

## ALPS54D30-TP

### 430-460W

High performance N-type  
Dual Glass Bifacial Solar Module

#### European Quality

Manufactured in the EU with the highest quality standards and advanced technology.

#### Exceptional Efficiency

Delivers superior energy yield even in low-light or high-temperature conditions.

#### Reliable Durability

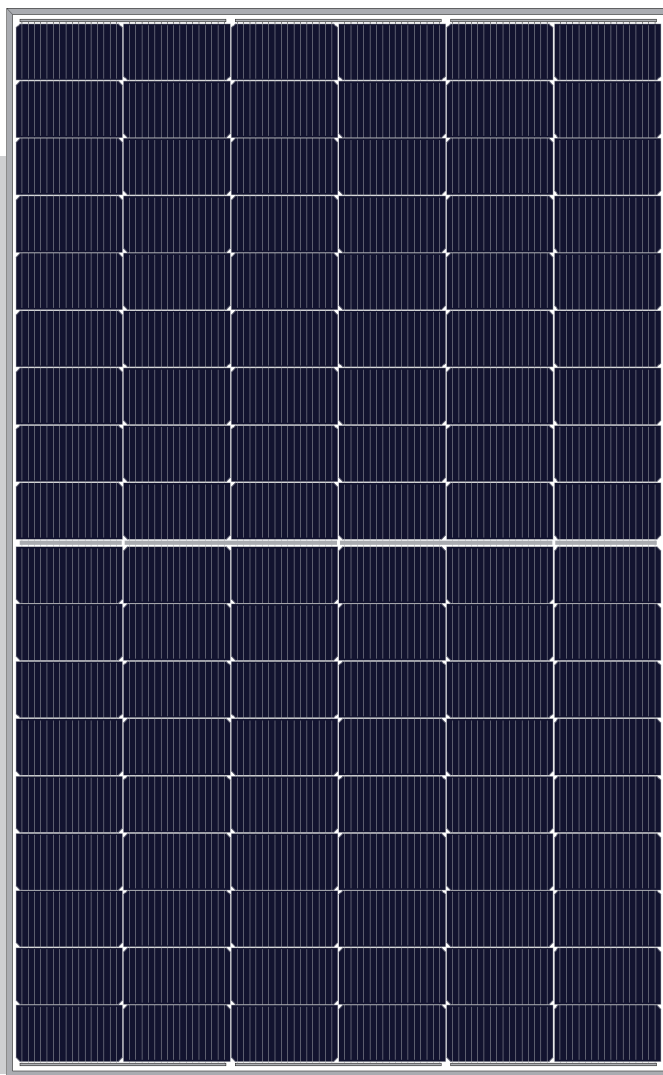
Engineered with premium tempered glass and reinforced frames for lasting reliability.

#### N-Type with Low LID

Advanced N-type cells minimize Light-Induced Degradation (LID) for performance stability.

#### Unmatched Warranty

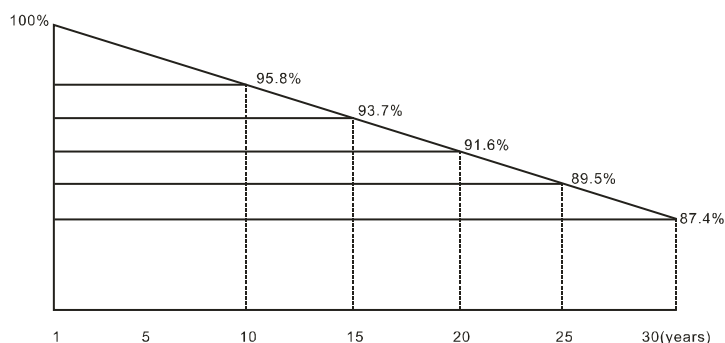
30-year performance and 25-year product coverage surpass industry norms.



Linearity power and output warranty



Excellent products material and process warranty



#### Comprehensive Certificates



Solutions

IEC 61215, IEC 61730, UL61730

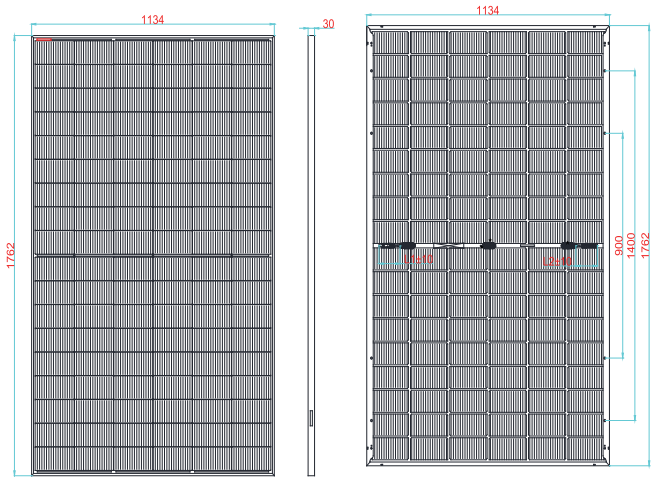
ISO 9001: 2015 / Quality Management System

ISO 14001: 2015 / Environmental Management System

ISO 45001: 2018 / Occupational Health And Safety

MECHANICAL PROPERTIES

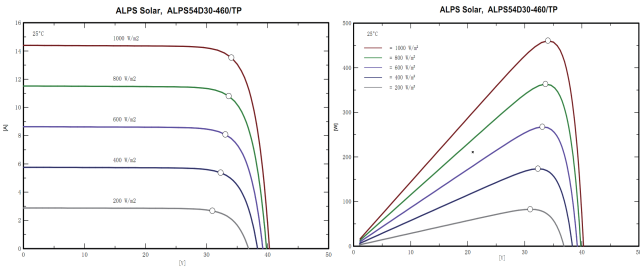
|                                   |                                    |
|-----------------------------------|------------------------------------|
| Solar Cells                       | 182 N-type                         |
| Number of Cells                   | 108(6×18)                          |
| Module Dimensions                 | 1762×1134×30 mm                    |
| Weight                            | 24kg                               |
| Cable Cross Section Size          | 4mm²(IEC),12AWG(UL)                |
| Junction Box                      | IP68, 3diodes                      |
| Connector                         | MC4 / EVO 2A                       |
| Cable Length(Including Connector) | 290mm                              |
| Front Glass/Back Glass            | 2.0mm/2.0mm (White Grid Glass)     |
| Packaging information             | 36pcs/Pallet,936pcs/40HQ Container |



WORKING PARAMETERS

|                            |                |
|----------------------------|----------------|
| Maximum System Voltage     | 1500V DC (IEC) |
| Operational Temperature    | -40°C~+85°C    |
| Maximum Series Fuse Rating | 30A            |
| Maximum Static Load, Front | 5400 pa        |
| Maximum Static Load, Back  | 2400 pa        |
| NOCT                       | 45±2°C         |
| Safety Class               | Class A        |

CHARACTERISTICS



ELECTRICAL DATA (STC&BNPI)

| Model                           | ALPS54D30<br>-430/TP                                                                                                                           |       | ALPS54D30<br>-435/TP |       | ALPS54D30<br>-440/TP |       | ALPS54D30<br>-445/TP |       | ALPS54D30<br>-450/TP |       | ALPS54D30<br>-455/TP |       | ALPS54D30<br>-460/TP |       |
|---------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|-------|----------------------|-------|----------------------|-------|----------------------|-------|----------------------|-------|----------------------|-------|----------------------|-------|
| Testing Condition               | STC                                                                                                                                            | BNPI  | STC                  | BNPI  | STC                  | BNPI  | STC                  | BNPI  | STC                  | BNPI  | STC                  | BNPI  | STC                  | BNPI  |
| Rated Maximum Power (Pmax) [W]  | 430                                                                                                                                            | 476   | 435                  | 482   | 440                  | 488   | 445                  | 493   | 450                  | 499   | 455                  | 504   | 460                  | 510   |
| Maximum Power Voltage (Vmp) [V] | 32.55                                                                                                                                          | 32.65 | 32.75                | 32.85 | 32.95                | 33.05 | 33.15                | 33.25 | 33.25                | 33.35 | 33.45                | 33.55 | 33.65                | 33.75 |
| Maximum Power Current (Imp) [A] | 13.21                                                                                                                                          | 14.59 | 13.28                | 14.67 | 13.35                | 14.75 | 13.42                | 14.83 | 13.53                | 14.95 | 13.60                | 15.03 | 13.67                | 15.10 |
| Open Circuit Voltage (Voc) [v]  | 39.10                                                                                                                                          | 39.2  | 39.30                | 39.4  | 39.50                | 39.6  | 39.70                | 39.8  | 39.90                | 40.0  | 40.10                | 40.2  | 40.30                | 40.4  |
| Short Circuit Current (Isc) [A] | 14.01                                                                                                                                          | 15.51 | 14.08                | 15.58 | 14.15                | 15.65 | 14.21                | 15.71 | 14.28                | 15.78 | 14.34                | 15.84 | 14.40                | 15.90 |
| Module Efficiency [%]           | 21.52                                                                                                                                          |       | 21.77                |       | 22.02                |       | 22.27                |       | 22.52                |       | 22.77                |       | 23.02                |       |
| Power Tolerance                 | 0~+3%                                                                                                                                          |       |                      |       |                      |       |                      |       |                      |       |                      |       |                      |       |
| Temperature Coefficient of Isc  | +0.044%/°C                                                                                                                                     |       |                      |       |                      |       |                      |       |                      |       |                      |       |                      |       |
| Temperature Coefficient of Voc  | -0.250%/°C                                                                                                                                     |       |                      |       |                      |       |                      |       |                      |       |                      |       |                      |       |
| Temperature Coefficient of Pmax | -0.290%/°C                                                                                                                                     |       |                      |       |                      |       |                      |       |                      |       |                      |       |                      |       |
| Standard test environment       | STC:Irradiance 1000W/m2, Cell Temperature 25°C, Air Mass AM1.5<br>BNPI: Irradiance: front 1000W/m, rear 135W/m2, Cell Temperature 25°C, AM=1.5 |       |                      |       |                      |       |                      |       |                      |       |                      |       |                      |       |

Note: Continuous innovation and product upgrades may result in changes to specifications. These parameters are intended for comparison between different models only.

BIFACIAL OUTPUT-BACKSIDE POWER GAIN

| Model                | ALPS54D30<br>-430/TP | ALPS54D30<br>-435/TP | ALPS54D30<br>-440/TP | ALPS54D30<br>-445/TP | ALPS54D30<br>-450/TP | ALPS54D30<br>-455/TP | ALPS54D30<br>-460/TP |
|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| 5% Power Output (W)  | 452                  | 457                  | 462                  | 467                  | 473                  | 478                  | 483                  |
| Module Efficiency    | 22.60%               | 22.86%               | 23.12%               | 23.38%               | 23.65%               | 23.91%               | 24.17%               |
| 10% Power Output (W) | 473                  | 479                  | 484                  | 490                  | 495                  | 501                  | 506                  |
| Module Efficiency    | 23.67%               | 23.95%               | 24.22%               | 24.50%               | 24.77%               | 25.05%               | 25.32%               |
| 20% Power Output (W) | 516                  | 522                  | 528                  | 534                  | 540                  | 546                  | 552                  |
| Module Efficiency    | 25.82%               | 26.12%               | 26.42%               | 26.73%               | 27.03%               | 27.33%               | 27.63%               |

Note: The information included in this PV module datasheet is subject to change without any notice and is provided for informational purposes only. No contractual rights are established or should be inferred because of the user's reliance on the information contained in this PV module datasheet. Please contact ALPS Solar Energy's local offices for updated product information. Thank you.