DATASHEET

NGEN-STAR 4300 BATTERY

STAR S2/S3/S4/S5/S6/S7

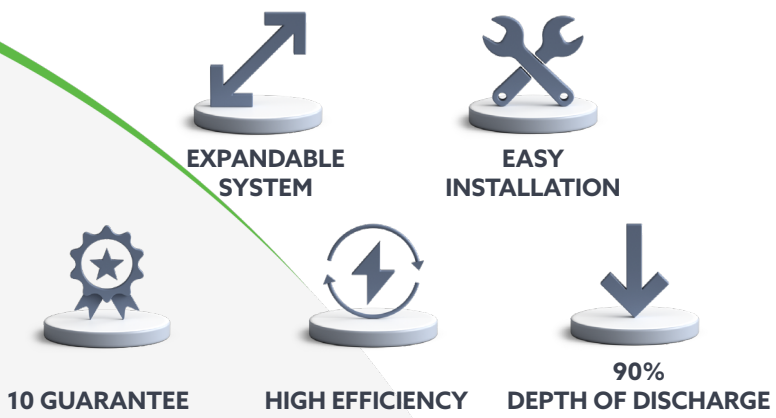
BATTERY STORAGE OF THE NEXT GENERATION

NGEN HIGH VOLTAGE BATTERY

The NGEN-STAR battery provides an energy storage solution characterized by unique performance and flexibility. Ist modular design makes it suitable for various storage applications, while the Plug & Play technology ensures quick and effortless installation. This facilitates easy expansion of the battery to achieve a maximum storage capacity of 28,98 kWh.

The NGEN-STAR lithium iron phosphate (LiFeP04) battery offers high safety standards, maximum capacity, and a compact, user-friendly design.

- Capacity from 8,28 kWh to 28,98 kWh
- 90% Depth of Discharge
- Wide Temperature Tolerance
- Easy Installation
- CAN / RS485 Communication
- Ingress Protection IP65



Model	STAR S2*	STAR S3	STAR S4	STAR S5	STAR S6	STAR S7
ELECTRICAL CHARACTERISTICS						
Battery Type	LiFePO4 Prismatic Cell (LFP)					
Battery Module STAR-M4300 [pcs]	1	1	1	1	1	1
Battery Module STAR-S4300 [pcs]	1	2	3	4	5	6
Nominal Capacity [kWh]	8,28	12,42	16,56	20,70	24,84	28,98
Nominal Voltage [V]	115.2	172.8	230.4	288	345.6	403.2
Operating Voltage [V]	97.2-131.4	145.8-197.1	194.4-262.8	243-328.5	291.6-394.2	340.2-459.9
Recommend Discharge Current [A]	25					
Max. Charge / Discharge [kW]	3.3	4,93	6,57	8,21	9,85	11,5
Max. Charge / Discharge Current [A]	50					
Peak Discharge Current [A]	60 @30sec					
Battery Pack Round-trip Efficiency	>95%					
Depth of Discharge	90%					
Cycle Life	>8000					
Communication	CAN, RS485					
Display	CS: LED*1, CM: LED*7					
Scalability	Max. 7 Modules in Series (28,98kWh); Max. 10 connected Systems (289,8kWh)					
OPERATING CONDITIONS						
Installation Location	Outdoor / Indoor (Stand)					
Operating Temperature [°C]	from -10 to +50					
Storage Temperature [°C]	from -20 to +50					
Cooling Method	Natural Convection					
Humidity (No Condensation) [%]	0 to 100					
Max. Altitude [m]	2000					
MECHANICAL CHARACTERISTICS						
Dimensions (W*H*D) [mm]	570*470*380	570*470*380	570*590*380	570*710*380	570*830*380	570*950*380
Weight [kg]	68.5	103.3	138.1	172.9	207.7	242.5
CERTIFICATES						
Safety	IEC62619					
EMC	EN IEC 61000-6-1/2/3/4					
Transportation	UN38.3					
Ingress Protection	IP65					
Compliance	EN 50549-1					

* STAR S2 - Compatible only with Single-Phase inverter, series STAR-H1

DATASHEET

NGEN-STAR 4800 BATTERY

STAR S2/S3/S4/S5/S6/S7/S8/S9

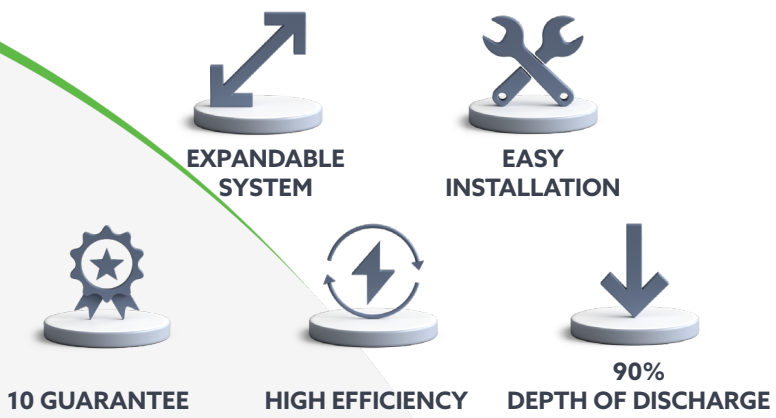
BATTERY STORAGE OF THE NEXT GENERATION

NGEN HIGH VOLTAGE BATTERY

The NGEN-STAR battery provides an energy storage solution characterized by unique performance and flexibility. Ist modular design makes it suitable for various storage applications, while the Plug & Play technology ensures quick and effortless installation. This facilitates easy expansion of the battery to achieve a maximum storage capacity of 41,94 kWh.

The NGEN-STAR lithium iron phosphate (LiFePO4) battery offers high safety standards, maximum capacity, and a compact, user-friendly design.

- Capacity from 4,66 kWh to 41,94 kWh
- 90% Depth of Discharge
- Wide Temperature Tolerance
- Easy Installation
- CAN / RS485 Communication
- Ingress Protection IP65



Model	STAR S2*	STAR S3	STAR S4	STAR S5	STAR S6	STAR S7	STAR S8	STAR S9
ELECTRICAL CHARACTERISTICS								
Battery Type	LiFePO4 Prismatic Cell (LFP)							
Battery Module STAR-M4800 [pcs]	1	1	1	1	1	1	1	1
Battery Module STAR-S4800 [pcs]	1	2	3	4	5	6	7	8
Nominal Capacity [kWh]	9.32	13.98	18.64	23.3	27.96	32.61	37.27	41.93
Nominal Voltage [V]	89.6	134.4	179.2	224	268.8	313.6	358.4	403.2
Operating Voltage [V]	81.2-103.0	121.8-154.5	162.4-206.0	203.0-257.6	243.6-309.1	284.2-360.6	324.8-412.2	365.4-463.7
Normal capacity [Ah]	104							
Recommend Charge/Discharge Current [A]	30							
Max.Charge/Discharge Current [A]*2	50							
Peak Discharge Current(60S) [A]	65 @60sec							
Battery Pack Round-Trip Efficiency*1	>95%							
Depth of Discharge	90%							
Cycle Life	≥6000							
Communication	CAN							
Display	EQ4800-S: LED*1, EQ4800-M: LED*6							
Scalability	Max. 9 Modules in Series (41,94kWh)							
OPERATING CONDITIONS								
Installation Location	Outdoor / Indoor (Stand)							
Operating Temperature [°C]	Charge: from 0 to 55 / Discharge: from -10 to 55							
Storage Temperature [°C]	from -10 to +35							
Cooling Method	Natural Convection							
Humidity (No Condensation) [%]	5 to 95							
Max. Altitude [m]	2000							
MECHANICAL CHARACTERISTICS								
Dimensions (W*H*D) [mm]	570*386*380	570*524*380	570*662*380	570*800*380	570*938*380	570*1076*380	570*1214*380	570*1352*380
Weight [kg]	83.5	122.5	161.5	200.5	239.5	278.5	317.5	356.5
CERTIFICATES								
Safety	IEC 62619							
EMC	EN IEC 61000-6-1/2/3/4							
Transportation	UN38.3							
Ingress Protection	IP65							

* STAR S2 - Compatible only with Single-Phase inverter, series STAR-H1
*1, @25°C, @70% SOH, @90% DOD, 0.3C charging/discharging
*2, The current is affected by temperature ,cell voltage and SOC

DATASHEET

THREE-PHASE HYBRID/AC INVERTER

STAR-H3-12.0-E

THREE-PHASE

HYBRID/AC INVERTER

Harness the power of the sun day and night with NGEN's three-phase hybrid inverter.
Our advanced and compatible line of hybrid inverters is characterized by outstanding performance, flexibility and efficiency, and is optimized for use with our own high-voltage battery set.

Easy installation

Flexible configuration, quick and easy installation, integrated safety and protection devices.

EASY INSTALLATION

Remote Monitoring

The hybrid inverter can be monitored via the user-friendly smartphone app or the Web application from NGEN.

REMOTE MONITORING

Integrated Emergency Power Function

Thanks to the integrated emergency power function (3-phase) the inverter automatically switches to emergency power mode in the event of a grid failure (20 ms) and selected loads in the household are supplied with energy via the photovoltaic system or the NGEN-STAR battery.

INTEGRATED EPS-FUNCTION

Smart heat pumps

„Smart Grid Ready" signifies that the air source heat pump communicates intelligently with the power grid through the inverter, sourcing energy at the most opportune time. This results in reduced energy costs and environmentally friendly operation of the heat pump.

SMART HEAT PUMPS

Protection class IP65

The inverter is suitable for outdoor installation. However, it is recommended to protect it from the weather.

IP65 RATED

MODULARE SYSTEM- BATTERY STORAGE

With the battery storage systems from NGEN, you have the flexibility to easily expand your system by adding extra batteries. Thanks to the modular design of the battery system, up to seven units can be combined and store up to 28,98 kWh of energy, which creates considerable sope for adapting the storage requirements.

The system can be costumized to your specific requirements (max. 10 inverters in parallel) to adapt the system to your individual installation requirements. You receive a reliable and adaptable energy storage solution.

Model	STAR-H3-12.0-E
INPUT PV (only for hybrid)	
Max. Input Power [W]	15000 (A:9000 + B:6000)
Max. Input Voltage [V]	1000
Max. Input Current [A]	26/14
Max. Short-circuit Current [A]	32/16
AC INPUT AND OUTPUT (GRID)	
Max. AC Input Power [VA]	16000
Max. AC Input Current (per phase) [A]	24,2
Rated Output Power [W]	12000
Max. Output Apparent Power [VA]	13200
Rated Output Current (per phase) [A]	19,2
Max. Output Current (per phase) [A]	21,4
Rated Grid Voltage [V]	3L/N/PE 380/220; 400/230; 415/240
Rated Grid Frequency [Hz]	50/60
Power Factor	1 (Adjustable from 0.8 leading to 0.8 lagging)
EPS OUTPUT	
Max. Output Apparent Power [VA]	12000
Peak Output Apparent Power (60s) [VA]	15000
Max. Output Current [A]	17,4
Power Factor	1 (Adjustable from 0.8 leading to 0.8 lagging)
GENERAL DATA	
Dimensions (WxHxD) [mm]	449*519*198
Weight [kg]	28
Installation	Wall-Mounted
Cooling Method	Natural
Noise Emission [db]	35
Max. Operating Altitude [m]	2000
Operating Temperature Range [°C]	from -25 to +60
Humidity (No Condensation) [%]	0 to 100
Protection Degree	IP65
STANDARD COMPLIANCE (MORE AVAILABLE UPON REQUEST)	
Safety	EN 62109-1, EN 62109-2, EN 62477-1
EMC	IEC 61000-6-1, IEC 61000-6-3
Grid Regulation	EN50549-1, C10/11, VDE-AR-N 4105, G98, CEI 0-21

DATASHEET

THREE-PHASE INVERTER

STAR-H3-15.0/22.0/29.9/30.0-PRO

NEW

STAR H3-PRO

THREE-PHASE

H3-PRO SERIES INVERTER

The NGEN-STAR-H3-PRO series, equipped with innovative features and compatibility with our exclusive range of high-volte batteries, defines a new era of hybrid inverters.

Easy installation

Flexible configuration, quick and easy installation, integrated safety and protection devices.

EASY INSTALLATION

Integrated Emergency Power Function

Thanks to the integrated emergency power function (3-phase) the inverter to automatically switches to emergency power mode in the event of a grid failure (20 ms) and the loads in the household are supplied with energy via the photovoltaik system or the NGEN-STAR battery.

INTEGRATED EPS-FUNCTION

Protection class IP65

The inverter is suitable for outdoor installation. However, it is recommended to protect it from the weather.

IP65 RATED

Remote Monitoring

The hybrid inverter can be monitored via the user friendly smartphone App or the Web application from NGEN.

REMOTE MONITORING

Smart heat pumps

„Smart Grid Ready“ signifies that the air source heat pump communicates intelligently with the power grid through the inverter, sourcing energy at the most opportune time. This results in reduced energy costs and environmentally friendly operation of the heat pump.

SMART HEAT PUMPS

MAXIMUM FLEXIBILITY

With the new technology, you now have the opportunity to link two battery towers, each with a maximum capacity of 41,9 kWh, to the inverter.

To maximize the efficiency of your PV production, the inverter provides four MPP-Trackers for connecting the PV modules, depending on the application. In the event of a blackout, the inverter in combination with the NGEN-STAR battery provides you with an uniterruptible emergency power supply.

Model	STAR-H3-XX.X-PRO			
	15.0-PRO	22.0-PRO	29.9-PRO	30.0-PRO
INPUT PV				
Max. Recommended DC Power [W]	22500	33000	45000	45000
Max. DC Voltage [V]	1000			
Norminal DC Operating Voltage [V]	750			
Max. Input Current [A]	32			
Max. Short-circuit Current [A]	40			
MPPT Voltage Range [V]	150-850			
MPPT Voltage Range (fall load) [V]	170-850	250-850	340-850	340-850
Start-up Voltage [V]	160			
No. of MPP Trackers	3			
AC OUTPUT				
Norminal AC Power [VA]	15000	22000	29900	30000
Max. Apparent AC Power [VA]	16500	24200	29900	33000
Rated Grid Frequency [Hz]	50/60,+/-5			
Max. AC Current (Per Phase) [A]	25.0	36.7	45.4	50.0
Rated Grid Voltage (AC Voltage Range) [V]	400 / 230 ; 380 / 220 , 3L / N / PE			
Power Factor	1 (Adjustable from 0.8 leading to 0.8 lagging)			
AC INPUT				
Max. AC Power [VA]	22500	33000	35000	35000
Max. AC Current Per Phase) [A]	34.1	50.0	53.0	53.0
Rated Grid Voltage (AC Voltage Range) [V]	400 / 230 ; 380 / 220 , 3L / N / PE			
Rated Grid Frequency [Hz]	50/60,+/-5			
Power Factor	1 (Adjustable from 0.8 leading to 0.8 lagging)			
EPS OUTPUT				
Max Apparent AC Power [VA]	15000	22000	30000	30000
Peak Apparent AC Power (60s) [VA]	18000	26400	36000	36000
EPS Max Current (Per Phase) [A]	22.7	30.3	45.5	45.5
Rated Grid Frequency [Hz]	50 / 60			
Rated Output Voltage [V]	400 / 230 ; 380 / 220 , 3L / N / PE			
Switch Time	<20ms			
Power Factor	1(Adjustable from 0.8 Leading to 0.8 Lagging)			
BATTERY				
Battery Voltage [V]	150-800			
Full AC Load Battery Voltage [V]	160-790	240-790	330-790	330-790
Number of Battery Input	2			
GENERAL DATA				
Dimension (W/H/D) [mm]	600*560*225			
Installation	Wall-mounted			
Storage/Operation Relative Humidity [%]	0 to 95 (Without Condensation)			
Altitude [m]	<4000			
Ingress Protection	IP65 (for Outdoor Use)			
Operating Temperature Range [°C]	from -25 to +60 (Derating at 45)			
Cooling	Smart FAN Cooling			
Standby Consumption [W]	200W for Hot Standby , 15W for Cold Standby			
Communication Interface	Ethernet, Meter, WIFI, 4G(optional), DRM, USB, BMS(CAN), RS485			
STANDARD COMPLIANCE (MORE AVAILABLE UPON REQUEST)				
Safety	EN 62109-1, EN 62109-2			
EMC	IEC 61000-6-2, IEC 61000-6-3			

DATASHEET

SINGLE-PHASE HYBRID/AC INVERTER

STAR-H1-3.7/6.0-E

SINGLE-PHASE

HYBRID/AC INVERTER

Unlock the boundless potential of solar energy with the revolutionary Hybrid & AC inverters by NGEN. Our advanced and compatible line of hybrid inverters is characterized by outstanding performance, flexibility and efficiency, and is optimized for use with our own high-voltage battery set.

Easy installation

Flexible configuration, quick and easy installation, integrated safety and protection devices.

EASY INSTALLATION

Integrated Emergency Power Function

Thanks to the integrated emergency power function (3-phase) the inverter automatically switches to emergency power mode in the event of a grid failure (20 ms) and selected loads in the household are supplied with energy via the photovoltaic system or the NGEN-STAR battery.

INTEGRATED EPS-FUNCTION

Protection class IP65

The inverter is suitable for outdoor installations. However, it is recommended to protect it from the weather.

IP65 RATED

Remote Monitoring

The inverter system can be monitored via the user-friendly smartphone app or the Web application from NGEN.

REMOTE MONITORING

Smart heat pumps

„Smart Grid Ready“ signifies that the air source heat pump communicates intelligently with the power grid through the inverter, sourcing energy at the most opportune time. This results in reduced energy costs and environementally friendly operation of the heat pump.

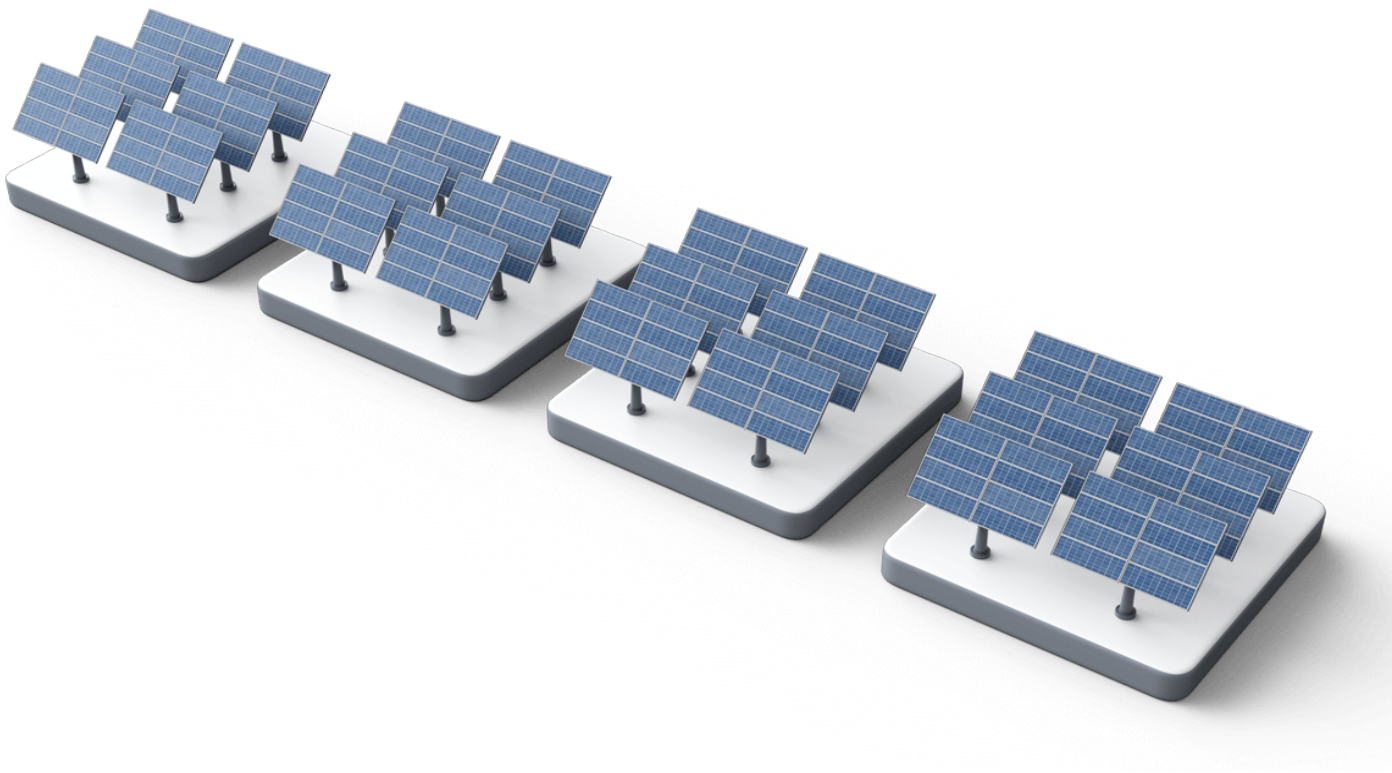
SMART HEAT PUMPS

BATTERY STORAGE SIZE

The NGEN-STAR-H1 hybrid inverter series offers you the option of adapting storage capacities even more flexibly. The battery storage system can be expanded from 8,3 kWh to a maximum capacity of 28,98 kWh using the plug & play principle.

Model	STAR-H1-3.7-E	STAR-H1-6.0-E
INPUT PV (only for hybrid)		
Max. Input Power [W]	4680	7800
Max. Input Voltage [V]	600	
Max. Input Current [A]	13.5	
Max. Short-circuit Current [A]	20	
Start-up Input Voltage [V]	75	
No. of Independent MPP Trackers	2	
No. of Strings per MPP Tracker	1	
AC INPUT AND OUTPUT (GRID)		
Max. AC Input Power [VA]	7680	12000
Max. AC Input Current (per phase) [A]	34.9	54.5
Rated Output Power [W]	3680	6000
Max. Output Apparent Power [VA]	4048	6600
Rated Output Current (per phase) [A]	16.0	26.1
Max. Output Current [A]	17.6	28.7
Rated Grid Voltage [V]	220/230/240	
Rated Grid Frequency [Hz]	50/60	
Power Factor	1 (Adjustable from 0.8 leading to 0.8 lagging)	
EPS OUTPUT (WITH BATTERY)		
Max. Output Apparent Power [VA]	5000	6000
Peak Output Apparent Power (60s) [VA]	6000	7200
Max. Current (per phase) [A]	21.7	26.1
Power Factor	1 (Adjustable from 0.8 leading to 0.8 lagging)	
GENERAL DATA		
Dimensions (WxHxD) [mm]	430*410*178	
Weight [kg]	23	
Installation	Wall-Mounted	
Cooling Method	Natural	
Noise Emission [db]	35	
Max. Operating Altitude [m]	2000	
Operating Temperature Range [°C]	from -25 to +60	
Humidity (No Condensation) [%]	0 to 100	
Protection Degree	IP65	
Monitoring Module	WiFi, LAN, 4G, GPRS (Optional)	
Communication	2*RS485, DRM, Ripple Control, USB	
STANDARD COMPLIANCE (MORE AVAILABLE UPON REQUEST)		
Safety	EN 62109-1, EN 62109-2	
EMC	EN 61000-6-2, EN 61000-6-3	
Grid Regulation	EN50549-1, C10 / 11, VDE-AR-N 4105, G98, G99, CEI 0-21, NRS 097-2-1, AS / NZS 4777.2	

SMART METER	
Type	AM550
COMPLIANCE	
Directive on measuring instruments 2014/32/eu	Yes
Directive on measuring instruments 2014/30/eu	Yes
STANDARDS	**EN 50470-1:2006, EN 50470-3:2006, EN62059-32-1:2012, IEC 62052-11:2003, CLC/TR50579:2012;**
Directly connected meters	IEC 62053-21:2004 in IEC 62053-23:2003
Meters with current transformer	IEC 62053-22:2003 in IEC 62053-24:2014



PV MODULS
Risen
Longi
Trinasolar
JA Solar
Canadian Solar
And others

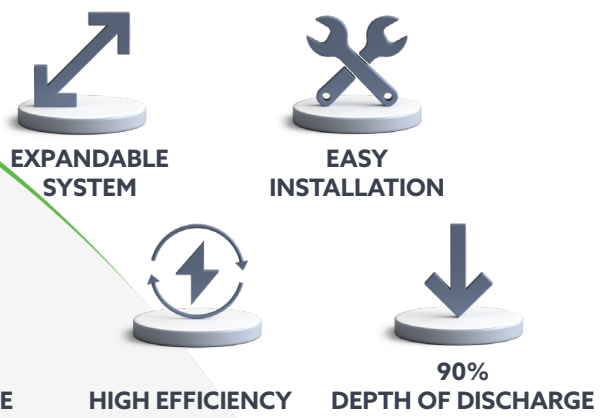
DATASHEET
STAR EP5 BATTERY

BATTERY STORAGE OF THE NEXT GENERATION

NGEN HIGH VOLTAGE BATTERY

The NGEN-STAR EP5 battery is a powerful, scalable battery storage system that offers maximum flexibility and can be used in a wide range of applications thanks to its compact design in a single housing. Thanks to the unique option of installing EP5 batteries in parallel, a maximum storage capacity of 20,8 kWh can be achieved with just one inverter (H1, H3 or H3 PRO).

- Scalable to 20.8 kWh
- 90% Depth of Discharge
- Floor or Wall Mounting
- Compact & Easy Installation
- IP65 Protection Level
- High Voltage and High Efficiency



Model	STAR-EP5
ELECTRICAL CHARACTERISTICS	
Compatible PCS	All Series of H1, H3, H3-Pro
Battery Type	LifePO4 Prismatic Cell
Nominal Energy [kWh]	5.18
Nominal Voltage [V]	192
Operating Voltage [V]	174 - 219
Max.Charge/Discharge Current [A]	27
Recommend Charge Current [A]	13.5
Peak Discharge Current [A]	65 @60s
Battery Pack Round-Trip Efficiency [%]	≥95
Depth of Discharge [%]	90
Cycle Life	≥4000
Communication	CAN
Display	LED*5
Scalability	Max. 4 Units in Parallel
OPERATING CONDITIONS	
Installation Location	Outdoor / Indoor
Operating Temperature [°C]	Charge: from 0 to 55 / Discharge: from -10 to 55
Storage Temperature [°C]	from 0 to 35
Cooling Method	Natural Convection
Humidity [%]	from 5 to 95 (No Condensing)
Altitude [m]	Max. 2.000
MECHANICAL CHARACTERISTICS	
Dimensions (W*H*D) [mm]	380*625*147
Weight [kg]	50.5 ±2
CERTIFICATES	
Safety	IEC62619
EMC	EN IEC 61000-6-1/3
Transportation	UN38.3
Ingress Protection	IP65

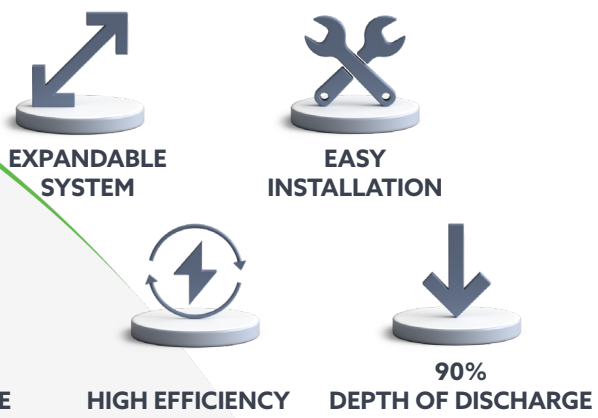
DATASHEET
STAR EP11 BATTERY

BATTERY STORAGE OF THE NEXT GENERATION

NGEN HIGH VOLTAGE BATTERY

The EP11 is a powerful, scalable battery storage system that offers maximum flexibility and can be used for a wide range of storage applications thanks to its compact design in a single housing. Thanks to the unique option of installing EP5 batteries in parallel, a maximum storage capacity of 41,6 kWh can be achieved with just one inverter (H1, H3 or H3 PRO).

- Scalable to 41.6 kWh
- 90% Depth of Discharge
- Floor or Wall Mounting
- Compact & Easy Installation
- IP65 Protection Level
- High Voltage and High Efficiency



Model	STAR-EP11
ELECTRICAL CHARACTERISTICS	
Compatible PCS	All Series of H1, H3, H3-Pro
Battery Type	LifePO4 Prismatic Cell
Nominal Energy [kWh]	10.36
Nominal Voltage [V]	384
Operating Voltage [V]	348 - 438
Max.Charge/Discharge Current [A]	27
Recommend Charge Current [A]	13.5
Peak Discharge Current [A]	65 @60s
Battery Pack Round-Trip Efficiency [%]	≥95
Depth of Discharge [%]	90
Cycle Life	≥4000
Communication	CAN
Display	LED*5
Scalability	Max. 4 Units in Parallel
OPERATING CONDITIONS	
Installation Location	Outdoor / Indoor
Operating Temperature [°C]	Charge: from 0 to 55 / Discharge: from -10 to 55
Storage Temperature [°C]	from 0 to 35
Cooling Method	Natural Convection
Humidity [%]	from 5 to 95 (No Condensing)
Altitude [m]	Max. 2.000
MECHANICAL CHARACTERISTICS	
Dimensions (W*H*D) [mm]	710*625*147
Weight [kg]	99 ±2
CERTIFICATES	
Safety	IEC62619
EMC	EN IEC 61000-6-1/3
Transportation	UN38.3
Ingress Protection	IP65