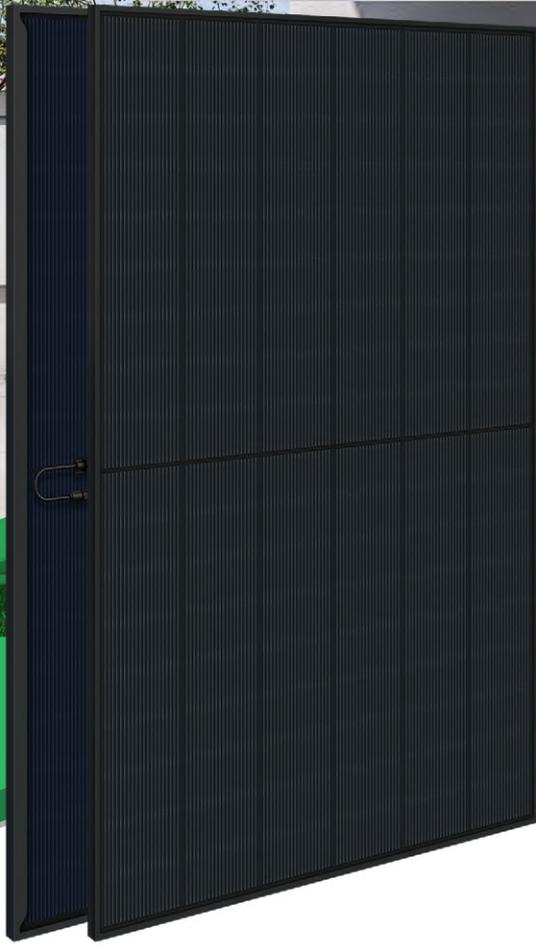




ASTRONERGY



# ASTRO N7s

CHSM54RN<sub>s</sub>(DG)(BLH)/F-BH  
Bifacial Series

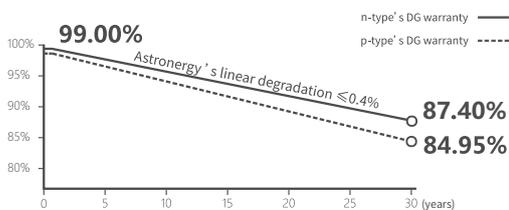
# 440~460W



## Warranty

**25** 25-year Product Warranty

**30** 30-year Linear Power Warranty



### n-type TOPCon 4.0

Novel upgrade, enhancing module efficiency



### ZBB-TF (Tiling Film)

Zero-busbar integrated interconnection



### Sleek Design

≤ 2 m<sup>2</sup> area, easy to transport and install



### All-black Technology

Sleek crystalline black appearance, seamlessly blending into rooftops



IEC 61215, IEC 61730  
ISO 9001:2015:ISO Quality Management System  
ISO 14001:2015:ISO Environment Management System  
ISO 45001:Occupational Health and Safety  
The first solar company which passed the Nord IEC/TS 62941 certification audit



Tier 1  
BloombergNEF



**440~460W**

POWER RANGE

**0~+3%**

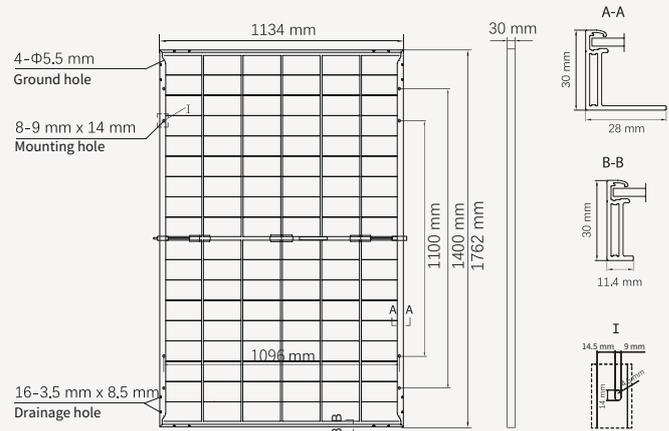
POWER SORTING

**23.0%**MAX MODULE  
EFFICIENCY**≤ 1.0%**FIRST YEAR  
POWER DEGRADATION**≤ 0.4%**YEAR 2-30  
POWER DEGRADATION

## Mechanical Specifications

Outer dimensions (L x W x H)	1762 x 1134 x 30 mm
Cell type	n-type mono-crystalline
No. of cells	108 (6*18)
Frame technology	Aluminum, black anodized
Front / Back glass	1.6+1.6 mm
Cable length (Including connector)	Portrait: (+)350 mm, (-)250 mm; Customized length
Cable diameter (IEC/UL)	4 mm <sup>2</sup> / 12 AWG
① Maximum mechanical test load	5400 Pa (front) / 2400 Pa (back)
Connector type (IEC/UL)	HCB40 (Standard) / MC4-EVO2A (Optional)
Module weight	21.5 kg
Packing unit	36 pcs / box
Weight of packing unit (for 40'HQ container)	820 kg
Modules per 40' HQ container	936 pcs (Subject to sales contract)

① Refer to Astronergy crystalline installation manual or contact technical department.  
Maximum Mechanical Test Load=1.5×Maximum Mechanical Design Load.



## Electrical Specifications

**STC:** Irradiance 1000W/m<sup>2</sup>, Cell Temperature 25° C, AM=1.5

	440	445	450	455	460
Rated output (P <sub>mpp</sub> / Wp)					
Rated voltage (V <sub>mpp</sub> / V)	33.05	33.22	33.39	33.56	33.73
Rated current (I <sub>mpp</sub> / A)	13.31	13.40	13.48	13.56	13.64
Open circuit voltage (V <sub>oc</sub> / V)	39.00	39.20	39.40	39.60	39.80
Short circuit current (I <sub>sc</sub> / A)	14.10	14.19	14.28	14.36	14.45
Module efficiency	22.0%	22.3%	22.5%	22.8%	23.0%

**NMOT:** Irradiance 800W/m<sup>2</sup>, Ambient Temperature 20° C, AM=1.5, Wind Speed 1m/s

	330.9	334.6	338.4	342.2	345.9
Rated output (P <sub>mpp</sub> / Wp)					
Rated voltage (V <sub>mpp</sub> / V)	31.11	31.27	31.43	31.59	31.75
Rated current (I <sub>mpp</sub> / A)	10.64	10.70	10.77	10.83	10.90
Open circuit voltage (V <sub>oc</sub> / V)	37.04	37.23	37.42	37.61	37.80
Short circuit current (I <sub>sc</sub> / A)	11.38	11.46	11.53	11.59	11.66

## Electrical Specifications (Integrated power)

P <sub>mpp</sub> gain	P <sub>mpp</sub> / Wp	V <sub>mpp</sub> / V	I <sub>mpp</sub> / A	V <sub>oc</sub> / V	I <sub>sc</sub> / A
5%	473	33.39	14.15	39.40	14.99
10%	495	33.39	14.82	39.40	15.70
15%	518	33.39	15.50	39.40	16.42
20%	540	33.39	16.17	39.40	17.13
25%	563	33.39	16.85	39.40	17.85

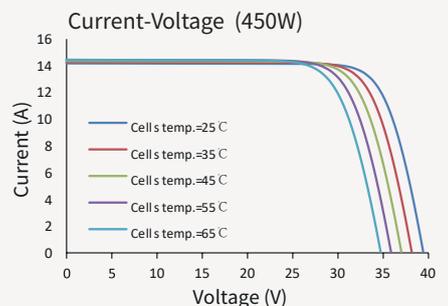
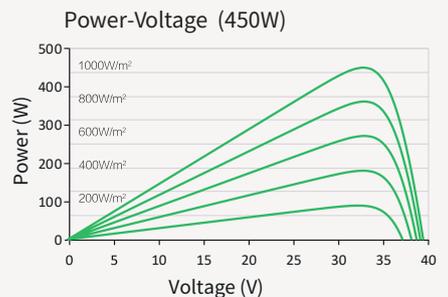
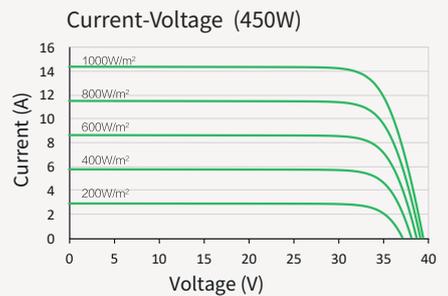
Electrical characteristics with different rear power gain (reference to 450W)

## Temperature Ratings (STC)

## Operating Parameters

Temperature coefficient (P <sub>mpp</sub> )	-0.29%/°C	No. of diodes	3
Temperature coefficient (I <sub>sc</sub> )	+0.043%/°C	Junction box IP rating	IP 68
Temperature coefficient (V <sub>oc</sub> )	-0.25%/°C	Max. series fuse rating	30 A
Nominal module operating temperature (NMOT)	41±2°C	Max. system voltage (IEC/UL)	1500V <sub>DC</sub>

## Curve





# NEW FROM SOLAX X1-HYB-LV



## X1-HYB-LV

3.0kW/3.7kW/4.0kW  
4.6kW/5.0kW/6.0kW

## Features

### High-efficiency

- 200% PV oversized and up to 110% AC output
- 200% peak EPS apparent power, 10 s
- Built-in shadow tracking

### Economic

- Max. DC input current 16A, support for high power solar panel
- Low start up voltage brings longer operation time

### Intelligent

- UPS-level switching time < 10 ms
- CT compatible, loads respond within 0.3 s
- Smart loads management
- Max. 10pcs parallel for on-grid and off-grid operation<sup>①</sup>
- Max. charging / discharging current of 120 A
- Generator compatible<sup>②</sup>

### Safe

- Battery terminal temperature detection
- IP65 protection degree
- Integrated SPD
- AFCI protection (optional)

### Contact Us More Information

[www.solaxpower.com](http://www.solaxpower.com)

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NL: +31 (0) 852 737932

[info@solaxpower.com](mailto:info@solaxpower.com)  
[service@solaxpower.com](mailto:service@solaxpower.com)



### DC INPUT

Max. PV array power [Wp]	6000	7360	8000	9200	10000	12000
Max. PV input power (PV1+PV2) [Wp]	4500	5500	6000	6900	7500	9000
Max. PV input voltage [V]	550					
Start output voltage [V]	110					
Nominal input voltage [V]	360					
MPPT voltage range [V]	80 ~ 520					
No. of independent MPPT / strings per MPPT	2 / PV1: 1 ; PV2: 1					
Max. input current [A]	16 / 16					
Max. short circuit current [A]	20 / 20					

### AC INPUT & OUTPUT

Nominal AC output power [W]	3000	3680	4000	4600	5000	6000
Max. AC output apparent power [VA]	3300	3680	4400	4600 (Germany 4600)	5000	6000
Max. AC output current [A]	15	16	20	20.9 (Germany 20)	22.7	27.3
Max. AC input apparent power [VA]	6000	7360	8000	9200	9200	9200
Max. AC input current [A]	26.1	32	34.8	40	40	40
Nominal voltage [V], frequency [Hz]	220 / 230 / 240, 50 / 60					
Displacement power factor	0.8 leading ~ 0.8 lagging					
THDi (rated power) [%]	< 3					

### BATTERY DATA

Battery type	Lithium® / Lead-Acid					
Max. charging / discharging current [A]	75			120		
Battery voltage range [V]	40 ~ 60					
Nominal battery voltage [V]	48					

### EPS OUTPUT (WITH BATTERY)

Nominal output apparent power [VA]	3000	3680	4000	4600	5000	6000
Peak apparent power [VA, s] <sup>①</sup>	6000, 10	7360, 10	8000, 10	9200, 10	10000, 10	12000, 10
Nominal output current [A]	13	16	17.4	20	21.7	26.1
Nominal voltage [V], frequency [Hz]	230, 50 / 60					
Switch time [ms]	< 10					

### Efficiency

MPPT Efficiency [%]	> 99.9					
Max. efficiency [%]	97.6					
Euro. efficiency [%]	97.0					

### POWER CONSUMPTION

Self consumption (night) [W]	Standby < 40, Shutdown < 10					
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### ENVIRONMENT LIMIT

Degree of protection	IP65					
Operating temperature range [°C]	-25 ~ +60 (derating above +45)					
Relative humidity [%]	0 ~ 100 (condensing)					
Max. operation altitude [m]	< 3000					
Noise emission (typical) [dB]	< 39			< 50		
Storage temperature [°C]	-25 ~ +70					

### GENERAL

Dimensions (WxHxD) [mm]	397 x 490 x 201					
Net weight [kg]	16.5			17.3		
Cooling concept	Natural			Smart cooling		
Topology	Transformerless for PV side / HF for battery side					
HMI Interface	LED + LCD					
Communication interfaces	CAN, RS485, CT, Meter, USB, NTC, WiFi, LAN, 4G (Optional), WiFi+Lan (Optional), WiFi+4GM (Optional)					
Warranty [years]	5					

### STANDARD

Safety	EN IEC 62109-1 / -2					
EMC	BS EN 50065-1					
Certification	NRS 097-2-1, IEC 61727, IEC 62116, PEA, MEA, BIS					

① To be released in Q3 2023;  
 ② & ③ To be released in Q4 2023;  
 ④ Depend on PV and battery capacity.

\*V1.2 Information may be subject to modify without notice.  
 650.00023.00

BY SOLAX  
**TRIPLE**  
POWER

# NEW FROM SOLAX

## T-BAT-SYS-LV D53



**T-BAT-SYS-LV D53**



## Features

### Flexibility

- Modular design, expandable to 16 units in parallel, max. 85kWh capacity
- Available in wall-mounted or floor-mounted options

### High Performance

- Automotive-grade communication for exceptional hardware performance
- Adaptive cut-off enables continuous operation in parallel, even if any battery fails

### Smart Management

- AI-Driven real-time monitoring for minimized system risk
- AI-Driven intelligent algorithms ensure high SOC and accuracy
- AI-Driven battery fault diagnosis for accurate detection

### User Friendly

- Continuous remote OTA one-click upgrades

### Safe and Durable

- Cobalt-Free LFP battery: safer, long-lasting, efficient, high energy density

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For more information, please contact us

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## T-BAT-SYS-LV D53

System Parameters	T-BAT LD53	T-BAT LD106	T-BAT LD159	T-BAT LD212	T-BAT LD265	T-BAT LD318	T-BAT LD371	T-BAT LD424
Number of Module Serie	1	2	3	4	5	6	7	8
Nominal Capacity [kWh]	5.3	10.6	15.9	21.2	26.6	31.9	37.2	42.5
Usable Capacity (90% DOD) <sup>①</sup> [kWh]	4.7	9.5	14.3	19.1	23.9	28.7	33.5	38.3
Max. Output Current [A] <sup>②</sup>	100				120			
Peak Discharge Current [A, s]	200, 10							

System Parameters	T-BAT LD477	T-BAT LD530	T-BAT LD583	T-BAT LD636	T-BAT LD689	T-BAT LD742	T-BAT LD795	T-BAT LD848
Number of Module Serie	9	10	11	12	13	14	15	16
Nominal Capacity [kWh]	47.9	53.2	58.5	63.8	69.2	74.5	79.8	85.1
Usable Capacity (90% DOD) <sup>①</sup> [kWh]	43.1	47.9	52.7	57.5	62.3	67.0	71.8	76.6
Max. Output Current [A] <sup>②</sup>	120							
Peak Discharge Current [A, s]	200, 10							

General Information	
Weight [kg]	48.5
Dimension (L x W x H) [mm]	645 x 150 x 430
Nominal Voltage [V]	51.2
Operating Voltage Range [V]	45 to 58
Battery Type	Lithium Iron Phosphate
Communication Port	CAN / RS485
Operation Temperature [°C]	0 to 53 (charge) ; -20 to 53 (discharge)
Storage Temperature [°C]	30 to 50 (6 months) ; -20 to 30 (12 months)
Ingress Protection	IP65
Colling concept	Natural
Relative humidity [%]	5 to 95 (Non-condensing)
Altitude [m]	< 3000
Warranty <sup>④</sup> [years]	10
Cycle Life <sup>③</sup> [90% DOD]	> 6000
Certification	IEC62619, IEC62040, CE, UN38.3

① Test conditions: 90% DOD, 0.2C charge & discharge @+25 °C

② Current is affected by the number of batteries connected in parallel as well as temperature and SOC

③ 25°C ± 2°C, 0.5C / 0.5C, 70 % EOL > 6000

④ The warranty is due whichever reached first of warranty period or energy throughput

# INCLUDES FREE BIRD PROTECTION



MRS BROWN

We already had solar panels installed but we're very troubled with pigeons. Deege installed the netting, the men were efficient extremely polite and tidy workers. Delighted to say we have no constant cooing now. Would highly recommend.



**PROTECT BOTH YOUR INVESTMENT & WILDLIFE**



**ENHANCE THE AESTHETICS OF YOUR SYSTEM**



**MINIMISE CLEANING AND MAINTENANCE COSTS**