

# DL5.0C

DL5.0C is designed for residential and small commercial applications, with up to 50 units in parallel and an energy range from 5.12 kWh to 256 kWh. It supports 1C discharge rate. With high cycle times and a long lifespan, it ensures worry-free electricity consumption.



### Flexible Expansion

Up to 50 units in parallel, 5.12kWh--256kWh capacity



### 1C Discharge

Simultaneously supplying power to multiple loads, no need to worry about power outages



### Automatic Self-heating

-20°C to 55°C operating temperature (optional)



### Easy Installation

Support wall-mounted, floor-mounted, stacked and rack-mounted installations, high space utilization



### Long-term Reliability

LFP cells, 6000+ cycles, 10 years warranty



### All-round Safety

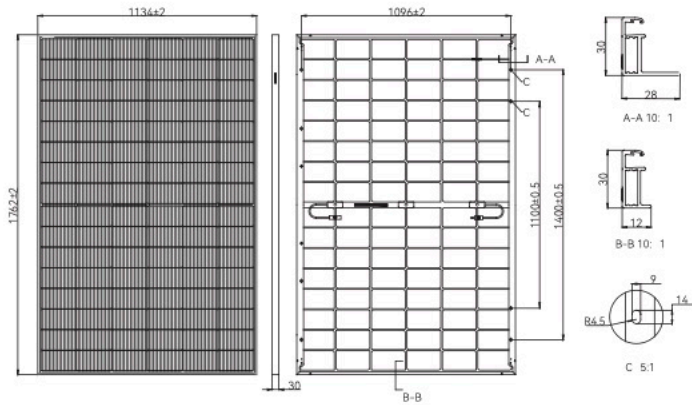
Short-circuit lockout, surge-resistant, safe and reliable

| Model                                | DL5.0C   |
|--------------------------------------|--|
| Battery Type                         | LiFePO <sub>4</sub>  |
| Nominal Battery Energy               | 5.12 kWh   |
| Nomina Capacity                      | 100Ah  |
| Nominal Voltage                      | 51.2V  |
| Operating Voltage                    | 44.8~57.6V   |
| Recomended Charge & Discharge C Rate | 0.5C   |
| Maximum Discharge Crate              | 1C   |
| Recommended Charge/Discharge Current | 50A  |
| Max. Charge/Discharge Current        | Charge 75A Discharge 100A  |
| Peak Discharge Current               | 110A(15s)  |
| Depth of Discharge (DOD)             | 90%  |
| Net Weight                           | 54kg   |
| Dimension[W/D/H](mm)                 | 558/545/150  |
| Charging Temp. Range                 | 0~55°C/-20~55°C (with heating function)  |
| Discharging Temp. Range              | -20~55°C   |
| Communication                        | CAN/RS485/RS232  |
| Cycle Life *                         | ≥6000 Cycles   |
| Protection Level                     | IP20   |
| WIFI Module                          | Optional   |
| Expansion                            | Up to 50 units in parallel   |
| Certification & Safety Standard      | UN38.3/CE-EMC/IEC62619/CEI-021/GOST-R  |
| Compatible Inverterst                | SMA/Schneider/Victron energy/Ingeteam/Solis/GoodWe/Growatt/Soplanet/Luxpower/DEYE etc. |

\* Test conditions: 0.2C Charging & Discharging. @25°C, 90% DOD



**DRAWINGS (Unit: mm)**



**ELECTRICAL CHARACTERISTICS (STC)**

Module Type: TWMNH-48HDXXX

|                                   |       |       |       |       |       |
|-----------------------------------|-------|-------|-------|-------|-------|
| Maximum Power: Pmax [W]           | 435   | 440   | 445   | 450   | 455   |
| Open Circuit Voltage: Voc [V]     | 34.49 | 34.67 | 34.85 | 35.03 | 35.21 |
| Short Circuit Current: Isc [A]    | 15.90 | 15.95 | 16.00 | 16.05 | 16.10 |
| Voltage at Maximum Power: Vmp [V] | 29.54 | 29.72 | 29.90 | 30.08 | 30.26 |
| Current at Maximum Power: Imp [A] | 14.73 | 14.81 | 14.89 | 14.97 | 15.04 |
| Module Efficiency: η [%]          | 21.8  | 22.0  | 22.3  | 22.5  | 22.8  |

\* STC: Irradiance 1000W/m<sup>2</sup>, Cell Temperature 25°C, Air Mass1.5, Measuring Tolerance: ±3%

**ELECTRICAL CHARACTERISTICS (NMOT)**

|                                   |       |       |       |       |       |
|-----------------------------------|-------|-------|-------|-------|-------|
| Maximum Power: Pmax [W]           | 327   | 331   | 335   | 338   | 342   |
| Open Circuit Voltage: Voc [V]     | 32.77 | 32.94 | 33.11 | 33.28 | 33.45 |
| Short Circuit Current: Isc [A]    | 12.84 | 12.88 | 12.92 | 12.96 | 13.00 |
| Voltage at Maximum Power: Vmp [V] | 27.51 | 27.68 | 27.88 | 27.96 | 28.18 |
| Current at Maximum Power: Imp [A] | 11.89 | 11.96 | 12.02 | 12.09 | 12.14 |

\* NMOT: Irradiance 800W/m<sup>2</sup>, Ambient Temperature 20°C, Air Mass1.5, Wind Speed 1m/s

**ELECTRICAL CHARACTERISTICS (Rear Power Gain)**

|     |                          |      |      |      |      |      |
|-----|--------------------------|------|------|------|------|------|
| 5%  | Maximum Power: Pmax[W]   | 456  | 462  | 467  | 472  | 477  |
|     | Module Efficiency: η [%] | 22.8 | 23.1 | 23.4 | 23.6 | 23.9 |
| 15% | Maximum Power: Pmax[W]   | 500  | 506  | 511  | 517  | 523  |
|     | Module Efficiency: η [%] | 25.0 | 25.3 | 25.6 | 25.9 | 26.2 |
| 25% | Maximum Power: Pmax[W]   | 543  | 550  | 556  | 562  | 568  |
|     | Module Efficiency: η [%] | 27.2 | 27.5 | 27.8 | 28.1 | 28.4 |

**TEMPERATURE PARAMETERS**

|                                |            |
|--------------------------------|------------|
| Temperature Coefficient (Pmax) | -0.30%/°C  |
| Temperature Coefficient (Voc)  | -0.25%/°C  |
| Temperature Coefficient (Isc)  | +0.046%/°C |
| NMOT                           | 45±2°C     |

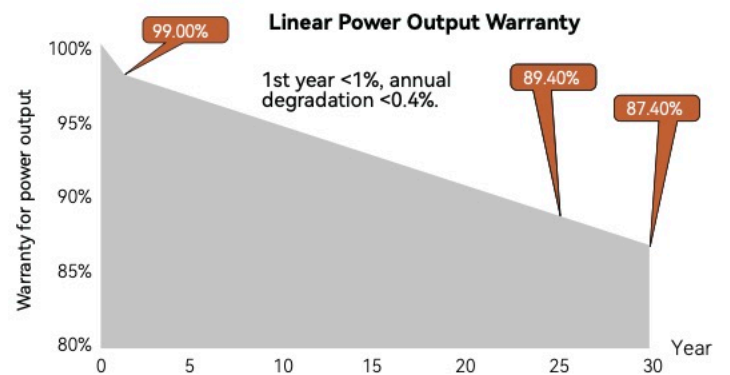
**MAXIMUM RATINGS**

|                            |             |
|----------------------------|-------------|
| Operational Temperature    | -40°C~+85°C |
| Maximum System Voltage     | 1500V DC    |
| Maximum Series Fuse Rating | 30A         |
| Power Output Tolerance     | 0~+5W       |
| Maximum Bifaciality        | 80±10%      |

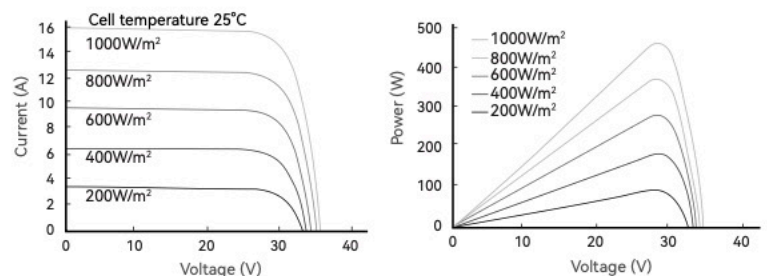
**MECHANICAL PARAMETERS**

|                  |   |
|------------------|---|
| Cells            | TNC (N Type Monocrystalline Cell)           |
| Cell Orientation | 96[6×16]                                    |
| Dimension        | 1762±2×1134±2×30mm                          |
| Weight           | 20.9kg                                      |
| Front Glass      | 1.6mm high transmittance, AR tempered glass |
| Rear Glass       | 1.6mm semi-tempered glass                   |
| Frame            | Anodized aluminum alloy black frame         |
| Junction Box     | IP68, 3 diodes                              |
| Output Cable     | 4.0mm <sup>2</sup>                          |
| Cable Length     | ±1200mm, length can be customized           |
| Wind/Snow Load   | 2400Pa/5400Pa                               |
| Packaging        | 36pcs per pallet, 936pcs per 40'HC          |

**WARRANTY**



**I-V CURVE**

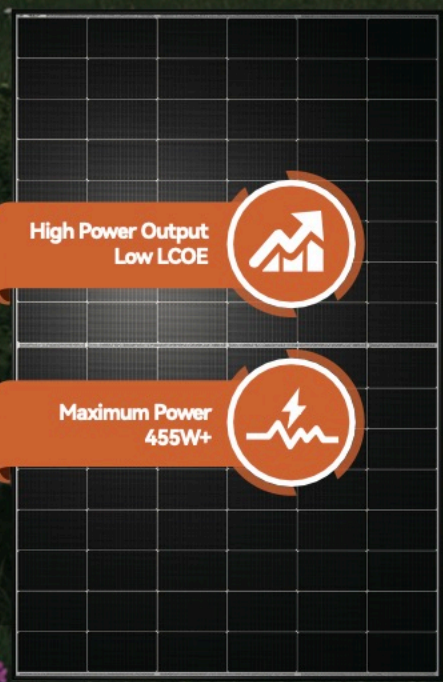


**CERTIFICATIONS**

**Quality Management System and Product Certification**

- ISO 9001: 2015/Quality management system
- ISO 14001: 2015/Environmental management system
- ISO 45001: 2018/Occupation health safety management system
- ISO 50001: 2018/Energy management system
- IEC 62941: 2019/Quality system for PV module manufacturing
- IEC 61215/61730, IEC 62804(PID), IEC 61701(Salt), IEC 62716 (Ammonia), IEC 60068-2-68(Sand)





# TWMNH

N-type Half-cell  
Bifacial Black Frame Module (48)

## 48HD435-455W



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## S6-EH1P(3-8)K-L-PLUS

# Solis Single Phase Low Voltage Energy Storage Inverters

**New** PLUS model provides solutions for demanding power scenarios

### Features:

- Generator-compatible to extend backup duration during grid power outage
- Multiple inverters can operate together to form a microgrid
- Supports dual backup ports for intelligent control of critical and non-critical loads
- 10 seconds of 200% overload capability
- Automatic switchover time is < 4ms, providing seamless transitions from grid to backup
- Ensures excellent power supply stability, keeping the load unaffected by a weak grid or generator supply fluctuations

### Models:

S6-EH1P3K-L-PLUS / S6-EH1P3.6K-L-PLUS

S6-EH1P4.6K-L-PLUS / S6-EH1P5K-L-PLUS

S6-EH1P6K-L-PLUS / S6-EH1P8K-L-PLUS



# DATASHEET

# S6-EH1P(3-8)K-L-PLUS

| Models                                   | 3K  | 3.6K            | 4.6K          | 5K              | 6K                      | 8K              |
|--|---|-----------------|---------------|-----------------|-------------------------|-----------------|
| <b>Input DC (PV side)</b>                |   |                 |               |                 |                         |                 |
| Recommended max. PV array size           | 6 kW  | 7.2 kW          | 9.2 kW        | 10 kW           | 12 kW                   | 16 kW           |
| Max. usable PV input power               | 4.8 kW  | 5.76 kW         | 7.36 kW       | 8 kW            | 9.6 kW                  | 12.8 kW         |
| Max. input voltage                       | 500 V   |                 |               |                 |                         |                 |
| Rated voltage                            | 330 V   |                 |               |                 |                         |                 |
| Start-up voltage                         | 90 V  |                 |               |                 |                         |                 |
| MPPT voltage range                       | 90 - 435 V  |                 |               |                 |                         |                 |
| Max. input current                       | 16 A / 16 A   |                 |               |                 |                         | 32 A / 32 A     |
| Max. short circuit current               | 20 A / 20 A   |                 |               |                 |                         | 40 A / 40 A     |
| MPPT number / Max. input strings number  | 2 / 2   |                 |               |                 |                         | 2 / 4           |
| <b>Battery</b>                           |   |                 |               |                 |                         |                 |
| Battery type                             | Li-ion / Lead-acid  |                 |               |                 |                         |                 |
| Battery voltage range                    | 40 - 60 V   |                 |               |                 |                         |                 |
| Max. charge / discharge power            | 3 kW  | 3.6 kW          | 4.6 kW        | 5 kW            | 6 kW                    | 8 kW            |
| Max. charge / discharge current          | 70 A  | 80 A            | 105 A         | 112 A           | 135 A                   | 190 A           |
| Communication                            | CAN / RS485   |                 |               |                 |                         |                 |
| <b>Output AC (Grid side)</b>             |   |                 |               |                 |                         |                 |
| Rated output power                       | 3 kW  | 3.6 kW          | 4.6 kW        | 5 kW            | 6 kW                    | 8 kW            |
| Max. apparent output power               | 3 kVA   | 3.6 kVA         | 4.6 kVA       | 5 kVA           | 6 kVA                   | 8 kVA           |
| Operation phase                          | L/N/PE  |                 |               |                 |                         |                 |
| Rated grid voltage                       | 220 V / 230 V   |                 |               |                 |                         |                 |
| Rated grid frequency                     | 50 Hz / 60 Hz   |                 |               |                 |                         |                 |
| Rated grid output current                | 13.7 A / 13.1 A   | 16.4 A / 15.7 A | 20.9 A / 20 A | 22.8 A / 21.8 A | 27.3 A / 26.1 A         | 36.4 A / 34.8 A |
| Max. output current                      | 13.7 A / 13.1 A   | 16.4 A / 15.7 A | 20.9 A / 20 A | 22.8 A / 21.8 A | 27.3 A / 26.1 A         | 36.4 A / 34.8 A |
| Power factor                             | > 0.99 (0.8 leading - 0.8 lagging)  |                 |               |                 |                         |                 |
| THDi                                     | < 2%  |                 |               |                 |                         |                 |
| <b>Input AC (Grid side)</b>              |   |                 |               |                 |                         |                 |
| Input voltage range                      | 187 - 253 V   |                 |               |                 |                         |                 |
| Max. input current                       | 21 A  | 25 A            | 29 A          | 32 A            | 40 A                    | 50 A            |
| Frequency range                          | 45 - 55 Hz / 55 - 65 Hz   |                 |               |                 |                         |                 |
| <b>Output AC (Back-up)</b>               |   |                 |               |                 |                         |                 |
| Rated output power                       | 3 kW  | 3.6 kW          | 4.6 kW        | 5 kW            | 6 kW                    | 8 kW            |
| Max. apparent output power               | 2 times of rated power, 10 s  |                 |               |                 |                         |                 |
| Back-up switch time                      | < 4 ms  |                 |               |                 |                         |                 |
| Rated output voltage                     | L/N/PE, 220 V / 230 V   |                 |               |                 |                         |                 |
| Rated frequency                          | 50 Hz / 60 Hz   |                 |               |                 |                         |                 |
| Rated output current                     | 13.7 A / 13.1 A   | 16.4 A / 15.7 A | 20.9 A / 20 A | 22.8 A / 21.8 A | 27.3 A / 26.1 A         | 36.4 A / 34.8 A |
| Max. AC passthrough current              | 35 A  | 35 A            | 40 A          | 40 A            | 40 A                    | 50 A            |
| THDv (@linear load)                      | < 2%  |                 |               |                 |                         |                 |
| <b>Efficiency</b>                        |   |                 |               |                 |                         |                 |
| Max. efficiency                          | 96.2%   |                 |               |                 |                         |                 |
| EU efficiency                            | 96.1%   |                 |               |                 |                         |                 |
| BAT charged by PV / AC max. efficiency   | 95.3% / 93.9%   |                 |               |                 |                         |                 |
| BAT discharged to AC max. efficiency     | 93.8%   |                 |               |                 |                         |                 |
| <b>Protection</b>                        |   |                 |               |                 |                         |                 |
| Ground fault monitoring                  | Yes   |                 |               |                 |                         |                 |
| DC reverse-polarity protection           | Yes   |                 |               |                 |                         |                 |
| Integrated AFCI 2.0                      | Optional  |                 |               |                 |                         |                 |
| Protection class / Over voltage category | I / II (PV and BAT), III (MAINS and BACKUP and GEN)   |                 |               |                 |                         |                 |
| <b>General Data</b>                      |   |                 |               |                 |                         |                 |
| Dimensions (W × H × D)                   | 335 × 560 × 227 mm  |                 |               |                 |                         |                 |
| Weight                                   | 21.6 kg   |                 |               |                 |                         | 22.2 kg         |
| Topology                                 | High frequency isolation (for battery)  |                 |               |                 |                         |                 |
| Operating ambient temperature range      | -40 ~ +60°C   |                 |               |                 |                         |                 |
| Ingress protection                       | IP66  |                 |               |                 |                         |                 |
| Cooling concept                          | Natural cooling   |                 |               |                 | Intelligent fan-cooling |                 |
| Max. operation altitude                  | 3000 m  |                 |               |                 |                         |                 |
| Grid connection standard                 | NRS 097-2-1, IEC 62116, IEC 61727, IEC 60068, IEC 61683, EN 50530, MEA, PEA, NBR 16149, NBR 16150 |                 |               |                 |                         |                 |
| Safety / EMC standard                    | IEC/EN 62109-1/-2, EN 61000-6-2/-3  |                 |               |                 |                         |                 |
| <b>Features</b>                          |   |                 |               |                 |                         |                 |
| DC connection                            | MC4 plug (PV port) / Terminal Block (BAT port)  |                 |               |                 |                         |                 |
| AC connection                            | Terminal Block  |                 |               |                 |                         |                 |
| Display                                  | 7.0" LCD display & Bluetooth + APP  |                 |               |                 |                         |                 |
| Communication                            | RS485, CAN, Optional: Wi-Fi, GPRS, LAN  |                 |               |                 |                         |                 |