-  Input fuse for over current protection



	PV-CB8M	PV-CB16M-P
<b>Input DC</b>		
Max. input voltage	1000V	1000V
Max. string Isc	20A	20A
Number of input string	8	16
Input fuse	1 on negative and positive pole of each string, 25A, 10*38mm	1 on negative and positive pole of each string, 30A, 10*38mm
Input cable gland	4mm-8mm cable diameter	4mm-8mm cable diameter
Input cable terminal	4mm <sup>2</sup> -6mm <sup>2</sup>	4mm <sup>2</sup> -6mm <sup>2</sup>

<b>Output DC</b>		
Number of output	1	1
Max. output current	144A	320A
Output breaker	200A	400A
Output cable terminal	50mm <sup>2</sup>	120mm <sup>2</sup>
Output cable gland	13mm-18mm cable diameter	18mm-25mm cable diameter



<b>General Information</b>		
Dimension (W/H/D)	600/500/172mm	600/500/202mm
Weight	22.5kg	29kg
Enclosure material	Galvanized steel	Galvanized steel
Protection degree	IP65	IP65
Operating temperature	-25°C~55°C	-25°C~55°C
Humidity	0~99%	0~99%
Altitude	2000m without derating	2000m without derating
Lightning protection	Type II	Type II
Cooling method	Natural convection	Natural convection
Mounting	Wall-mount	Wall-mount
Monitoring	String current, bus voltage, breaker status, surge arrester status, internal temperature	String current, bus voltage, breaker status, surge arrester status, internal temperature
Power supply	DC300V~1000V	DC300V~1000V
Power consumption	14W	14W
Communication	RS485	RS485

# DC Cabinet

The DC cabinet is mainly to aggregate and share the current distribution of each battery rack to achieve the charge and discharge management function of each battery rack. The DC cabinet consists of DC circuit breakers, copper bars, MBMS and LCD.



## Features

-  Compact design
-  Touchscreen LCD
-  Inbuilt MBMS
-  Multiple battery racks combination

### ATESS Batt-Master Cabinet 9R-280R

### ATESS Batt-Master Cabinet 15R-280R







Range of battery racks connected in parallel	9	15
Rated battery rack current	140A	140A
Max. battery rack current	200A	200A
Rated charge and discharge current	1800A	3000A
Max. charge and discharge current	1980A	3300A
Max. battery voltage	1000V	1000V
MBMS	Inbuilt	Inbuilt
Protection degree	IP20	IP20
Dimensions (W/H/D)	600/1760/600mm	800/2000/550mm
Weight	177kg	256kg
Display	7 inch touch screen	7 inch touch screen

# BC45T/50T/60T BR45T/50T/60T

Outdoor battery cabinet with an IP54 protection level, and indoor battery rack with an IP20 protection level, inbuilt lithium-ion batteries, and the BMS.



## Features

-  Flexible modular design
-  Self-developed 3-level BMS
-  Remote monitoring and upgrade
-  Long cycle Life, 6000 cycles
-  Cell balancing method optional
-  0.5C&1C discharge optional

Note: At specific test condition.

	BC45T BR45T	BC50T BR50T	BC60T BR60T
<b>Battery module specification</b>			
Configuration	24S1P	24S1P	24S1P
Rated capacity	100Ah	100Ah	100Ah
Rated energy	7.68kWh	7.68kWh	7.68kWh
Rated voltage	76.8V	76.8V	76.8V
Voltage range	67.2-87.6V	67.2-87.6V	67.2-87.6V
Rated charge/discharge	0.5C	0.5C	0.5C
Rated charge/discharge	1C(Opt)	1C(Opt)	1C(Opt)
AC internal resistance	≤15mΩ	≤15mΩ	≤15mΩ
Dimension (W/H/D)	360/285/692mm	360/285/692mm	360/285/692mm
Weight	≤74kg	≤74kg	≤74kg

	BC45T BR45T	BC50T BR50T	BC60T BR60T
<b>Battery rack specification</b>			
Configuration	6 battery modules +1 BPU	7 battery modules +1 BPU	8 battery modules +1 BPU
Rated capacity	100Ah	100Ah	100Ah
Rated energy	46.08kWh	53.76kWh	61.44kWh
Rated voltage	460.8V	537.6V	614.4V
Voltage range	403.2V-525.6V	470.4V-613.2V	537.6V-700.8V
Rated charge/discharge	0.5C	0.5C	0.5C
Rated charge/discharge	1C(Opt)	1C(Opt)	1C(Opt)
AC internal resistance	≤90mΩ	≤105mΩ	≤120mΩ
Display	7" Touch screen	7" Touch screen	7" Touch screen
BMS	Included	Included	Included
Communication	CAN	CAN	CAN
Monitoring	RS485	RS485	RS485
Max. altitude	3000m	3000m	3000m
Dimension (W/H/D) mm	950/2150/1025	752/1760/660	950/2150/1025
Weight	≤716kg	≤539kg	≤615kg
Protection degree	IP54	IP20	IP54

	BC45T BR45T	BC50T BR50T	BC60T BR60T
<b>Balancing methods</b>			
Passive cell balancing	Yes	Yes	Yes
Active cell balancing	Opt	Opt	Opt

	BC45T BR45T	BC50T BR50T	BC60T BR60T
<b>BMS parameters on LCD</b>			
Cell voltage	Yes	Yes	Yes
Cell high voltage	Yes	Yes	Yes
Battery SOC	Yes	Yes	Yes
Cell temperature	Yes	Yes	Yes
Charge and discharge current	Yes	Yes	Yes
Cell low voltage	Yes	Yes	Yes
Total battery voltage	Yes	Yes	Yes
Fault warning	Yes	Yes	Yes

	BC45T BR45T	BC50T BR50T	BC60T BR60T
<b>Protection</b>			
Short circuit protection	Yes	Yes	Yes
Over current protection	Yes	Yes	Yes
Over charge protection	Yes	Yes	Yes
Over temperature protection	Yes	Yes	Yes
Cell over voltage protection	Yes	Yes	Yes
Cell under voltage protection	Yes	Yes	Yes
Over discharge protection	Yes	Yes	Yes

	BC45T BR45T	BC50T BR50T	BC60T BR60T
<b>Certificate</b>			
	CE, UL, UN38.3, IEC62619, MSDS, ROHS, CB		

# BC75T/100T BR75T/100T/138T/145T

Outdoor battery cabinet with an IP54 protection level, and indoor battery rack with an IP20 protection level, inbuilt lithium-ion batteries, and the BMS.

## Features



Flexible modular design



Self-developed 3-level BMS



Remote monitoring and upgrade



Long cycle Life, 6000 cycles



Cell balancing method optional



0.5C&1C discharge optional

Note: At specific test condition.





	BC75T	BR75T	BC100T	BR100T	BR138T	BR145T
<b>Battery module specification</b>						
Configuration	12S2P		12S2P		12S2P	12S2P
Rated capacity	200Ah		200Ah		200Ah	200Ah
Rated energy	7.68kWh		7.68kWh		7.68kWh	7.68kWh
Rated voltage	38.4V		38.4V		38.4V	38.4V
Voltage range	33.6~43.8V		33.6~43.8V		33.6~43.8V	33.6~43.8V
Rated charge/discharge	0.5C		0.5C		0.5C	0.5C
Rated charge/discharge	1C(Opt)		1C(Opt)		1C(Opt)	1C(Opt)
AC internal resistance	≤5mΩ		≤5mΩ		≤5mΩ	≤5mΩ
Dimension (W/H/D)	360/285/692mm		360/285/692mm		360/285/692mm	360/285/692mm
Weight	≤74.5kg		≤74.5kg		≤74.5kg	≤74.5kg
<b>Battery rack specification</b>						
Configuration	10 battery modules +1 BPU		14 battery modules +1 BPU		18 battery modules +1 BPU	19 battery modules +1 BPU
Rated capacity	200Ah		200Ah		200Ah	200Ah
Rated energy	76.8kWh		107.52kWh		138.24kWh	145.92kWh
Rated voltage	384V		537.6V		691.2V	729.6V
Voltage range	336V-438V		470.4V-613.2V		604.8V-766.8V	638.4V-832.2V
Rated charge/discharge	0.5C		0.5C		0.5C	0.5C
Rated charge/discharge	1C(Opt)		1C(Opt)		1C(Opt)	1C(Opt)
AC internal resistance	≤50mΩ		≤70mΩ		≤90mΩ	≤95mΩ
Display	7" Touch screen		7" Touch screen		7" Touch screen	7" Touch screen
BMS	Included		Included		Included	Included
Communication	CAN		CAN		CAN	CAN
Monitoring	RS485		RS485		RS485	RS485
Max. altitude	3000m		3000m		3000m	3000m
Dimension (W/H/D) mm	1310/2150/1025	1119/2150/660	1310/2150/1025	1119/2150/660	1504/1760/660	1504/1760/660
Weight	≤1130kg	≤877kg	≤1436kg	≤1183kg	≤1547kg	≤1624kg
Protection degree	IP54	IP20	IP54	IP20	IP20	IP20
<b>Balancing methods</b>						
Passive cell balancing	Yes		Yes		Yes	Yes
Active cell balancing	Opt		Opt		Opt	Opt
<b>BMS parameters on LCD</b>						
Cell voltage	Yes		Yes		Yes	Yes
Cell high voltage	Yes		Yes		Yes	Yes
Battery SOC	Yes		Yes		Yes	Yes
Cell temperature	Yes		Yes		Yes	Yes
Charge and discharge current	Yes		Yes		Yes	Yes
Cell low voltage	Yes		Yes		Yes	Yes
Total battery voltage	Yes		Yes		Yes	Yes
Fault warning	Yes		Yes		Yes	Yes
<b>Protection</b>						
Short circuit protection	Yes		Yes		Yes	Yes
Over current protection	Yes		Yes		Yes	Yes
Over charge protection	Yes		Yes		Yes	Yes
Over temperature protection	Yes		Yes		Yes	Yes
Cell over voltage protection	Yes		Yes		Yes	Yes
Cell under voltage protection	Yes		Yes		Yes	Yes
Over discharge protection	Yes		Yes		Yes	Yes
<b>Certificate</b>						
CE, UL, UN38.3, IEC62619, MSDS, ROHS, CB						

# BC55RPB

Outdoor battery cabinet with an IP54 protection level, inbuilt lithium-ion batteries, and the BMS.

## Features

-  Flexible modular design
-  Self-developed 3-level BMS
-  Remote monitoring and upgrade
-  Long cycle Life, 6000 cycles  
Note: At specific test condition.
-  Cell balancing method optional
-  Max 1C discharge



## BC55RPB

### Battery module specification

Configuration	16S1P
Rated capacity	100Ah
Rated energy	5.12kWh
Rated voltage	51.2V
Voltage range	44.8-58.4V
Rated charge/discharge	0.5C
Max. charge/discharge	1C
AC internal resistance	≤8mΩ
Dimension (W/H/D)	446.5/165/655mm
Weight	44kg

### Battery rack specification

Configuration	6 battery modules +1 BPU	7 battery modules +1 BPU	8 battery modules +1 BPU	9 battery modules +1 BPU	10 battery modules +1 BPU	11 battery modules +1 BPU
Rated capacity	100Ah	100Ah	100Ah	100Ah	100Ah	100Ah
Rated energy	30.72kWh	35.84kWh	40.96kWh	46.8kWh	51.2kWh	56.3kWh
Rated voltage	307.2V	358.4V	409.6V	468V	512V	563V
Voltage range	268.8V-345.6V	313.6V-403.2V	358.4V-460.8V	403.2V-518.4V	448V-576V	492.8V-642.4V
Rated charge/discharge	0.5C	0.5C	0.5C	0.5C	0.5C	0.5C
Max. charge/discharge	1C	1C	1C	1C	1C	1C
AC internal resistance	≤80mΩ	≤56mΩ	≤64mΩ	≤72mΩ	≤80mΩ	≤88mΩ
Display	7" Touch screen	7" Touch screen	7" Touch screen	7" Touch screen	7" Touch screen	7" Touch screen
BMS	Included	Included	Included	Included	Included	Included
Communication	CAN	CAN	CAN	CAN	CAN	CAN
Monitoring	RS485	RS485	RS485	RS485	RS485	RS485
Max. altitude	3000m	3000m	3000m	3000m	3000m	3000m
Dimension (W/H/D) mm	1052/1627/850mm	1052/1627/850mm	1052/1627/850mm	1052/1627/850mm	1052/1627/850mm	1052/1627/850mm
Weight	474kg	518kg	562kg	606kg	650kg	694kg
Protection degree	IP54	IP54	IP54	IP54	IP54	IP54

### Balancing methods

Passive cell balancing	Yes
Active cell balancing	Opt

### BMS parameters on LCD

Cell voltage	Yes
Cell high voltage	Yes
Battery SOC	Yes
Cell temperature	Yes
Charge and discharge current	Yes
Cell low voltage	Yes
Total battery voltage	Yes
Fault warning	Yes

### Protection

Short circuit protection	Yes
Over current protection	Yes
Over charge protection	Yes
Over temperature protection	Yes
Cell over voltage protection	Yes
Cell under voltage protection	Yes
Over discharge protection	Yes

### Certificate







CE, UL, UN38.3, IEC62619, MSDS, ROHS, CB

\*Note: Active balancing is under development.

# BR114R/129R/143R/157R

Indoor battery rack with IP20 protection level, inbuilt lithium-ion battery and BMS.

## Features

-  Flexible modular design
-  Self-developed 3-level BMS
-  Easy connection method for A&B Module
-  Remote monitoring and upgrade
-  Long cycle Life, 6000 cycles
-  High density, 166wh/kg

Note: At specific test condition.



	BR114R	BR129R	BR143R	BR157R	BR114R for container
<b>Battery module specification</b>					
Configuration	16S1P	16S1P	16S1P	16S1P	16S1P
Rated capacity	280Ah	280Ah	280Ah	280Ah	280Ah
Rated energy	14.336kWh	14.336kWh	14.336kWh	14.336kWh	14.336kWh
Rated voltage	51.2V	51.2V	51.2V	51.2V	51.2V
Voltage range	44.8~57.6V	44.8~57.6V	44.8~57.6V	44.8~57.6V	44.8~57.6V
Rated charge/discharge	0.5C	0.5C	0.5C	0.5C	0.5C
Rated charge/discharge	1C(Opt)	1C(Opt)	1C(Opt)	1C(Opt)	1C(Opt)
AC internal resistance	≤8mΩ	≤8mΩ	≤8mΩ	≤8mΩ	≤8mΩ
Dimension(W/H/D)	523/231/805mm	523/231/805mm	523/231/805mm	523/231/805mm	523/231/805mm
Weight	113kg	113kg	113kg	113kg	113kg

	BR114R	BR129R	BR143R	BR157R	BR114R for container
<b>Battery rack specification</b>					
Configuration	8 modules + 1 BPU	9 modules + 1 BPU	10 modules + 1 BPU	11 modules + 1 BPU	8 modules + 1 BPU
Rated capacity	280Ah	280Ah	280Ah	280Ah	280Ah
Rated energy	114.688kWh	129.024kWh	143.36kWh	157.696kWh	114.688kWh
Rated voltage	409.6V	460.8V	512V	563.2V	409.6V
Voltage range	358.4~460.8V	403.2~518.4V	448~576V	492.8~633.6V	358.4~460.8V
Rated charge/discharge	0.5C	0.5C	0.5C	0.5C	0.5C
Rated charge/discharge	1C(Opt)	1C(Opt)	1C(Opt)	1C(Opt)	1C(Opt)
AC internal resistance	≤64mΩ	≤72mΩ	≤80mΩ	≤88mΩ	≤64mΩ
Display	7" Touch screen	7" Touch screen	7" Touch screen	7" Touch screen	7" Touch screen
BMS	Included	Included	Included	Included	Included
Communication	CAN	CAN	CAN	CAN	CAN
Monitoring	RS485	RS485	RS485	RS485	RS485
Max. altitude	3000m	3000m	3000m	3000m	3000m
Dimension(W/H/D)mm	1055/1615/755(0.5C) 1090/1615/755(1C)	1055/1615/755(0.5C) 1090/1615/755(1C)	1055/1615/755(0.5C) 1090/1615/755(1C)	1055/1615/755(0.5C) 1090/1615/755(1C)	528/2380/755(0.5C) 528/2380/755(1C)
Weight	1064kg	1157kg	1270kg	1383kg	999kg
Protection degree	IP20	IP20	IP20	IP20	IP20

	BR114R	BR129R	BR143R	BR157R	BR114R for container
<b>BMS parameters on LCD</b>					
Cell voltage	Yes	Yes	Yes	Yes	Yes
Cell high voltage	Yes	Yes	Yes	Yes	Yes
Cell low voltage	Yes	Yes	Yes	Yes	Yes
Cell temperature	Yes	Yes	Yes	Yes	Yes
Charge and discharge current	Yes	Yes	Yes	Yes	Yes
Total battery voltage	Yes	Yes	Yes	Yes	Yes
Battery SOC	Yes	Yes	Yes	Yes	Yes
Fault warning	Yes	Yes	Yes	Yes	Yes

	BR114R	BR129R	BR143R	BR157R	BR114R for container
<b>Protection</b>					
Short circuit protection	Yes	Yes	Yes	Yes	Yes
Over current protection	Yes	Yes	Yes	Yes	Yes
Over charge protection	Yes	Yes	Yes	Yes	Yes
Over discharge protection	Yes	Yes	Yes	Yes	Yes
Cell over voltage protection	Yes	Yes	Yes	Yes	Yes
Cell under voltage protection	Yes	Yes	Yes	Yes	Yes
Over temperature protection	Yes	Yes	Yes	Yes	Yes







	BR114R	BR129R	BR143R	BR157R	BR114R for container
<b>Certificate</b>					
	CE, CB, UL, UN38.3, IEC62619, MSDS, ROHS				

# BR172R/186R/200R/215R

Indoor battery rack with IP20 protection level, inbuilt lithium-ion battery and BMS.



## Features

-  Flexible modular design
-  Self-developed 3-level BMS
-  Easy connection method for A&B Module
-  Remote monitoring and upgrade
-  Long cycle Life, 6000 cycles
-  High density, 166wh/kg

Note: At specific test condition.

	BR172R	BR186R	BR200R	BR215R
<b>Battery module specification</b>				
Configuration	16S1P	16S1P	16S1P	16S1P
Rated capacity	280Ah	280Ah	280Ah	280Ah
Rated energy	14.336kWh	14.336kWh	14.336kWh	14.336kWh
Rated voltage	51.2V	51.2V	51.2V	51.2V
Voltage range	44.8~57.6V	44.8~57.6V	44.8~57.6V	44.8~57.6V
Rated charge/discharge	0.5C	0.5C	0.5C	0.5C
Rated charge/discharge	1C(Opt)	1C(Opt)	1C(Opt)	1C(Opt)
AC internal resistance	≤8mΩ	≤8mΩ	≤8mΩ	≤8mΩ
Dimension(W/H/D)	523/231/805mm	523/231/805mm	523/231/805mm	523/231/805mm
Weight	113kg	113kg	113kg	113kg

	BR172R	BR186R	BR200R	BR215R
<b>Battery rack specification</b>				
Configuration	12 modules + 1 BPU	13 modules + 1 BPU	14 modules + 1 BPU	15 modules + 1 BPU
Rated capacity	280Ah	280Ah	280Ah	280Ah
Rated energy	172.032kWh	186.386kWh	200.704kWh	215.04kWh
Rated voltage	614.4V	665.6V	716.8V	768V
Voltage range	537.6~691.2V	582.4~748.8V	627.2~806.4V	672~864V
Rated charge/discharge	0.5C	0.5C	0.5C	0.5C
Rated charge/discharge	1C(Opt)	1C(Opt)	1C(Opt)	1C(Opt)
AC internal resistance	≤96mΩ	≤104mΩ	≤112mΩ	≤120mΩ
Display	7" Touch screen	7" Touch screen	7" Touch screen	7" Touch screen
BMS	Included	Included	Included	Included
Communication	CAN	CAN	CAN	CAN
Monitoring	RS485	RS485	RS485	RS485
Max. altitude	3000m	3000m	3000m	3000m
Dimension(W/H/D)mm	1055/2125/755(0.5C) 1090/2125/755(1C)	1055/2125/755(0.5C) 1090/2125/755(1C)	1055/2125/755(0.5C) 1090/2125/755(1C)	1055/2125/755(0.5C) 1090/2125/755(1C)
Weight	1511kg	1624kg	1737kg	1850kg
Protection degree	IP20	IP20	IP20	IP20

	BR172R	BR186R	BR200R	BR215R
<b>BMS parameters on LCD</b>				
Cell voltage	Yes	Yes	Yes	Yes
Cell high voltage	Yes	Yes	Yes	Yes
Cell low voltage	Yes	Yes	Yes	Yes
Cell temperature	Yes	Yes	Yes	Yes
Charge and discharge current	Yes	Yes	Yes	Yes
Total battery voltage	Yes	Yes	Yes	Yes
Battery SOC	Yes	Yes	Yes	Yes
Fault warning	Yes	Yes	Yes	Yes

	BR172R	BR186R	BR200R	BR215R
<b>Protection</b>				
Short circuit protection	Yes	Yes	Yes	Yes
Over current protection	Yes	Yes	Yes	Yes
Over charge protection	Yes	Yes	Yes	Yes
Over discharge protection	Yes	Yes	Yes	Yes
Cell over voltage protection	Yes	Yes	Yes	Yes
Cell under voltage protection	Yes	Yes	Yes	Yes
Over temperature protection	Yes	Yes	Yes	Yes

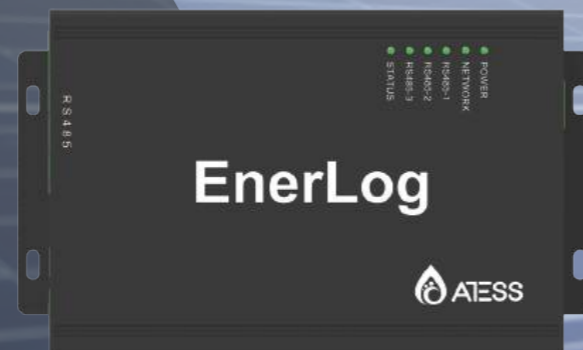
	BR172R	BR186R	BR200R	BR215R
<b>Certificate</b>				
	CE, CB, UL, UN38.3, IEC62619, MSDS, ROHS			

# EnerLog

Data logger for overall system monitoring collects operation data from different units via Modbus RS485 and communicates with the ATESS server via Ethernet.

## Features

-  Up to 32 devices connection
-  Support external sensors to realize the zero-export function
-  Multi-function and high performance
-  Local web server for easy configuration



## EnerLog

### Hardware Parameters

Power adapter	Input: 100-240V, 50/60Hz AC Output 12V(+/-15%), 1A DC
Power consumption	2.5W

### Application Parameters

Max. communication range	500m
Communication with inverters	RS485
Communication with server	TCP(Modbus TCP protocol)
Support network	Ethernet
Data transfer interval	5 Minutes
Default server URL	ess-server.atesspower.com

### General Information







Dimension(W/H/D)	175/105/31mm
Weight	320g
Language	Chinese, English
Mounting	Wall-mounted
Operating temperature	-30°C~+60°C
Degree of protection	IP30
Warranty	1 year
Certificate	CE

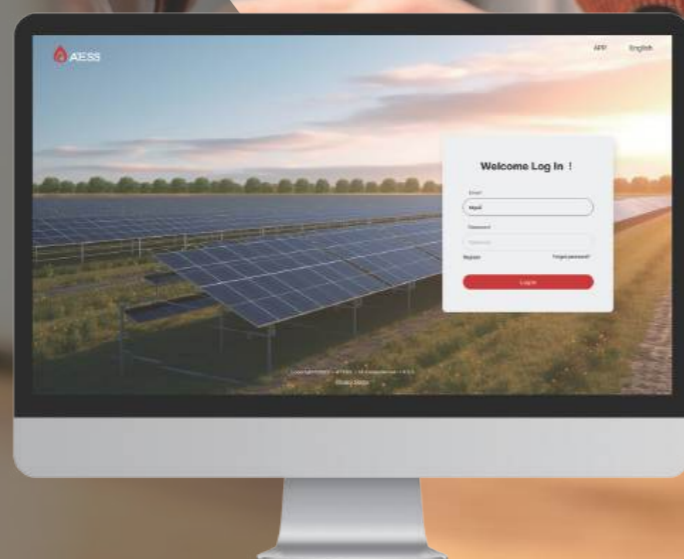


# EnerClo

ATESS monitoring cloud platform for different applications including residential, commercial, and utility grade on/off grid solar storage systems.

## Features

-  Quick and easy overview
-  Professional analysis
-  PC and mobile phone accessible
-  Real-time monitoring
-  Detail report downloadable
-  Online control and maintenance



## EnerClo

### Languages

Available languages Chinese, English, French, Greek, German, Netherlands, Italian, Japanese, Polish, Portuguese, Spanish, Turkish, Vietnamese, Korean

### System Requirements

Supported operating systems All  
 Recommended browsers Internet explore 8, Firefox 5, Google chrome 14, Safari 5, Opera 11  
 Supported data logger EnerLog

### Access

Website [www.enerclo-atesspower.com](http://www.enerclo-atesspower.com)

### Plant Information

Plant overview Quick yield overview of all your PV plants  
 Specified plant All important data at a glance including energy output, yield gains, environment status  
 Plant installation data Summary of all plant information which contains installation data, location data and other key devices  
 Device overview Display of all important data about data logger, environment monitor and other key devices  
 Time period 5 mins

### Plant Management

Account User could manage all PV plants with one same account

### Monitoring

Inverter status All inverter running status are recorded automatically, the warning of fault is highlighted immediately

### Status Reporting

Event reports Timely e-mail reports on system fault and plant error







### Background Operating

Plant management Add new plant, edit and delete existing plant  
 Device management Intuitive operation to manage all devices  
 Inverter setting Simple parameters setting for inverters including power management

# EnerView

Mobile phone app available on both IOS and Android to access EnerClo for online monitoring and maintenance

## Features

-  Quick and easy overview
-  Professional analysis
-  PC and mobile phone accessible
-  Real-time monitoring
-  Detail report downloadable
-  Online control and maintenance



## EnerView

### General Data

Available languages	English, Chinese
Supported operating systems	Android/iOS
Recommended browsers	All
Source of data	ess-server.atesspower.com
Supported data logger	EnerLog

### Plant Information

Plant overview	Quick yield overview of all your PV plants
Specified plant	All important data at a glance including energy output, yield gains, environment status
Device overview	Display of all important data about the data logger, environment monitor, and other key devices
Plant event log	Display of all the warning events of the plant

### Device Information

Inverter status	All inverters' running status is recorded automatically, and the warning of fault is highlighted immediately
Event reports	Timely e-mail reports on system fault and plant error
Plant management	Add a new plant, edit and delete the existing plant
Device management	intuitive operation to manage all devices
Inverter setting	Simple parameters setting for inverters including power management

# Hybrid power station for factory

Location: Thailand  
Capacity: 2.5MW / 2.5MWh  
Product: PCS500



# Asia



## Backup power system for university

Location: The Philippines  
Capacity: 240kW / 240kWh  
Product: HPS120-US, BR100T



## Twin containerized power plant

Location: Singapore  
Capacity: 300kW / 318kWh  
Product: HPS150, BR129R



## Micro system for village

Location: Myanmar  
Capacity: 100kW / 200kWh  
Product: HPS100, BR100T



## Backup power system for gas station

Location: Iraq  
Capacity: 250kW / 238kWh  
Product: HPS100, BR75T

# PV plant for brazilian military

Location: Brazil  
Capacity: 100kW / 253kWh  
Product: HPS50



America



## Caymanas park off-grid solar plant

Location: Jamaica  
Capacity: 1.7MW / 5MWh  
Product: PCS100, PCS500, HPS100, BR100T, BR145T



## Microgrid system for amazon village

Location: Peru  
Capacity: 540kW / 1666.56kWh  
Product: HPS150, HPS120



## Off-grid power plant for farm irrigation

Location: South Africa  
Capacity: 1.5MW / 2.8MWh  
Product: PCS500



## Power station for beverage factory

Location: South Africa  
Capacity: 1.5MW / 3MWh  
Product: PCS500



## Hybrid power station on rooftop

Location: South Africa  
Capacity: 60kW / 100kWh  
Product: HPS30



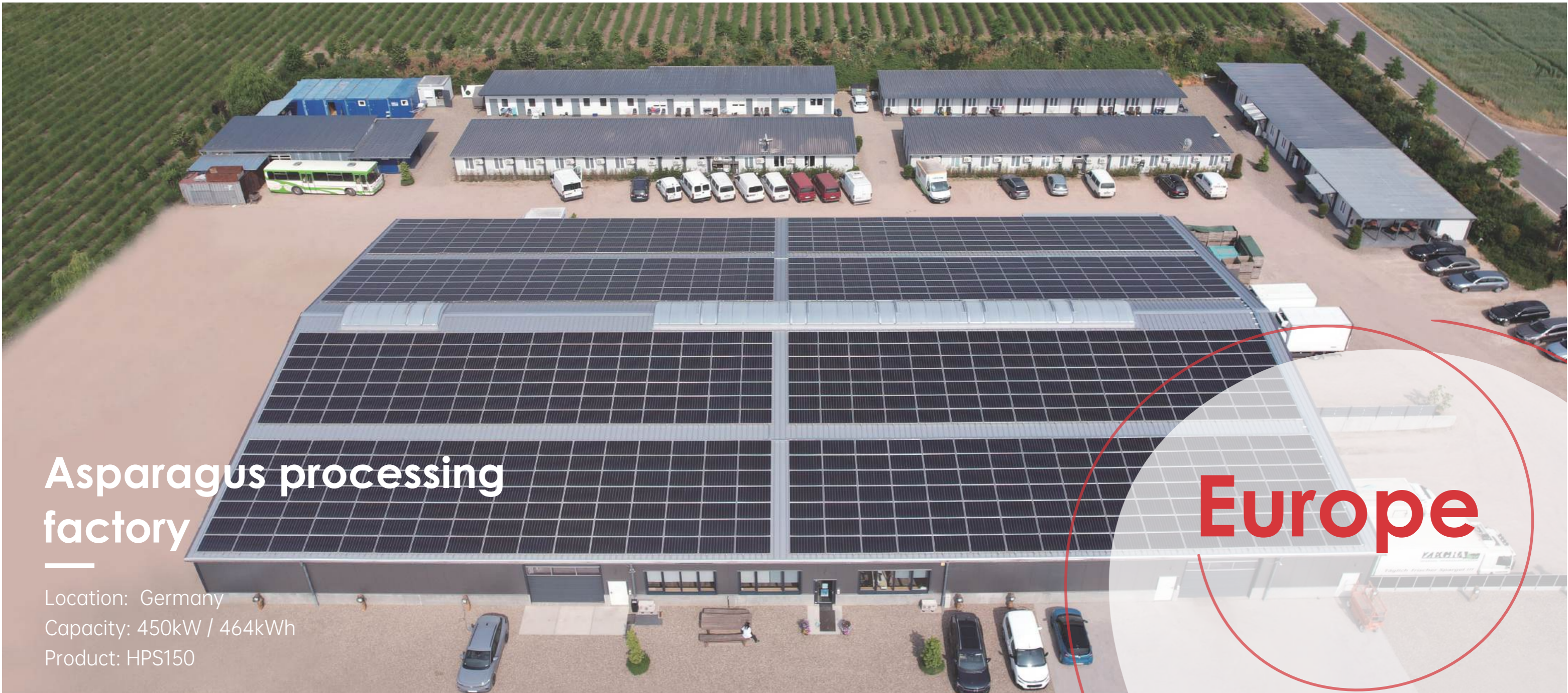
## Load-shedding application

Location: South Africa  
Capacity: 750kW / 1.5MWh  
Product: PCS250



## Hybrid power station for factory

Location: South Africa  
Capacity: 1MW / 1.3MWh  
Product: PCS500



# Asparagus processing factory

Location: Germany  
 Capacity: 450kW / 464kWh  
 Product: HPS150

Europe



## Hybrid power station for hotel

Location: Croatia  
 Capacity: 120kW / 200kWh  
 Product: HPS120, BR100T



## Hybrid power plant

Location: Poland  
 Capacity: 250kW / 500kWh  
 Product: HPS50, BR100T