


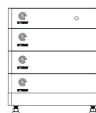

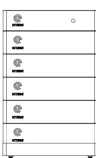



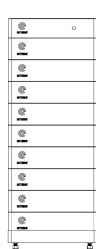
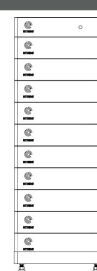
# ELESHEL Batterie-Speichersystem

- flexible Speichermöglichkeiten von 5.12k bis 25.6kWh
- cobaltfreie Li-Fe-PO4 Hochspannungsbatterie
- einfache Erweiterung durch modularen Aufbau



**EITAI** EITAI SOLAR

**Kundenkontakt:**  
Hyrican Informationssysteme AG, Kalkplatz 5, 99638 Kindelbrück  
<https://www.Hyrican.de>

Datesheet	ELEBOX-HV 5.1	ELEBOX- HV 7.7	ELEBOX -HV 10.2	ELEBOX-HV 12.8	ELEBOX-HV 15.4	ELEBOX-HV 17.9	ELEBOX-HV 20.5	ELEBOX-HV 23	ELEBOX-HV 25.6
System Demo									
Battery Module	ELEBOX-HV—2.56 (2.56kWh, 51.2V, 34kg, 600/355/145)								
Number of Modules	2	3	4	5	6	7	8	9	10
Energy Capability	5.12kWh	7.68kWh	10.24kWh	12.8kWh	15.36kWh	17.92kWh	20.48kWh	23.04kWh	25.6kWh
Nominal Voltage	102.4V	153.6V	204.8V	256V	307.2V	358.4V	409.6V	460.8V	512V
Operation Voltage Range	94.4-113.6V	141.6-170.4V	188.8-227.2V	236-284V	283.2-340.8V	330.4-397.6V	377.6-454.4V	424.8-511.2V	472-568V
Dimension mm (H/W/D)	600/355/587	600/355/732	600/355/877	600/355/1022	600/355/1167	600/355/1312	600/355/1457	600/355/1602	600/355/1759
Weight	93kgs	127kgs	161kgs	195kgs	229kgs	263kgs	297kgs	331kgs	365kgs
Battery Type	Cobalt free Lithium Iron Phosphate (LFP)								
Standard Charge/ Discharge Current	25A@0.5C								
Max Charge/ Discharge Current	50A@1C								
IP Protection	IP 65								
Installation	Wall-mounted or Floor Installation								
Operation Temperature	0 °C to 45°C								
Feature									
DOD	90%								
Cycle Life	>6000								
Warranty	5 Years								
Communication Port	CAN/RS485								
Communication Mode	WIFI / BLUETOOTH								
Certification	CE, IEC62619, MSDS, ROHS, UN38.3								

1.The system dimension is included BMS controller;

2. Floor installation require extra base (W/D/H=600X355X150mm)

**Kundenkontakt:**  
**Hyrican Informationssysteme AG, kalkplatz 5, 99638 Kindelbrück**  
<https://www.Hyrican.de>

# SPH 4000~10000TL3 BH-UP

- 100% three-phase imbalance output
- Smart phase-level power export limitation
- Wide battery voltage 100-550V
- UPS function, 10ms transition
- Scalable system configuration
- VPP interface ready
- DC/AC type II SPD
- 1.5 DC/AC Ratio



**GROWATT**

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

Datasheet	SPH 4000TL3 BH-UP	SPH 5000TL3 BH-UP	SPH 6000TL3 BH-UP	SPH 7000TL3 BH-UP	SPH 8000TL3 BH-UP	SPH 10000TL3 BH-UP
<b>Input data(PV)</b>						
Max. recommended PV power (for module STC)	6000W	7500W	9000W	10500W	12000W	15000W
Max. DC voltage	1000					
Start voltage	120V					
MPP voltage range	120V-1000V/600V					
No. of MPP trackers	2					
No. of PV strings per MPP tracker	1					
Max. input current per MPP tracker	13.5A					
Max. short-circuit current per MPP tracker	16.9A					
<b>Output data(AC)</b>						
AC nominal power	4000W	5000W	6000W	7000W	8000W	10000W
Max. AC apparent power	4000VA	5000VA	6000VA	7000VA	8000VA	10000VA
Nominal AC voltage (range*)	230V/400V (310--476V)					
AC grid frequency (range)	50Hz/60Hz (45Hz-55Hz/55Hz-65Hz)					
Max. output current	6.1A	7.6A	9.1A	10.6A	12.1A	15.2A
Adjustable power factor	0.8leading...0.8lagging					
THDi	<3%					
AC grid connection type	3W+N+PE					
<b>Battery data (DC)</b>						
Battery voltage range	100--550V					
Max charging and discharging current	25A					
Continuous charging and discharging power	4000W	5000W	6000W	7000W	8000W	10000W
Type of battery	Lithium battery					
<b>Backup power(AC)</b>						
Max. AC output power	4000W	5000W	6000W	7000W	8000W	10000W
Max. AC apparent power	4000VA	5000VA	6000VA	7000VA	8000VA	10000VA
Max. output current	6.1A	7.6A	9.1A	10.6A	12.1A	15.2A
Nominal AC output voltage	230V/400V					
Nominal AC output frequency	50/60HZ					
THDv	<3%					
Switch time	<10ms					
<b>Efficiency</b>						
MAX. efficiency	97.6%	97.8%	98.0%	98.2%	98.2%	98.2%
European efficiency	97.0%	97.2%	97.3%	97.4%	97.4%	97.5%
<b>Protection devices</b>						
DC switch	Yes					
DC reverse polarity protection	Yes					
AC/DC surge protection	Type II					
Battery reverse protection	Yes					
AC short-circuit protection	Yes					
Ground fault monitoring	Yes					
Grid monitoring	Yes					
Anti-islanding protection	Yes					
Residual-current monitoring unit	Yes					
Insulation resistance monitoring	Yes					
<b>General data</b>						
Dimensions (W / H / D)	505/453/198mm					
Weight	30kg					
Operating temperature range	-25 °C ... +60 °C					
Nighttime power consumption	<13W					
Topology	Transformerless					
Cooling	Natural					
Protection degree	IP65					
Relative humidity	0--100%					
Altitude	3000m					
DC connection	H4 / MC4 (Optional)					
AC connection	Connector					
Display	LCD+LED					
Interfaces: RS485/CAN/USB	Yes					
Monitor : RF/WIFI/GPRS	Optional					
Warranty: 5 years / 10 years	Yes / Optional					

CE, IEC62109, IEC 62040, VDE-AR-N 4105, VDE 0126, UTE C 15-712, C10/C11, EN50549, CEI 0-21, CEI 0-16, IEC62116, IEC61727, AS/NZS 4777, G98, TOR Erzeuger

\* The AC Voltage Range may vary depending on specific country grid standard.

# ETHM400-420M (108)

Small Changes, Big Accomplishments

## • INTRODUCTION

EITAI redefined the high-efficiency module series by integrating 182mm silicon wafers with multi-busbar and half-cut cell technologies.

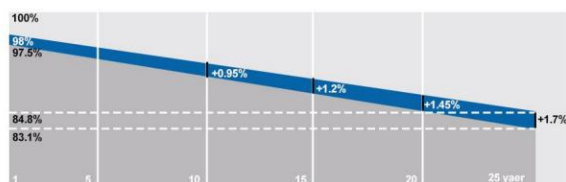
EITAI panel combined creative technology effectively and extremely improved the module efficiency and power output.

## • KEY FEATURES

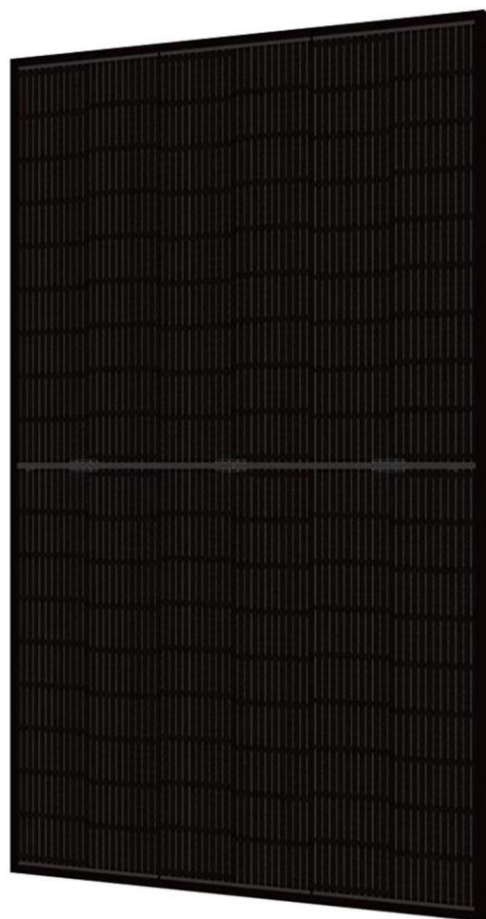
- Higher output power
- Less shading and lower resistive loss
- Lower LCOE
- Better mechanical loading tolerance

## • WARRANTY

- 12 years product material and workmanship warranty
- 25 years linear power output warranty



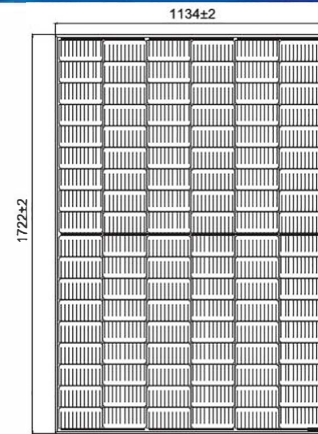
- New linear power warranty
- Standard module linear power warranty



# ETHM400-420M (108)

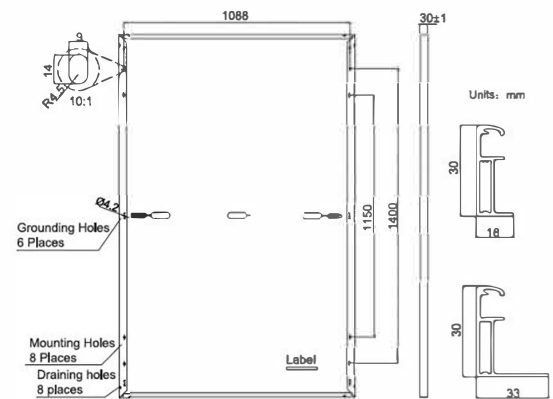
## Mechanical Data

External Dimensions	1722 x 1134 x 30mm
Weight	20.8kg
Solar Cells	MONO (6 x 18pcs)
J-Box	IP68, 3 diodes
Cables	4.0mm <sup>2</sup> , 300mm or customized length
Connector	MC4 Compatible
Packaging Configuration	36pcs/ Pallet 936pcs/ 40'HQ Container



## Operating Conditions

Maximum System Voltage	1000V/ 1500V DC
Operating Temperature	-40°C~+85°C
Maximum Series Fuse Rating	25A
Maximum Static Load, Front	5400Pa (112lb/ft <sup>2</sup> )
Maximum Static Load, Back	2400Pa (50lb/ft <sup>2</sup> )
NOCT	45±2°C
Safety Class	ClassII

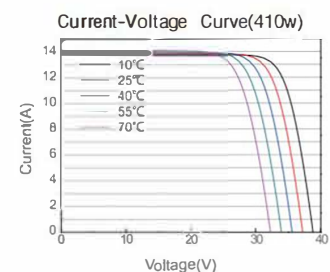
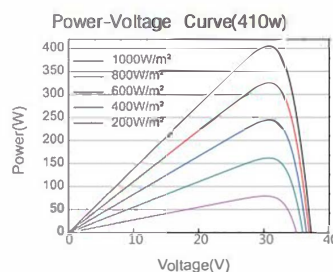
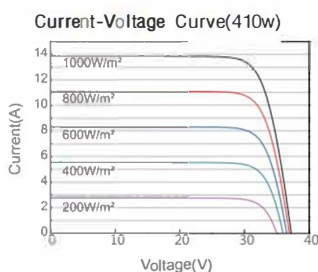


## Electrical Data

Module Type	ETHM400		ETHM405		ETHM410		ETHM415		ETHM420	
	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT
Test Environment										
Maximum Power (Pmax/W)	400	302	405	306	410	310	415	314	420	318
Open Circuit Voltage (Voc/V)	37.07	34.88	37.23	35.12	37.32	35.23	37.45	35.37	37.58	35.5
Short Circuit Current (Isc/A)Maximum	13.79	11.03	13.87	11.1	13.95	11.16	14.02	11.22	14.1	11.29
Power Voltage (Vmp/V)Maximum	31.01	29.26	31.21	29.47	31.45	29.72	31.61	29.89	31.8	30.09
PowerCurrent (Imp/A)	12.9	10.32	12.98	10.38	13.04	10.43	13.13	10.5	13.21	10.57
Module Efficiency (%)	20.5		20.7		21		21.3		21.5	
Power Tolerance (%)	0~+5w									
Temperature Coefficient of Isc_STC	-0.045%/ C									
Temperature Coefficient of Voc_STC	-0.275%/ C									
Temperature Coefficient of Pmax_STC	-0.350%/ C									

STC: Irradiance 1000W/m<sup>2</sup>, Cell temperature 25°C, AM1.5G.

NOCT: Irradiance 800W/m<sup>2</sup>, ambient temperature 25°C, wind speed 1m/s, AM1.5G.



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# DC SINGLE CORE SOLAR PV CABLE

National Standard  
CQC

European Standard  
EN 50618

## Tin-plated Copper Conductor



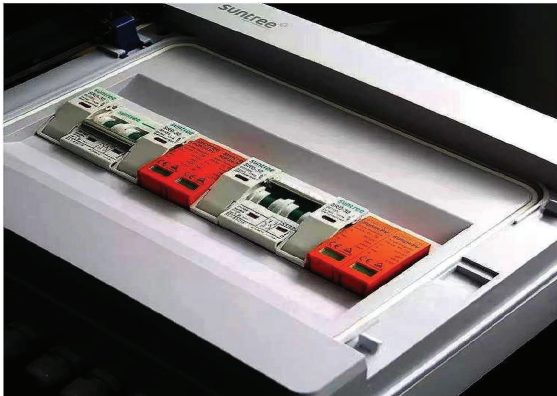
Gross Section (mm <sup>2</sup> )	Conductor Size (number/Ømm±0.01)	Conductor Stranded OD (Ømm±0.01)	Cable OD (Ømm±0.01)	DC Resistance (Ω/Km, 20°C)	Carrying Capacity (≤60°C)	Packing (meter/roll)
1X1.5	30/0.25	1.58	4.8	13.5	25	250
1X2.5	48/0.25	1.98	5.3	8.21	36	100/250
1X4.0	56/0.285	2.35	5.9	5.09	44	100/250/500/5000
1X6.0	84/0.285	3.06	6.5	3.39	60	100/200
1X10	80/0.4	4.60	7.5	1.95	82	100
1X16	120/0.4	5.60	10	1.24	122	100
1X25	196/0.4	6.95	12	0.795	160	100
1X35	276/0.4	8.30	13.3	0.565	200	100

◆ The conductor is tin-plated copper without oxygen, low resistance and oxidation resistance, and the insulation and sheath are irradiated cross-linked low smoke halogen-free flame retardant polyolefin. The finished cable is treated by irradiation technology, and the service life of the product can reach 25 years.



◆ Electrical Properties	
Conductor	Oxygen-free Tinned Copper Wire
Insulating Layer	125°C XLPO
Sheath Layer	125°C XLPO
Special Process	Irradiated Cross-linked
Rated Voltage	DC: 1.5KV AC: 0.6/1.0KV
Adaptive Temperature	-40°C ~ +90°C
Product Standards	EN 50618:2014
Structure Performance	EN 50396/EN 60228
Voltage Resistance	EN 60811-3-1
Moisture And Heat Resistance	EN 60068-2-78
Acid And Alkali Resistance	EN 60811-2-1
Ozone Resistance	EN 50396
High Temperature Resistance	EN 60216-2
Low Temperature Resistance	EN 60811-1-4
Aging Resistance	EN 50289-4-17
Flame Retardant Performance	EN 60332-1-2
Halogen Free Performance	EN 60754-1/EN 60754-2





## SHLX-PV2/1 **PV2/2** DC COMBINER BOX

- High reliability
  - With DC FUSE
  - With DC Surge Protection Device.
  - With DC circuit breaker or DC load isolation switch.
- Strong adaptability
  - IP65 design, waterproof, anti dust and anti ultraviolet.
  - Strict test for high and low temperature, used widely.
- The simple installation, the convenient simplified system wiring .
- The box body made of cold rolled steel and other metal materials.
- Flexible configuration
  - Used for single crystal silicon solar modules, poly crystalline silicon solar modules, thin film solar modules. Current rating of the photovoltaic fuse, circuit breaker, load isolation switch is modified.

### TECHNICAL PARAMETERS

Name	SHLX-PV2/1	SHLX-PV2/2
Electric Parameter		
System maximum dc voltage	550	1000
Maximum input current each string	15A	
Maximum input string	20A	30A
Maximum output switch current	1	2
Number of out put strings	1	2
Lightning protection		
Category of test	T2 grade protection	T1 +T2 grade protection
Nominal discharge current	20kA	
Maximum discharge current	40kA	50kA
Voltage protection level	2.8kV	4.5kV
Maximum continuous operating coltage Uc	630V	1050V
Poles	2P	3P
Struture characteristic	Plug-push module	
System		
Protection grade	IP65	
Output switch	DC isolation switch(Standard)/Surge Protective Device	
SMC4 Waterproof Connectors	Standard	
PV dc fuse	Standard	
PV surge protector	Standard	
Monitoring module	Optional	
Preventing diode	Optional	
Box material	PVC	
Installation method	Wall mounting type	
Operating Ternpetature	-25°C ~ +55°C	
Elevation of temperatture	2km	
Permissible relative humidity	0-95%,no condensation	
Mechanical Parameter		
Width*High*Depth	300*260*240	





## Präzise

Genauigkeitsklasse 1



## Einfach & Leicht

Einfache Bedienung über LCD Display



## Nachhaltig

Energieverbrauch gesamt  $\leq 1$  W

Technische Daten	DDSU666-H	DTSU666-H 250A/50mA
<b>Allgemeine Daten</b>		
Abmessung (H x B x T)	100 x 36 x 65,5 mm	100 x 72 x 65,5 mm
Montageart	DIN35 Hutschiene	
Gewicht (inkl. Kabel)	1,2 kg	1,5 kg
<b>Stromversorgung</b>		
Stromnetztyp	1P2W (Einphasig)	3P4W (Dreiphasig)
Eingangsspannung	176 Vac bis 288 Vac	
Energieverbrauch	$\leq 0,8$ W	$\leq 1$ W
<b>Messbereich</b>		
Netzspannung Phase-Phase	/	304 Vac bis 499 Vac
Phasenspannung	176 Vac bis 288 Vac	
Strombereich	0 bis 100 A	0 bis 250 A
<b>Genauigkeitsklasse</b>		
Spannung	$\pm 0,5$ %	
Strom/ Leistung/ Energie	$\pm 1$ %	
Frequenz	$\pm 0,01$ Hz	
<b>Kommunikation</b>		
Schnittstelle	RS485	
Baudrate	9600 bps	
Kommunikationsprotokoll	Modbus-RTU	
<b>Umwelt</b>		
Betriebstemperatur	-25 °C bis +60 °C	
Lagerungstemperatur	-40 °C bis +70 °C	
Luftfeuchtigkeit im Betrieb	5 %RH bis 95 %RH (nicht kondensierend)	
<b>Sonstiges</b>		
	RS485 Kabel (10 m)	
Zubehör (Stromwandler)	1 CT 100 A/40 mA (5 m)	3 CT 250 A/50 mA (5 m)