

P O W E R
- I N G ●
T O M O -
R R O W ●



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GR-CA-006-09

Global Leading
Distributed
Energy
Solution Provider



Middle East
2025-2026

PAS SOLAR
GROWATT



Authorized Distributor In UAE

This certificate is issued to the authorized distributor in the Iraq Lmarket of Growatt, allowing it to sell the products of Growatt within the specified range in UAE.

Name of Issuing Company:

SHENZHEN GROWATT NEW ENERGY CO., LTD.

Distributor Name:

PAS INTERNATIONAL TRADING LLC

Distribution Product Range:

Growatt PV inverter & EV Charger & Energy Storage

Distribution Territory:

UAE

Valid Until:

Dec 31st, 2025

Company Stamp :

Signature:



Shenzhen Growatt New Energy Co., Ltd.

COMPANY PROFILE

Growatt was established in 2011 by a group of pioneers in the global PV industry with a vision to build a green and sustainable future. Specializing in sustainable energy generation, storage and consumption, as well as energy digitalization, we design, develop and manufacture PV inverters, energy storage products, EV chargers, smart energy management system and others.



Highly regarded by customers worldwide, Growatt ranks among the top 4 PV inverter suppliers globally, according to S&P Global Commodity Insights and Wood Mackenzie. Specifically, we hold the leading position as the world's No.1 supplier of residential inverters and the top four hybrid inverter suppliers in terms of shipment volume.

Since our establishment, Growatt has been committed to continuous technology innovations. With a well-established R&D platform and a R&D team of more than 1,100 professionals, we constantly introduce new upgrades and innovations in the energy efficiency, functional safety and intelligent solutions of inverter, energy storage and EV charging applications. Till now, we have obtained more than 167 patents.

At Growatt, we hold ourselves to comprehensive and strict engineering and quality control standards. From design to manufacturing, we have implemented a comprehensive and rigorous system to ensure high level of quality, reliability and performance. We have received 'All Quality Matters Awards' by TÜV Rheinland for our C&I inverters — MAX 80KTL3 MV and MAX 125KTL3-X LV as well as battery storage solution — ARK Battery System for achieving first-rate performance in numerous safety and reliability tests.

Committed to 'glocalization', Growatt has set up 42 representative sites worldwide to provide localized service support with a combination of online and offline support. We have developed the Online Smart Service (OSS) system that enables installers, integrators and EPCs to manage and maintain their solar plants remotely and intelligently.

To date, Growatt's business spans across over 180 countries and regions. We work with thousands of local partners to establish robust distribution and logistics networks, ensuring convenient access to our product portfolios for global customers.

2024

2011



3,100,000+
Inverters

400,000+
Battery Packs

Annual Production Capacity



180+

Countries With Installed Systems

OUR STRENGTH IN DATA



42+
Representative Sites



180+
Countries With Installed Systems



2.1M+
Cloud Platform Users



1,100+
R&D Engineers



167+
Patents Obtained

GLOBAL NETWORK



★ Headquarters ● Representative sites ▲ Factory

PAS SOLAR
GROWATT

HONORS & AWARDS



Residential Inverter Supplier



PV Inverter Supplier



Commercial & Industrial
PV Inverter Supplier

*Source: S&P Global Commodity Insights, Wood Mackenzie



All Quality Matters Award
MAX 125KTL3-X LV
MAX 80KTL3 MV



All Quality Matters Award
ARK Battery System



PV Magazine Award
MIN 2500-6000TL-XH



PV Magazine Award
APX HV BatteryB

TOP BRAND PV AWARDS

EUROPE



AFRICA



AMERICAS



APAC



GROWATT SMART PHOTOVOLTAIC INVERTER SERIES





Off-grid inverters



Large commercial and utility grade on-grid inverters



Residential and C&I storage solutions



Monitoring solutions

SPF 3000~5000TL HVM



-
- Integrated MPPT charge controller
 - Configurable grid or solar input priority
 - Optional WIFI/ GPRS remote monitoring
 - Parallel for scalability

Datasheet	SPF 3000TL HVM-24	SPF 3000TL HVM-48	SPF 5000TL HVM/HVM-P
Battery voltage	24VDC	48VDC	48VDC
Battery type		Lithium/Lead-acid	
Inverter output			
Rated power	3000VA/ 3000W	3000VA/ 3000W	5000VA/ 5000W
Parallel capability	No	No	No/ Yes, 6 units maximum
AC voltage regulation (battery mode)		230VAC ± 5% @ 50/60Hz	
Surge power	6000VA	6000VA	10000VA
Efficiency (Peak)		93%	
Waveform		Pure sine wave	
Transfer time		10ms typical, 20ms Max	
Solar charger			
Maximum PV array power	1500W	1800W	4500W
MPPT range @ operating voltage	30VDC ~ 80VDC	60VDC ~ 115VDC	60VDC ~ 115VDC
Maximum PV array open circuit voltage	102VDC	145VDC	145VDC
Number of Independent MPP trackers/ strings per MPP tracker		1/1	
Maximum solar charge current	50A	30A	80A
Maximum efficiency		98%	
AC charger			
Charge current	30A	15A	60A
AC Input voltage		230 VAC	
Selectable voltage range		170-280 VAC (For Personal Computers) ; 90-280 VAC (For Home Appliances)	
Frequency range		50Hz/60Hz (Auto sensing)	
Physical			
Protection degree		IP20	
Dimension (W/H/D)	315/400/130mm	315/400/130mm	50/455/130mm
Net weight (kgs)	8.5	8.5	11.5
Operating environment			
Humidity		5% to 95% Relative Humidity(Non-condensing)	
Altitude		<2000m	
Operating temperature		0°C - 55°C	
Storage temperature		-15°C - 60°C	

SPF 3000~5000 ES



- Integrated MPPT charge controller.
- Equalization charging function.
- Work with or without battery
- PV input voltage up to 500VDC.
- Configurable grid or solar input priority.
- Optional WIFI/GPRS remote monitoring
- Support parallel operation for capacity expansion up to 30kW.
- PV and grid power the load jointly if PV energy is insufficient.
- Flexibly schedule the Inverter charging and discharging time.

Datasheet	SPF 3500 ES Lite	SPF 5000 ES
Battery voltage	48VDC	
Battery type	Lithium/Lead-acid	
Inverter output		
Rated power	3500VA/ 3500W	5000VA/ 5000W
Parallel capability	Yes, 9 units maximum	Yes, 6 units maximum
AC voltage regulation (Battery mode)	230VAC ± 5% @ 50/60Hz	
Surge power	7000VA	10000VA
Efficiency (Peak)	93%	
Waveform	Pure sine wave	
Transfer time	10ms typical, 20ms Max	
Solar charger		
Maximum PV array power	4500W	6000W
MPPT Range@operating voltage	120VDC ~ 450VDC	120VDC ~ 430VDC
Number of Independent MPP trackers/ strings per MPP tracker	1/1	
Max. input current per MPP tracker	22A	
Maximum PV array open circuit voltage	500VDC	450VDC
Maximum solar charge current	80A	100A
AC charger		
Charge current	60A	80A
AC Input voltage	230 VAC	
Selectable voltage range	170-280 VAC (For Personal Computers) ; 90-280 VAC (For Home Appliances)	
Frequency range	50Hz/60Hz (Auto sensing)	
Physical		
Protection degree	IP20	
Dimension (W/H/D)	280/125/435mm	330/135/485mm
Net weight	9.2kg	12kg
Operating environment		
Humidity	5% to 95% Relative Humidity(Non-condensing)	
Altitude	<2000m	
Operating temperature	-10°C - 55°C	0°C - 55°C
Storage temperature	-15°C - 60°C	

SPF 6000 ES Plus



- Plug-and-Play terminal for PV port
- Dual MPP trackers
- Maximum PV input voltage up to 500VDC
- Configurable grid or solar input priority
- Parallel for scalability
- Dust-proof filter for harsh environment
- Two AC input terminals with integrated transfer switch



Datasheet	SPF 6000 ES Plus
Battery voltage	48VDC
Battery type	Lithium/Lead-acid
Inverter output	
Rated power	6000VA/6000W
Parallel capability	Yes, 6 units maximum
AC voltage regulation (battery mode)	230VAC \pm 5% @ 50/60Hz
Surge power	12000VA
Efficiency (peak)	93%
Waveform	Pure sine wave
Transfer time	10ms typical, 20ms Max
Solar charger	
Maximum PV array power	8000W
MPPT range @ operating voltage	120VDC ~ 450VDC
Number of independent MPP trackers/ strings per MPP tracker	2/1
Max. input current per MPP tracker	16A
Maximum PV array open circuit voltage	500VDC
Maximum solar charge current	100A
AC charger	
Charge current	80A
AC input voltage	230VAC
Selectable voltage range	170-280 VAC (For personal computers) ; 90-280 VAC (For home appliances)
Frequency range	50Hz/60Hz (Auto sensing)
Physical	
Protection degree	IP20
Dimension (W/H/D)	460/395/132mm
Net weight	13.5kg
Operating environment	
Humidity	5% to 95% Relative humidity(Non-condensing)
Altitude	<2000m
Operating temperature	0°C - 55°C
Storage temperature	-15°C - 60°C

SPF 3000~6000T HVM-G2



- Industry-leading efficiency up to 94%
- Extended surge rating suitable for motor loads
- Wide PV input voltage range up to 250Vdc
- Parallel for high scalability
- Load segment control to maximize battery runtime for critical devices
- Warranty extend to 5 years



Datasheet	SPF 3000T HVM-G2	SPF 6000T HVM-G2
Battery voltage	48VDC	
Battery type	Lithium/Lead-acid	
Inverter output		
Rated power	3KW	6KW
Surge rating	9KW	18KW
Parallel capability	Yes, 6 units maximum (Available in single and three phase system)	
Waveform	Pure sine wave/ same as input (bypass mode)	
Nominal output voltage rms	208-220-230-240VAC (Optional)	
Output frequency	50Hz/60Hz +/-0.5 Hz	
Inverter efficiency(Peak)	94%	93.5%
Transfer time	10ms	
Solar charger		
Maximum PV charge current	80A	
Max. recommended PV power	4500W	
Number of independent MPP trackers/ strings per MPP tracker	1/1	
MPPT range @ operating voltage (VDC)	60~200VDC	
Maximum PV Array open circuit voltage	250V	
Maximum efficiency	97%	
AC Input		
Max. AC input current	30A	50A
Voltage	230VAC	
Selectable voltage range	184~272VAC(UPS);154~272VAC(APL)	
Frequency range	50Hz/60Hz (Auto sensing)	
Max. charging current	40A	60A
Physical		
Protection degree	IP20	
Dimensions (W/H/D)	300/550/225mm	365/650/247mm
Net weight	27kg	38.5kg
Operating environment		
Altitude	<2000	
Operation temperature range	-20°C to 50°C	
CE		

* All specifications are subject to change without notice

SPE

3500~6000TL

HVM-G2

Hybrid solar inverter



- Two AC Input Terminals With Integrated Transfer Switch
- Support WiFi/4G Remote Monitoring
- Featuring Grid-Tied Function for Peak Shaving
- Support parallel operation for capacity expansion up to 54kW.
- Dual Outputs for Smart Load Management (Available for 6kW Model Only)
- Settable Charging Current & Charging Time for Generator and Grid



Datasheet	SPE 3500TL HVM-24G2	SPE 6000TL HVM-G2
Input data (DC)		
Max. recommended PV power (for module STC)	4000W	8000W
Start voltage	150±10V	80±5V
MPP voltage range	120V-450V	60V-450V
No. of MPP trackers	1	2
No. of PV strings per MPP tracker	1	1
Max. input current per MPP tracker	22A	16A+16A
Max. DC voltage	500V	
Output data (AC)		
AC nominal power	3500W	6000W
Max. AC apparent power	3500VA	6000VA
Output current	15.2A	26.1A
Nominal AC voltage	230V	
AC grid frequency	50/60Hz	
Adjustable power factor	0.8leading...0.8lagging	
THDi	< 5%	
Battery data (DC)		
Nominal DC voltage	24V	48V
Battery voltage range	20-32V	40-60V
Battery overcharge protection	32V	60V
Backup power (AC)		
AC nominal output power	3500W	6000W
Nominal AC output voltage	230V	
Nominal AC output frequency	50/60Hz	
Switch time	10ms typical, Max@ 20ms	10ms typical, RCD 20ms Max@ Single <30ms @ Parallel
Efficiency		
Peak efficiency	96.5%	
European efficiency	95.5%	
General data		
Dimensions (W / H / D)	370/430/125mm	422/460/125mm
Weight	10.5kg	13.5kg
Operating temperature range	-20°C ... +50°C	
Topology	Transformerless	
Cooling	DC fan	
Protection degree	IP20	
Relative humidity	5%-95% non-considering	
Altitude	< 2000m	
Communication	WiFi/4G	

SPE 8000 ~ 12000 ES

Hybrid solar inverter



- Dual MPP trackers
- Maximum PV input voltage up to 550VDC
- Two AC input terminals with integrated transfer switch
- Featuring Grid-Tied Function for Peak Shaving
- Support parallel operation for capacity expansion up to 108kW.
- Dual Outputs for Smart Load Management



Datasheet	SPE 8000 ES	SPE 10000 ES	SPE 12000 ES
Input data (DC)			
Max. recommended PV power (for module STC)	10000W	12500W	15000W
Max. DC voltage		550V	
Start voltage		120V	
MPP voltage range		60V-480V	
No. of MPP trackers		2	
No. of PV strings per MPP tracker		1	
Max. input current per MPP tracker		27A	
Output data (AC)			
AC nominal power	8000W	10000W	12000W
Max. AC apparent power	8000VA	10000VA	12000VA
Nominal AC voltage		230V	
AC grid frequency		50/60Hz	
Output current	34.8A	43.5A	52.2A
Adjustable power factor		0.8leading...0.8lagging	
THDi		< 5%	
Max. conversion efficiency (PV/AC)		96.5%	
European efficiency @ vnominal (PV/AC)		95.5%	
Battery data (DC)			
Nominal DC voltage		48V	
Max charging and discharging current	190A/200A	220A/240A	250A/280A
Type of battery		Lithium/Lead-acid	
Backup power (AC)			
AC nominal output power	8000W	10000W	12000W
Nominal AC output voltage		230V	
Nominal AC output frequency		50/60Hz	
Switch time		<20ms@Single <30ms@Parallel	
Efficiency			
Peak efficiency		96.5%	
European efficiency		95.5%	
General data			
Dimensions (W / H / D)		550/465/150mm	
Weight		21.5kg	
Operating temperature range		-10°C ... +50°C	
Noise emission (typical)		< 75dB	
Self-consumption		< 75W	
Topology		Transformerless	
Cooling		DC fan	
Protection degree		IP20	
Relative humidity		5%-95% non-condensing	
Altitude		< 2000m	
Communication		WiFi/4G	
CE, NRS097			

AXE 5.0L Modular Battery



-
- Flexible capacity options, 5kWh to 400kWh
 - Excellent safety of cobalt free LiFePO₄ battery
 - Stacked installation without cable connection
 - Remote firmware upgrade



Datasheet	AXE 5.0L	AXE 10.0L	AXE 15.0L	AXE 20.0L	AXE 25.0L	AXE 30.0L	AXE 35.0L	AXE 40.0L	AXE 45.0L	AXE 50.0L
System demo										
Battery module	AXE 5.0L - C1 (5.0kWh, 51.2V, 40kg)									
Number of modules	1	2	3	4	5	6	7	8	9	10
Energy capacity	5.0kWh	10.0kWh	15.0kWh	20.0kWh	25.0kWh	30.0kWh	35.0kWh	40.0kWh	45.0kWh	50.0kWh
Max charge/discharge power*1	3kW	6kW	6kW	6kW	6kW	6kW	6kW	6kW	6kW	6kW
Max charge/discharge current	60A	120A	120A	120A	120A	120A	120A	120A	120A	120A
Dimension (W/D/H)*2	650/350/165mm	650/350/305mm	650/350/445mm	650/350/585mm	650/350/725mm	650/350/865mm	650/350/1005mm	650/350/1145mm	650/350/1285mm	650/350/1425mm
Weight	42kg	82kg	122kg	162kg	202kg	242kg	282kg	322kg	362kg	402kg
General										
Battery type	Cobalt Free Lithium Iron Phosphate (LFP)									
Nominal voltage	51.2V									
Operating voltage Range	48 - 57.6V									
IP protection	IP20									
Installation	Floor installation*3									
Operation temperature	0~50°C									
Features										
DoD	92%									
Multi-cluster AXE battery system in parallel	Max. 8 clusters (Max. 400kWh)									
BMS monitoring parameters	SOC, System voltage, Current, Cell voltage, Cell temperature, PCBA temperature measurement									
Communication port	CAN/RS485									
Warranty: 10 years	Yes									
CE, ROHS, UL1973+FCC, UN 38.3+PI965										

*1 Depend on the max. battery charge/discharge power of the inverter.

*2 The system dimension is included with the battery base

*3 Floor installation requires extra base (W/D/H=654/353/25mm)

* AXE series battery has an EU model and a General model, the storage inverters sold in European countries only work with EU model AXE battery.



Hope 5.0L-B1



- Compact size and easy installation
- High energy density and efficiency
- Excellent safety of LiFePO₄ battery
- DoD up to 93%



Datasheet	Hope 5.0L-B1
Battery data	
Nominal voltage	51.2V
Rated capacity	5.12kWh
Usable capacity	5.0kWh
Operating voltage	40 ~ 58.4V
Max. discharging current	100A
Peak discharging current	250A/150ms
Max charging current	100A
General data	
Dimension (W/D/H)	440/480/130.5mm
Weight	43±2Kg
IP protection	IP20
Charge temperature	0°C~+55°C
Discharge temperature	-20°C~+55°C
Features	
DOD	98%
Cycle life	>4000 (25°C, 1C,)
Parallel connection	Max.48 packs
Communication port	CAN/RS485
Warranty	5 Years
CE(EMC), UN 38.3, MSDS, ROHS	

* Nominal charge/discharge current and power derating will occur related to Temperature and SOC

HOPE 14.3-A1 Battery



- Flexible capacity from 14.3kWh to 686.4kWh
- Compact size and easy installation
- High energy density and efficiency
- Excellent safety of LiFePO4 battery
- Long lifespan, 10 years warranty



Datasheet	HOPE 14.3L-A1
System data	
Battery type	LiFePO4
Nominal voltage	51.2V
Normal capacity	14.3kWh
Usable capacity	13.3kWh
Operating voltage	40~58.4V
Charge/Discharge current	140A
Max. charging/ discharging power	225A/245A, 3s
DOD	93%
General	
Dimension (W/H/D)	440/812/265mm
Weight	<120kg
Installation	Wall-mounted
Altitude	<2000 m
IP Protection	IP20
Operating temperature	Chg: 0~55°C/Dsg: -20 ~ 60°C
Storage temperature*	-20 ~ 60°C
Features	
Cycle life	≥6000
Cooling	Natural convection
System connection	Max. 48 pcs in paralle
Communication port	CAN/RS485
Warranty	10 years
CE(EMC), UN38.3, MSDS, ROHS, IEC62619	

* Suggested storage temperature is -10~40 °C

Future-H Series

All-In-One Energy Storage Solution



- Integrated inverter and lithium battery system
- Compact size and easy installation
- Flexible expansion capacity up to 18kW/33kWh
- Maximum PV input voltage up to 500VDC
- Excellent safety of LiFePO4 battery
- Grid and Generator dual AC input with integrated transfer switch

Inverter Model	SIM 6000 ES Plus-H		
Inverter output			
Rated power	6000VA/6000W		
Parallel capability	Yes, 3 units maximum (single or three phase)		
AC voltage regulation (battery mode)	230VAC \pm 5% @ 50/60Hz		
Surge power	12000VA		
Efficiency (peak)	93%		
Waveform	Pure sine wave		
Transfer time	10ms typical, 20ms Max		
Solar charger			
Maximum PV array power	8000W		
MPPT range @ operating voltage	120VDC ~ 450VDC		
Number of independent MPP trackers/ strings per MPP tracker	2/1		
Max. input current per MPP tracker	16A		
Maximum PV array open circuit voltage	500VDC		
Maximum solar charge current	100A		
AC charger			
Charge current	80A		
AC input voltage	230VAC		
Selectable voltage range	170-280 VAC (For personal computers) ; 90-280 VAC (For home appliances)		
Frequency range	50Hz/60Hz (Auto sensing)		
Physical			
Number of Inverter modules	1	2	3
System capacity	6000VA/6000W	12000VA/12000W	18000VA/18000W
Protection degree	IP20		
Dimension (W/H/D)	460/132/395mm	460/264/395mm	460/396/395mm
Net weight	16kg	32kg	48kg
Operating environment			
Humidity	5% to 95% Relative humidity(Non-condensing)		
Altitude	<2000m		
Operating temperature	0°C - 55°C		
Storage temperature	-15°C - 60°C		
Warranty	2 Years		
Battery Model	ABM 5.5L-A1-H		
Nominal voltage	51.2V		
Rated capacity	5.5kWh		
Usable capacity	5.12kWh		
Operating voltage	40 ~ 58.4V		
Max. discharging current	100A		
Peak discharging current	120A/3S		
Max charging current	100A		
General data			
Dimension (W/D/H)	630/440/150mm		
Weight	48Kg		
IP protection	IP20		
Charge temperature	0°C~+55°C		
Discharge temperature	-20°C~+55°C		
Features			
DOD	93%		
Cycle life	>6000 (25°C, 0.2C.)		
Parallel connection	Max.6 packs		
Communication port	CAN/RS485		
Warranty	5 Years		

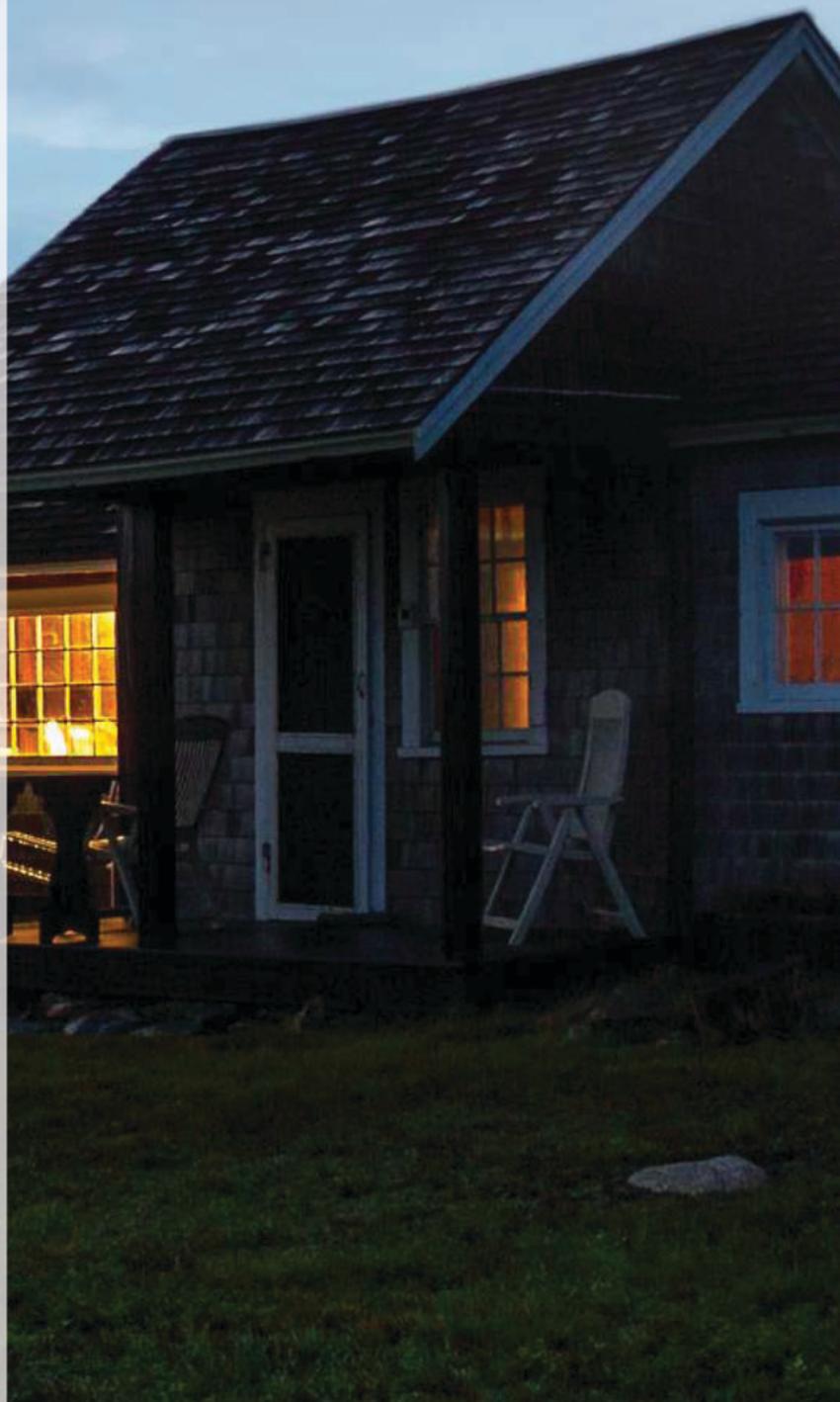
Inverter : CE, ROHS; Battery : CE(EMC), UN38.3, MSDS, ROHS

Future-V Series

All-In-One Energy Storage Solution



- Integrated inverter and lithium battery system
- Compact size and easy installation
- Flexible expansion capacity up to 18kW/33kWh
- Maximum PV input voltage up to 500VDC
- Excellent safety of LiFePO4 battery
- Grid and Generator dual AC input with integrated transfer switch



Inverter Model	SIM 6000 ES Plus-V
Inverter output	
Rated power	6000VA/6000W
Parallel capability	Yes, 6 units maximum (single or three phase)
AC voltage regulation (battery mode)	230VAC ± 5% @ 50/60Hz
Surge power	12000VA
Efficiency (peak)	93%
Waveform	Pure sine wave
Transfer time	10ms typical, 20ms Max
Solar charger	
Maximum PV array power	8000W
MPPT range @ operating voltage	120VDC ~ 450VDC
Number of independent MPP trackers/ strings per MPP tracker	2/1
Max. input current per MPP tracker	16A
Maximum PV array open circuit voltage	500VDC
Maximum solar charge current	100A
AC charger	
Charge current	80A
AC input voltage	230VAC
Selectable voltage range	170-280 VAC (For personal computers) ; 90-280 VAC (For home appliances)
Frequency range	50Hz/60Hz (Auto sensing)
Physical	
System capacity	6000VA/6000W
Dimension (W/H/D)	630/440/172mm
Net weight	13.5kg
Operating environment	
Humidity	5% to 95% Relative humidity(Non-condensing)
Altitude	<2000m
Operating temperature	0°C - 55°C
Storage temperature	-15°C - 60°C
Warranty	2 Years
Battery Model	ABM 5.0L-B1-V
Nominal voltage	51.2V
Rated capacity	5.12kWh
Usable capacity	5.0kWh
Operating voltage	40 ~ 58.4V
Max. discharging current	100A
Peak discharging current	110A/5S
Max charging current	100A
General data	
Dimension (W/H/D)	630/390/172mm
Weight	47Kg
IP protection	IP20
Charge temperature	0°C~+55°C
Discharge temperature	-20°C~+55°C
Features	
DOD	98%
Cycle life	>4500 (25°C, 1C.)
Parallel connection	Max.48 packs
Communication port	CAN/RS485
Warranty	5 Years

Inverter : CE, ROHS; Battery : CE(EMC), UN38.3, MSDS, ROHS

MAX 50~80K TL3 LV



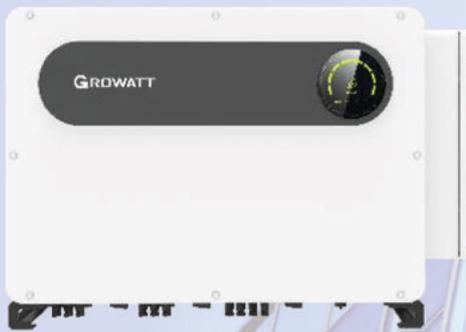
- 6/7MPPTs
- Smart diagnosis
- High efficiency up to 99%
- Local WIFI configuration
- String monitoring
- AC&DC type II SPD
- AFCI protection

Datasheet	MAX 50KTL3 LV	MAX 60KTL3 LV	MAX 70KTL3 LV	MAX 80KTL3 LV
Input data (DC)				
Max. recommended PV power (for module STC)	75000W	90000W	105000W	120000W
Max. DC voltage	1100V			
Start voltage	250V			
Nominal voltage	585V	585V	600V	600V
MPPT voltage range	200V-1000V			
No. of MPP trackers	6	6	7	7
No. of PV strings per MPP tracker	2			
Max. input current per MPP tracker	26A			
Max. short-circuit current per MPP tracker	32A			
Output data (AC)				
AC nominal power	50000W	60000W	70000W	80000W
Max. AC apparent power	55500VA	66600VA	77700VA	88800VA
Nominal AC voltage (range*)	230V/400V (340-440V)			
AC grid frequency (range*)	50/60 Hz (45-55Hz/55-65 Hz)			
Max. output current	80.5A	96.6A	112.7A	128.8A
Adjustable power factor	0.8leading ...0.8lagging			
THDi	<3%			
AC grid connection type	3W+N+PE			
Efficiency				
Max. efficiency	98.8%	98.8%	99%	99%
European efficiency	98.4%	98.4%	98.5%	98.5%
MPPT efficiency	99.9%			
Protection devices				
DC reverse polarity protection	Yes			
DC switch	Yes			
AC/DC surge protection	Type II / Type II			
Insulation resistance monitoring	Yes			
AC short-circuit protection	Yes			
Ground fault monitoring	Yes			
Grid monitoring	Yes			
Anti-islanding protection	Yes			
Residual-current monitoring unit	Yes			
String monitoring	Yes			
Anti PID function	Optional			
AFCI protection*	Yes			
General data				
Dimensions (W / H / D)	860/600/300mm			
Weight	82kg	82kg	86kg	86kg
Operating temperature range	-25°C ... +60°C			
Self-consumption	< 1W			
Topology	Transformerless			
Cooling	Smart air cooling			
Protection degree	IP65			
Relative humidity	0-100%			
Altitude	4000m			
DC connection	H4/MC4(Optional)			
AC connection	Cable gland+OT terminal			
Display	LED/WIFI+APP			
Interfaces: RS485/USB/WiFi/RF/4G	Yes/Yes /Optional/Optional/Optional			
Warranty: 5 years / 10 years	Yes /Optional			
CE, VDE 0126, Greece, EN 50438, EN 50549, C10/C11, VFR 2019, IEC 62116, IEC 61727, IEC 60068, IEC 61683, CEI 0-21, CEI 0-16, N4105, DRRG, G98/G99, G100, NRS 097-2-1, MEA, PEA, KSC 8565				

* The AC voltage range and frequency range may vary depending on specific country grid standard.
All specifications are subject to change without notice.

* AFCI function need to be activated after installation.

MAX 100~125K TL3-X LV



-
- 10 MPPTs fusefree design
 - Smart I/V scan and diagnosis
 - Intelligent string monitoring
 - AC&DC type II SPD
 - IP66 protection

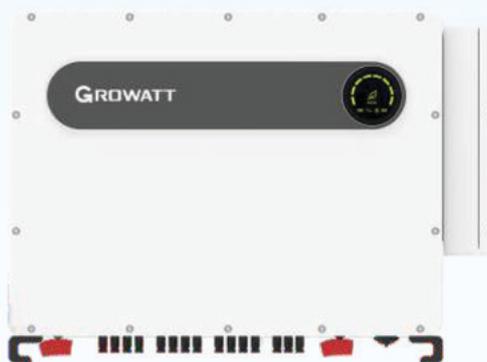
Datasheet	MAX 100KTL3-X LV	MAX 110KTL3-X LV	MAX 120KTL3-X LV	MAX 125KTL3-X LV
Input data (DC)				
Max. DC voltage			1100V	
Start voltage			195V	
Nominal voltage			600V	
MPP voltage range			180V-1000V	
No. of MPP trackers			10	
No. of PV strings per MPP tracker			2	
Max. input current per MPP tracker			32A	
Max. short-circuit current per MPP tracker			40A	
Output data (AC)				
AC nominal power	100000W	110000W	120000W	125000W
Max. AC apparent power	110000VA	121000VA	132000VA	137500VA
Nominal AC voltage (range*)	220V/380V, 230V/400V (340-440V)			
AC grid frequency (range*)	50/60 Hz(45-55Hz/55-65 Hz)			
Max. output current	158.8A@400V 167.1A@380V	174.6A@400V 183.8A@380V	190.5A@400V 200.5A@380V	198.5A@400V 208.9A@380V
Adjustable power factor	0.8leading ...0.8lagging			
THDi	<3%			
AC grid connection type	3W/N/PE			
Efficiency				
Max. efficiency			98.8%	
European efficiency	98.4%	98.5%	98.5%	98.5%
MPPT efficiency			99.9%	
Protection devices				
DC reverse polarity protection			Yes	
DC switch			Yes	
AC/DC surge protection			Type II / Type II	
Insulation resistance monitoring			Yes	
AC short-circuit protection			Yes	
Ground fault monitoring			Yes	
String detection			Yes	
Anti PID function			Yes	
Arc fault detection AFCI*			Yes	
General data				
Dimensions (W / H / D)	970/640/345mm			
Weight	84kg			
Operating temperature range	-30°C ... +60°C			
Nighttime power consumption	< 1W			
Topology	Transformerless			
Cooling	Smart Cooling			
Protection degree	IP66			
Relative humidity	0-100%			
Altitude	4000m			
DC connection	H4/MC4 (Max. 6mm ²)			
AC connection	OT Terminal (Max. 240mm ²)			
Display	LED/WIFI+APP			
Interfaces: RS485 / USB / PLC/GPRS/4G/WiFi	Yes/Yes/Optional/Optional/Optional/Optional			
Warranty: 5 years / 10 years	Yes/Optional			

CE, IEC 62116, IEC 61727, CQC, VDE 0126, VFR 2019, EN 50549-1/2, C10/C11, UNE 206007, G99
CEI 0-21/0-16, N4105, UNE 206006, MEA, PEA, KSC 8565, VDE-AR-N4110, NTS Type C, UNE 217001: 2020

* The AC voltage range and frequency range may vary depending on specific country grid standard.
All specifications are subject to change without notice.

* AFCI function need to be activated after installation.

MAX 320~350K TL3-X



- Maximum efficiency 99.03%
- Intelligent string breaking, active safety
- MPPT current 80A, adapted to 182/210 components
- String detection and I/V scanning, accurate location of abnormal strings
- IP66 protection level, adaptable to harsh environments
- Supports aluminium wire access, saving AC cable cost

Datasheet	MAX 320KTL3-X	MAX 333KTL3-X	MAX 350KTL3-X
Input data (DC)			
Max. recommended PV power (for module STC)	480000W	499500W	528000W
Max. DC voltage		1500V	
Start voltage		500V	
Nominal voltage		1080V	
MPP voltage range		500V-1500V	
Max. input current per MPP tracker		80A	
Max. short-circuit current per MPP tracker		100A	
No. of MPP trackers		6	
No. of PV strings per MPP tracker		5	
Output data (AC)			
AC nominal power	320000W	333000W	350000W
Max. AC apparent power	352000VA	366300VA	350000VA
Nominal AC voltage		800V	
AC output range		640-920VAC	
AC grid frequency (range*)		50/60 Hz(45~55Hz/55-65 Hz)	
Nominal output current	230.9A	240.3A	254A
Adjustable power factor		0.8leading ...0.8lagging	
THDi		< 3%	
AC grid connection type		3W+PE	
Efficiency			
Max. efficiency		99.03%	
European efficiency		98.53%	
MPPT efficiency		99.90%	
Protection devices			
DC reverse polarity protection		Yes	
DC Switch		Yes	
AC/DC surge protection		Type II / Type II	
Insulation resistance monitoring		Yes	
RCD detection		Yes	
Output short circuit protection		Yes	
String fault monitoring		Yes	
Anti -PID function		Optional	
AFCI protection		Optional	
Display/communication			
Display		LED/WIFI+APP	
Interfaces: USB/RS485/GPRS/4G/PLC/WIFI		Yes/Yes/Optional/Optional/Optional	
General data			
Dimensions (W / H / D)		1145/790/371mm	
Weight		120kg	
Operating temperature range		-30°C...+60°C	
Altitude		5000m	
Relative humidity		0~100%	
Nighttime power consumption		< 1W	
Topology		Transformerless	
Cooling		Smart air cooling	
Protection degree		IP66	
Warranty: 5 / 10 years		Yes/Optional	

CE, CB, IEC62116&61727, 62910, IEC 61683, 60068

SPH 10000TL-HU



- UPS function, 10ms transition
- 1.5 DC/AC Ratio with 3 Mppts
- Up to 200A charging/discharging current
- Support DC-coupled, AC-coupled, AC-retrofit applications
- Type II Surge protection for DC and AC sides
- Support charge from diesel generator
- Support both single phase and split phase application

PAS SOLAR
GROWATT

Datasheet	SPH 10000TL- HU
Input data (DC)	
Max. recommended PV power (for module STC)	15000W
Max. DC voltage	525V
Start voltage	150V
MPP voltage range	150V-450V/370V
No. of MPP trackers	3
No. of PV strings per MPP tracker	2
Max. input current per MPP tracker	22A
Max. short-circuit current per MPP tracker	28A
Output data (AC)	
AC nominal power	10000W
Max. AC apparent power	10000VA
Nominal AC voltage (range*)	220V/230V/240V
AC grid frequency (range*)	50Hz/60Hz
Max. output current	50A
Adjustable power factor	0.8leading...0.8lagging
THDi	<3%
AC grid connection type	Single phase
Battery data (DC)	
Battery voltage range	40~60V
Max charging and discharging current	200A
Continuous charging and discharging power	10000W
Type of battery	Lithium /Lead-acid
Backup power (AC)	
AC nominal output power	10000W
Nominal AC output voltage	220V/230V/240V
Nominal AC output frequency	50/60Hz
Switch time	<10ms
Efficiency	
peak efficiency	97.50%
CEC weighted efficiency	97%
MPPT efficiency	≥99.5%
Protection devices	
PV Switch	Yes
AC over current protection	Yes
AC over voltage protection	Yes
Ground fault monitoring	Yes
Grid monitoring	Yes
Anti-islanding protection	Yes
Residual-current monitoring unit	Yes
Insulation resistance monitoring	Yes
AFCI Protection	Yes
Surge protection	DC Type II / AC Type II
General data	
Dimensions (W / H / D)	440×883×254mm
Weight	48.84kg
Operating temperature range	-25°C ... +60°C with derating above 45°C
Noise emission (typical)	≤ 30 dB(A)
Self-Consumption <	< 60 W
Topology	Transformerless
Cooling	Smart cooling
Protection degree	IP65
Relative humidity	0~100%
Altitude	2000m
DC connection	Quick Connector
Display	LCD
Interfaces: RS485/CAN/USB	Yes
Communication	WiFi/4G cellular (Opt)
Warranty(5/10 years)	Yes/Opt

CE, UKCA, G99, NRS097

ALP LV Battery System



- Flexible capacity options, 5kWh to 40kWh
- Excellent safety of cobalt free LiFePO4 battery
- Easy installation with modular and stacked design
- IP66 Suitable for indoor and outdoor use



Datasheet	ALP 5.0L	ALP 10.0L	ALP 15.0L	ALP 20.0L	ALP 25.0L	ALP 30.0L	ALP 35.0L	ALP 40.0L
System demo								
Battery module	ALP 5.0-40.0L LV Battery System(5.0kWh, 51.2V, 44kg)							
Parallel number	1	2	3	4	5	6	7	8
Model	ALP5.0L-E2	ALP10.0L-E2	ALP15.0L-E2	ALP20.0L-E2	ALP25.0L-E2	ALP30.0L-E2	ALP35.0L-E2	ALP40.0L-E2
Nominal energy	5kWh	10kWh	15kWh	20kWh	25kWh	30kWh	35kWh	40kWh
Rated current	75A	130A	130A	130A	130A	130A	130A	130A
Max current	90A	150A	150A	150A	150A	150A	150A	150A
Rated energy	4.6kWh	9.2kWh	13.8kWh	18.4kWh	23kWh	27.6kWh	32.2kWh	36.8kWh
Dimensions* ¹	690/185/295mm	690/185/590mm	690/185/885mm	690/185/1180mm	690/185/1475mm	690/185/1770mm	690/185/2065mm	690/185/2360mm
Weight* ²	44Kg	88Kg	132Kg	176Kg	220Kg	264Kg	308Kg	352Kg
General								
Battery type	Cobalt Free Lithium Iron Phosphate (LFP)							
Nominal voltage	51.2V							
Voltage range	46.4~57.6V							
IP rating	IP66							
Storage temperature	-20°C~40°C/6 months;95%RH							
Operating temperature* ³	-10°C~50°C							
Cooling method	Natural cooling							
Installation method	Floor/Wall mount							
Features								
DoD	92%							
Scalability	Max.8 PACKs in parallel (Max.6 clusters in parallel)							
Communication method	CAN							
Warranty: 10 years	Yes							
IEC 62619, IEC 63056, IEC 62040, UI1973, CE+FCC, UKCA, UN 38.3, ROHS, AU-CEC								

* 1 Height dimension does not include base

* 2 Weight without base

* 3 When the temperature is below 0 °C or above 45 °C, the performance will be limited

• Nominal charge/discharge current and power derating will occur related to Temperature and SOC

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WIT 50-100kW Hybrid Inverter

(WIT 50-100K-H, WIT 50-100K-HU)



-
- Scalable system configuration, extend to 300kW
 - Support UPS function and black start
 - 100% unbalanced load when backup
 - 110% continuous AC overloading capacity
 - Support remote control of DG
 - Multiple MPPTs input
 - Grid-support functions

Datasheet	WIT 50K-H WIT 50K-HU	WIT 63K-H WIT 63K-HU	WIT 75K-H WIT 75K-HU	WIT 100K-H WIT 100K-HU
Input data (PV)				
Max. recommended PV power(for module STC)	109.2kW	124.8kW	156kW	156kW
Start voltage	195V			
Max. Input Voltage	1100V			
MPPT nominal voltage/range	550V,180V~800V			
Max. input current per MPP tracker	32A			
Max. short-circuit current per MPP tracker	40A			
No. of PV strings per MPP tracker	2			
No. of MPP trackers	7	8	10	10
Output data (AC)				
AC nominal power	50kW	63kW	75kW	100kW
Max. AC apparent power	55kVA	69.3kVA	82.5kVA	110kVA
Nominal AC voltage/range	380/400/415V,-15%~+10%			
Nominal AC grid frequency/range	50/60Hz,45-55Hz/55-65Hz			
Max. output current	83.3A	105A	125A	166.7A
Adjustable power factor	-1...+1			
THDi	<3%			
AC grid connection type	3P3W+PE/3P4W+PE			
Input data (AC)				
AC nominal power	50kW/100kW	63kW/126kW	75kW/150kW	100kW/200kW
Max. AC apparent power	55kVA/100kVA	69.3kVA/126kVA	82.5kVA/150kVA	110kVA/200kVA
Nominal AC voltage/range	380/400/415V,-15%~+10%			
Nominal AC grid frequency/range	50/60Hz,45-55Hz/55-65Hz			
Max. input current	83.3A/151.5A	105A/190.9A	125A/227.3A	166.7A/303A
Battery data (DC)				
Continuous charging and discharging power	56.7kW	71.4kW	85.1kW	113.5kW
Battery voltage range	600-1000V (for 3P3W) / 680-1000V (for 3P4W)			
Recommended battery voltage	768V			
Max charging and discharging current	83.3A	105A	125A	167A
BMS communication	RS485/CAN			
Backup power (AC)*				
Rated AC output power	50kW	63kW	75kW	100kW
Max. AC apparent power	60kVA	75.6kVA	90kVA	120kVA
Rated AC output voltage	220V/230V/240V(L-N),380V/400V/415V(L-L)			
Nominal AC output frequency	50/60 Hz			
Load connection	3W+N+PE			
Max. output current	90.9A	114.5A	136.4A	181.8A
THDv	<3% (Linear load)			
Load unbalance	100% three-phase unbalanced			
Overload capacity	≤110%: Continues; 110%~120%: <1min; >120%: 200ms			
On/off grid transfer time	≤20ms			
Efficiency				
Max. efficiency	98.2%			
Protection devices				
PV reverse polarity protection	Yes			
Battery reverse protection	Yes			
AC/DC surge protection	Type II			
Insulation resistance monitoring	Yes			
Ground fault monitoring	Yes			
Grid monitoring	Yes			
Residual-current monitoring unit	Yes			
AC short-circuit protection	Yes			
Strings monitoring	Yes			
Anti-islanding protection	Yes			
PID protection	Yes			
AFCI function	Opt			
General				
Dimensions (W / H / D)	820/1350/510mm			
Weight	153kg	153kg	160kg	160kg
Operating temperature range	-30 °C~60 °C (> 50°C, derating)			
Relative humidity	0~100%			
Altitude	4000m			
Topology	Transformerless			
Cooling	Smart air cooling			
IP degree	IP66			
Display	OLED+LED/WIFI+APP			
Interfaces: RS485/CAN/USB	Yes			
Interfaces: WIFI/LAN	Opt			
Warranty (5/10 years)	Yes/Opt			

EN 62920-2017, IEC/EN 62477-1, IEC/EN 62109-1, IEC/EN 62109-2, IEC 62116, IEC 61727, G99-2020, EN 50549-1, VDE 4105, VDE 0124, NRS 097-2-1

* The parameter of backup power is only available for WIT 50-100K-HU model.

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WIT Hybrid Inverter

(WIT 29.9~50K-XHU)



- Multiple MPPTs and battery input
- Support DG input and smart load function
- Support UPS function and black start function
- Support multi-system operation in parallel in off-grid mode
- 100% three-phase unbalanced output and 150% off-grid overload capacity

Datasheet	WIT 29.9K-XHU	WIT 30K-XHU	WIT 36K-XHU	WIT 40K-XHU	WIT 50K-XHU
Input data (PV)					
Max. recommended PV power (for module STC)	59.8kW	60kW	72kW	80kW	100kW
Start voltage			195V		
Max. DC voltage			1100V		
Nominal voltage			620V		
MPPT voltage range			180V-1000V		
Full load DC voltage range	375V-850V	375V-850V	450V-850V	500V-850V	620V-850V
Max. input current per MPP tracker			40A		
Max. short-circuit current per MPP tracker			50A		
No. of PV strings per MPP tracker			2		
No. of MPP trackers			4		
Battery data (DC)					
Battery voltage range			200-900V		
Full load battery voltage range	200-800V	200-800V	225-800V	250-800V	310-800V
Recommended battery voltage			512V		
No. of battery input			3		
Max. charging/discharging current			55A*3		
BMS communication			RS485/CAN		
Input/output (AC)					
AC input/output nominal power(Grid)	59.8kW/29.9kW	60kW/30kW	72kW/36kW	80kW/40kW	100kW/50kW
Max. AC input/output apparent power(Grid)	59.8kVA/29.9kVA	66kVA/33kVA	79.2kVA/39.6kVA	88kVA/44kVA	110kVA/55kVA
Max. input/output current(Grid)	90.6A/45.3A	100A/50A	120A/60A	133.3A/66.7A	166.7A/83.3A
Max. input current(GEN/AC couple)	90.6A/45.3A	100A/45.5A	120A/54.5A	133.3A/60.7A	166.7A/75.7A
Max. continuous AC passthrough current			200A		
Nominal AC voltage/range* 1			380/400V -15%~10%		
Nominal AC grid frequency/range			50Hz/60Hz, 45-55Hz/55-65Hz		
Power factor(@nominal power)			>0.99		
Adjustable power factor			-1...+1		
THDi			<3%		
AC grid connection type			3P3W+PE/3P4W+PE		
Backup power					
AC nominal output power	29.9kW	30kW	36kW	40kW	50kW
Max. AC apparent power	29.9kVA	45kVA	54kVA	60kVA	75kVA
Nominal AC voltage			220V/230V(L-N), 380V/400V(L-L)		
Nominal AC frequency			50/60HZ		
Max. output current	68.0A	68.2A	81.8A	91A	113.6A
Overload capability			1.5 times of rated power, 10s		
THDv			<3% (@Linear full load)		
Switch time			≤10ms		
Efficiency					
Max. efficiency			98.1%		
Protection devices					
DC reverse polarity protection			Yes		
Battery reverse protection			Yes		
Insulation resistance monitoring			Yes		
AC/DC surge protection			Type II		
AC short-circuit protection			Yes		
Ground fault monitoring			Yes		
Grid monitoring			Yes		
String monitoring			Yes		
Anti-islanding protection			Yes		
Residual-current monitoring unit			Yes		
General data					
Dimensions (W / H / D)			920/585/320mm		
Weight			90kg		
Operating temperature range			-30°C - 60°C (>50°C derating)		
Noise emission			≤55dB		
Altitude			4000m		
Topology			Transformerless		
Cooling			Smart air cooling		
Protection degree			IP66		
Relative humidity			0~95%		
Interfaces					
Display			OLED+LED/APP		
Interfaces			RS485/USB/CAN, WIFI/LAN(Opt)		
Warranty: 5 / 10 years			Yes/Opt		

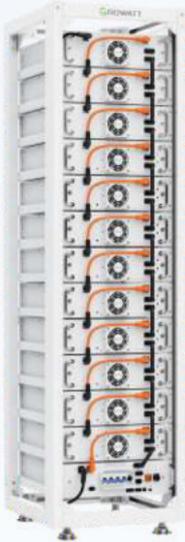
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* 1 The AC voltage range may vary depending on specific country grid standard. All specifications are subject to change without notice.

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Battery System

(AXE 30.0~60.0H-RE1 EU)



- Adopt high -safety LFP battery
- Battery pack modular design, support 30 ~60kWh flexible expansion
- Support 1C continuous charge and discharge
- Battery pack compatible with 19 -inch cabinet installation
- Easy installation and maintenance
- Support multi-rack parallel operation

Datasheet	AXE 30.0H-RE1 EU	AXE 35.0H-RE1 EU	AXE 40.0H-RE1 EU	AXE 50.0H-RE1 EU	AXE 60.0H-RE1 EU
Control module	AXE 1000100-C1				
Number of control module	1				
Battery module	AXE 5.0H-E1 EU				
Battery module energy	5kWh				
Number of modules in series	6	7	8	10	12
Energy capacity	30kWh	35kWh	40kWh	50kWh	60kWh
Usable capacity	27kWh	31.5kWh	36kWh	45kWh	54kWh
Max. output power*1	30kW	35kW	40kW	50kW	60kW
Dimension (W/H/D)	570/660/1560mm			570/660/1964mm	
Weight	≤0.38t	≤0.43t	≤0.48t	≤0.59t	≤0.69t
Nominal voltage	307.2V	358.4V	409.6V	512V	665.6V
Operating voltage range	278.4~340.8V	324.8~397.6V	371.2~454.4V	464~568V	603.2~738.4V
Nominal capacity	100Ah(@25°C)				
Battery type	Cobalt Free Lithium Iron Phosphate (LFP)				
Ingress protection	IP20				
Installation	Floor stand				
Operating temperature	-10~50°C				
Relative humidity	5% ~ 95%				
Cooling	Air-Cooling				
Warranty	10 years				
Noise emission	<65dB				
Maximum elevation	≤2000m				
Control module	AXE 1000100-C1				
Dimension(W/H/D)	482/580/131mm				
Weight	≤15kg				
Communication port	CAN/RS485/USB				
Operating voltage range	120V-1000Vdc				
Maximum current	100A				
Monitoring parameters	SOC, System voltage, current, cell voltage, cell temperature, PCBA temperature				
Battery module	AXE 5.0H-E1 EU				
Nominal energy	5kWh				
Nominal voltage	51.2V				
Pack operating voltage/range	46.4~56.8V				
Battery module dimension (W/H/D)	482/131/580mm				
Battery module weight	≤48.5kg				
UN 38.3, IEC 62619, IEC 60730, IEC 62477, CE, RoHS, UKCA					

* 1 Depend on the max. battery charge/discharge power of the inverter.

* Nominal charge/discharge current and power derating will occur related to temperature and SOC.

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Battery System

(AXE 30.0~60.0H-CE1 EU)



- Adopt high -safety LFP battery
- Battery pack modular design, support 30 ~60kWh flexible expansion
- Support 1C continuous charge and discharge
- Battery pack compatible with 19 -inch cabinet installation
- Easy installation and maintenance
- Support multi-rack parallel operation

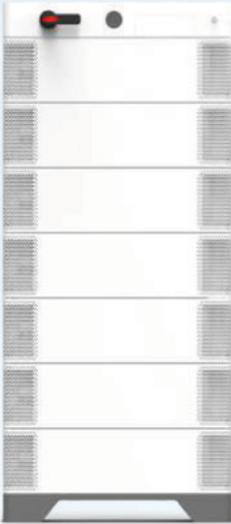
Datasheet	AXE 30.0H-CE1 EU	AXE 35.0H-CE1 EU	AXE 40.0H-CE1 EU	AXE 50.0H-CE1 EU	AXE 60.0H-CE1 EU
Control module	AXE 1000100-C1				
Number of control module	1				
Battery module	AXE 5.0H-E1 EU				
Battery module energy	5kWh				
Number of modules in series	6	7	8	10	12
Energy capacity	30kWh	35kWh	40kWh	50kWh	60kWh
Usable capacity	27kWh	31.5kWh	36kWh	45kWh	54kWh
Max. output power*1	30kW	35kW	40kW	50kW	60kW
Dimension (W/H/D)	600/1600/800mm			600/2000/800mm	
Weight	≤0.48t	≤0.53t	≤0.58t	≤0.7t	≤0.8t
Nominal voltage	307.2V	358.4V	409.6V	512V	665.6V
Operating voltage range	278.4~340.8V	324.8~397.6V	371.2~454.4V	464~568V	603.2~738.4V
Nominal capacity	100Ah(@25°C)				
Battery type	Cobalt Free Lithium Iron Phosphate (LFP)				
Ingress protection	IP20				
Installation	Floor stand				
Operating temperature	-10~50°C				
Relative humidity	5% ~ 95%				
Cooling	Air-Cooling				
Warranty	5 years (opt. 10 years)				
Noise emission	<60dB				
Maximum elevation	≤2000m				
Control module	AXE 1000100-C1				
Dimension(W/H/D)	482/580/131mm				
Weight	≤15kg				
Communication port	CAN/RS485/USB				
Operating voltage range	120V-1000Vdc				
Maximum current	100A				
Monitoring parameters	SOC, System voltage, current, cell voltage, cell temperature, PCBA temperature				
Battery module	AXE 5.0H-E1 EU				
Nominal energy	5kWh				
Nominal voltage	51.2V				
Pack operating voltage/range	46.4~56.8V				
Battery module dimension (W/H/D)	482/131/580mm				
Battery module weight	≤48.5kg				
UN 38.3, IEC 62619, IEC 60730, IEC 62477, CE, RoHS, UKCA					

* 1 Depend on the max. battery charge/discharge power of the inverter.

* Nominal charge/discharge current and power derating will occur related to temperature and SOC.

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APX Commercial Battery



- Flexible capacity options, 129kWh to 200kWh
- Module level energy optimization
- Support to mix new and old battery modules in one system
- Easy installation with modular and stacked design
- Long lifespan, 10 years warranty

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Datasheet	APX 129.0H-S1	APX 143.3H-S1	APX 157.6H-S1	APX 172.0H-S1	APX 186.3H-S1	APX 200.7H-S1
System demo						
Control module	HVC 1000200-C1					
Number of power modules	1					
Battery module	APX 14.3P-B1					
Battery module energy	14.33kWh					
Number of battery modules	9	10	11	12	13	14
Nominal energy	129.02kWh	143.36kWh	157.69kWh	172.03kWh	186.36kWh	200.70kWh
Rated energy	116.11kWh	129.02kWh	141.92kWh	154.82kWh	167.72kWh	180.63kWh
Max. output power*1	64kW	71kW	78kW	86kW	93kW	100kW
Peak output power	103.21kW,60s	114.68kW,60s	126.15kW,60s	137.62kW,60s	149.08kW,60s	160.56kW,60s
Dimension (W/D/H)*2	900/510/1335mm *2 35.4/ 20.0/52.5inch *2	900/510/1490mm *2 35.4/ 20.0/58.6inch *2	900/510/1580mm *2 35.4/ 20.0/62.2inch *2	900/510/1735mm *2 35.4/ 20.0/68.3inch *2	900/510/1825mm *2 35.4/ 20.0/71.8inch *2	900/510/1980mm *2 35.4/ 20.0/77.9inch *2
Weight	1195kg/2634lbs	1320kg/2910lbs	1445kg/3185lbs	1570kg/3461lbs	1695kg/3736lbs	1820kg/4012lbs
Nominal voltage	820V					
Operating voltage range	650V~945V					
Output full load voltage range	720V~855V					
Nominal capacity	280AH(@25°C)					
Rated capacity	252AH(@25°C)					
Battery type	Cobalt free lithium iron phosphate (LFP)					
Ingress protection	IP66/NEMA 4X					
Installation	Floor installation*3					
DOD	90%					
Operating ambient temperature	-10°C~-50°C/14°F~122°F					
Relative humidity	5%~95%					
Cooling	Natural					
Altitude	≤4000m					
Warranty	10 years					
Control module						
Dimension (W/D/H)	900/510/155 mm 35.4/20.0/6.1 inch					
Weight	30kg/66.1lb					
Communication Port	CAN					
Operating voltage range	600V-950V					
Maximum current	200A					
Peak current	224A,60s					
Monitoring parameters	SOC, system voltage, current, cell voltage, cell temperature, PCBA temperature					
Battery module						
Nominal energy	14.33kWh					
Nominal voltage	80V					
Operating voltage range	0-105V					
Dimensions(W/D/H)	900/510/245 mm 35.4/20.0/9.6 inch					
Weight	125kg/275.5lbs					
Certification & Licensing IEC 62619(Cell&Pack), IEC 60730, VDE 2510-50, CE, CEC, RCM, UN 38.3, UL 1973, UL 9540, UL 9540A, FCC						

*1 Depend on the max. battery charge/discharge power of the inverter.

*2 Include power module (HVC 1000200-C1)

*3 Floor installation requires extrabase (W*D*H=900/510/110mm)

* APX series battery has an EU model and a General model, the storage inverters sold in European countries only work with EU

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Distributed Battery System

(ACE 209KWH-2H3)



- Easy to install and maintain
- Modular design, support for multiple parallel operations, flexible expansion of system scale
- Multiple security protection to ensure the safe operation of the system
- Independent management of battery racks, high stability
- Localized minimalist operation and maintenance, supporting remote fault diagnosis and upgrading

Datasheet		ACE 209KWH-2H3
System data		
Control module		ACE 1000280-C1
Number of power modules		1
Battery module		ACE 16.1H-E1
Battery module energy		16.128kWh
Number of modules in series		13
Energy energy		209.6kWh
Usable energy		188.64kWh
Dimension(W/H/D)		1200/2100/1165mm
Max. output power		100kW
Weight		2600kg
Nominal voltage		748.8V
Operating voltage range		655.2-854.1V
Nominal capacity		280Ah(@25°C)
Battery type		Cobalt Free Lithium Iron Phosphate (LFP)
IP protection		IP55
Installation		Floor stand
Operating temperature		-25°C - 55°C (>45°C derating)
Relative humidity		5%~95%
Cooling		Smart air cooling
Warranty		10 years
Altitude		3000m (>2000m derating)
Control module data		
Control module		ACE 1000280-C1
Dimension(W/H/D)		430/225/850mm
Weight		≤40kg
Communication port		RS485/CAN/LAN
Operating voltage range		300V-1000Vdc
Maximum current		140A
Monitoring parameters		SOC, System voltage, current, cell voltage, cell temperature, PCBA temperature
Battery module data		
Battery module		ACE 16.1H-E1
Nominal energy		16.128kWh
Nominal voltage		57.6V
Pack operating voltage range		54V~65.7V
Dimension (W/H/D)		430/225/850mm
Battery module weight		≤120kg
IEC 62619(Cell&Pack), IEC 60730, IEC62477, IEC 62040, CE, UN38.3, UKCA		

* Depend on the max. battery charge/discharge power of the inverter

* Include control module (ACE 1000280-C1)

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Distributed Energy Storage System

(29.9~50kW/60kWh)



- Flexible power options, 29.9~50kW
- Support multiple sets of sub-systems operation in parallel in off-grid mode
- Multiple MPPTs and battery input for single system
- Support DG input and smart load function
- Support UPS function and black start function
- Strong power grid adaptability, supporting weak grid environments with SCR<1.2

Battery System Data					
Model	AXE 60.0H-TE1 EU				
Number of battery modules	12				
Nominal energy	60kWh				
Operating voltage range	603.2-738.4V				
Nominal capacity	100Ah(@25°C)				
Battery type	Cobalt Free Lithium Iron Phosphate (LFP)				
DoD	90%				
Communication port	CAN				
Hybrid Inverter Data					
Hybrid inverter model	WIT 29.9K-XHU	WIT 30K-XHU	WIT 36K-XHU	WIT 40K-XHU	WIT 50K-XHU
Input Data (PV)					
Max. recommended PV power (for module STC)	59.8kW	60kW	72kW	80kW	100kW
Start voltage	195V				
Max. DC voltage	1100V				
Nominal voltage	620V				
MPPT voltage range	180V-1000V				
Full load DC voltage range	375V-850V	375V-850V	450V-850V	500V-850V	620V-850V
Max. input current per MPP tracker	40A				
Max. short-circuit current per MPP tracker	50A				
No. of PV strings per MPP tracker	2				
No. of MPP trackers	4				
Input/Output (AC)					
Nominal input/output power(Grid)	59.8kW/29.9kW	60kW/30kW	72kW/36kW	80kW/40kW	100kW/50kW
Max. input/output apparent power(Grid)	59.8kVA/29.9kVA	66kVA/33kVA	79.2kVA/39.6kVA	88kVA/44kVA	110kVA/55kVA
Max. input/output current(Grid)	90.6A/45.3A	100A/50A	120A/60A	133.3A/66.7A	166.7A/83.3A
Max. input current(GEN/AC couple)	90.6A/45.3A	100A/45.5A	120A/54.5A	133.3A/60.7A	166.7A/75.7A
Max. continuous AC passthrough current	200A				
Nominal AC voltage/range	380/400V, -15%~10%				
Nominal AC grid frequency/range	50Hz/60Hz, 45-55Hz/55-65Hz				
Power factor(@nominal power)	>0.99				
Adjustable power factor	-1...+1				
THDi	<3%				
AC grid connection type	3P3W+PE/3P4W+PE				
Backup Power					
AC nominal output power	29.9kW	30kW	36kW	40kW	50kW
Max. AC apparent power	29.9kVA	45kVA	54kVA	60kVA	75kVA
Nominal AC voltage	220V/230V(L-N), 380V/400V(L-L)				
Nominal AC frequency	50/60Hz				
Max. output current	68.0A	68.2A	81.8A	91A	113.6A
Overload capability	1.5 times of rated power, 10s				
THDv	<3% (@Linear full load)				
Switch time	≤10ms				
Efficiency					
Max. efficiency	98.1%				
System Data					
Dimension (W/H/D)	1120/2000/1000mm				
Weight	1100kg				
Installation	Floor installation				
Ingress protection	IP55 (Battery), IP66 (Inverter)				
Communication interfaces	RS485/USB/CAN, WIFI/LAN(Opt)				
Cooling mode	Smart air cooling				
Operating temperature	-25°C ~ 55°C (>50°C derating)				
Relative humidity	5%~95%				
Altitude	≤2000m				
Noise emission	≤65dB				
Topology	Transformerless				
Warranty (5/10 years)	Yes/Opt				
Battery System: UN 38.3, IEC 62619, IEC 60730, IEC 62477, CE, RoHS, UKCA Hybrid Inverter: NRS 097-2-1:2017, EN 50549-1, NC RFG, PSE-2018, PTPIREE-2021, IEC 62116, IEC 61727, G99:2020, VDE 4105, IEC/EN 61000-6-1, IEC/EN 61000-6-3, IEC/EN 62109-1, IEC/EN 62109-2					

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Smart Energy Manager



-
- System self-consumption monitoring
 - Export limitation for commercial projects
 - Support online monitoring and online service
 - Flexible CTs for different project size
 - RS485 and Ethernet connection

Datasheet	Smart Energy Manager				
System size	100KW	300KW	600KW	1MW	2MW
Meter data					
Normal voltage	230/400Vac				
Voltage range(L-L)	180-540Vac				
Grid connection	3W+N+PE				
Normal frequency	50/60 Hz				
Frequency range	45~55Hz/55-65 Hz				
CT data					
Max. input current (CT second side)	5A				
Max.current (CT detection)	250A	600A	1200A	2000A	4000A
Accuracy (@ rated CT current)	0.5	0.5	0.5	0.5	0.2
Communication					
RS485	Yes				
Ethernet	Yes				
Max.inverter number	32				
Communication distance	RS485: 500m Internet cable: 100m				
General data					
Dimensions (W/H/D)	350/330/107mm				
Weight	6kg				
Operation temperature range	-25°C ... +60°C				
Cooling concept	Natural Cooling				
Environmental protection rating	IP65				
Relative humidity	0~100%				
Altitude	2000m				
CE					

NETHERLANDS 500KW SOLAR SYSTEM

- ▶ 500KW
- ▶ Netherlands
- ▶ MAX 60KTL3 LV
MAX 70KTL3 LV



NETHERLANDS 200KW SOLAR PLANT

- ▶ 200KW
- ▶ Netherlands
- ▶ MAX 60KTL3 LV



NETHERLANDS 500KW SOLAR SYSTEM



500KW ◀

Netherlands ◀

MAX 60KTL3 LV ◀



OFF-GRID ENERGY STORAGE SYSTEM

▶ 25kW single phase system ▶ Mexico ▶ SPF 5000ES



▼ 10kW single phase system ▼ Uganda ▼ SPF 5000ES ▼ 15kW three phase system ▼ Turkey ▼ SPF 5000ES



▼ 10kW single phase system ▼ South Africa ▼ SPF 5000ES



▼ 15KW Three phase system ▼ South Africa ▼ SPF 5000ES



▶ 30kW three phase system ▶ South Africa ▶ SPF 5000ES



C&I ENERGY STORAGE SYSTEM

▶ WIT 100K-H&WIT 63K-H ▶ 60 sets of WIT inverter+Lead-carbon battery



▶ WIT 100K-HU+APX 200.7H-S1 ▶ Portugal



► WIT 100K-HU+APX 129.0H-S1 ► Germany

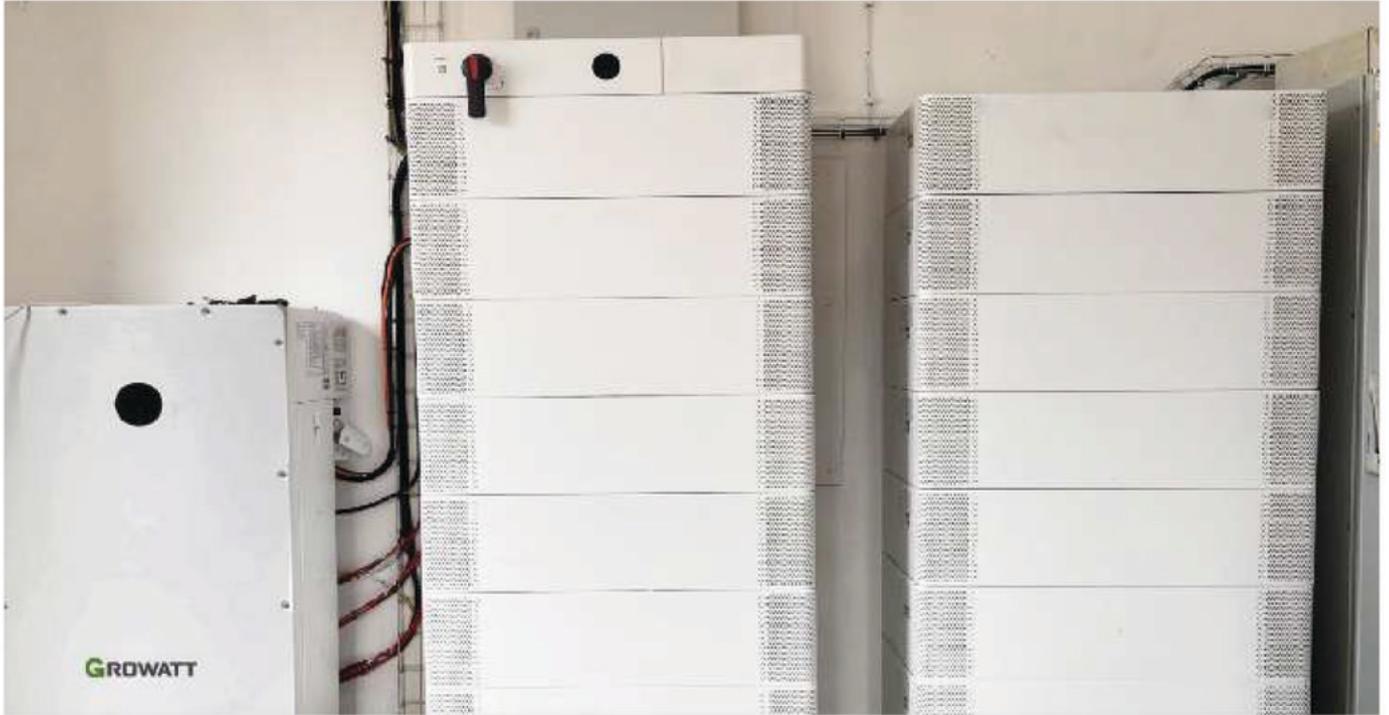


► WIT 50K-HU+APX 71.6P-S1 ► Czech



C&I ENERGY STORAGE SYSTEM

▶ 100kW200kWh ▶ Czech ▶ WIT 100K-HU+APX 200H-S1



INDUSTRIAL PARK TOU PROFIT STATION

▶ 500kW/1MWh ▶ Shandong Province,China ▶ 5 sets of ENSE 209KWH-2H1



▼ 200kW/400kWh ▼ Zhejiang Province,China
▼ 2 sets of ENSE 209KWH-2H1



▼ 500kW/1MWh ▼ Guangdong Province,China
▼ 5 sets of ENSE 209KWH-2H1



▶ 1MW/2MWh ▶ Anhui Province,China ▶ 10 sets of ENSE 209KWH-2H1

