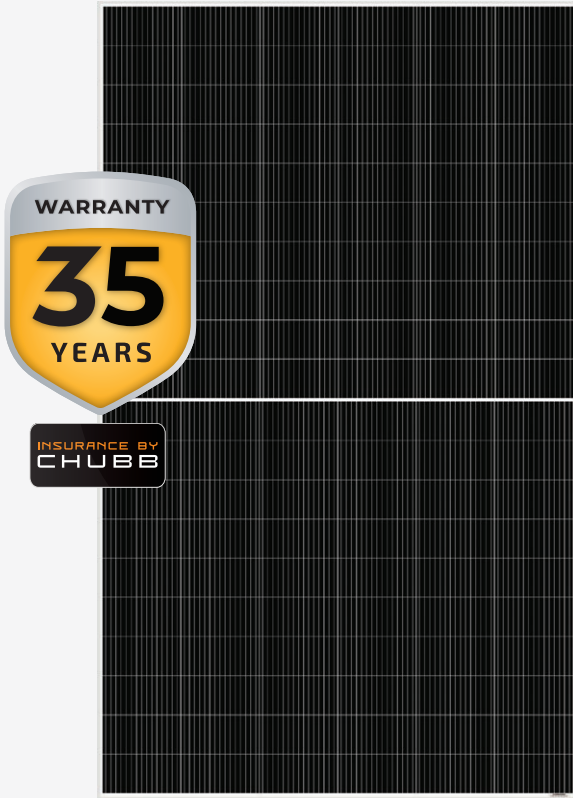


### TOPCON



**REVOLUTIONARY EFFICIENCY UP TO 22.62%**  
**HIEFFICIENCY** technology is a guarantee of the highest performance and power as well as lower BOS cost

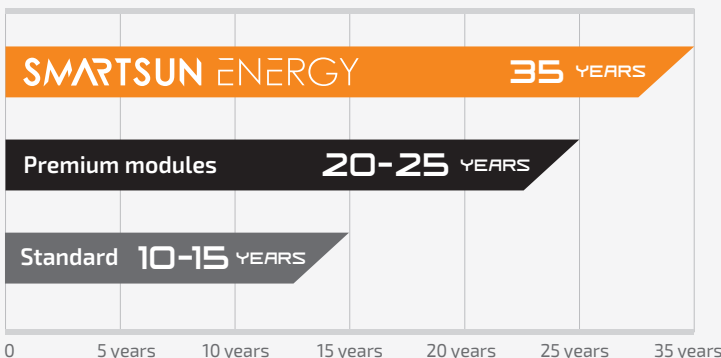
**INNOVATIVE PHOTOVOLTAIC TOPCON CELLS**  
TOPCON N-TYPE cells feature an additional, ultra-thin silicon layer and even higher efficiency

**EXCELLENT PERFORMANCE IN UNFAVORABLE WEATHER CONDITIONS**  
Outstanding performance under low sunlight and extreme temperature conditions

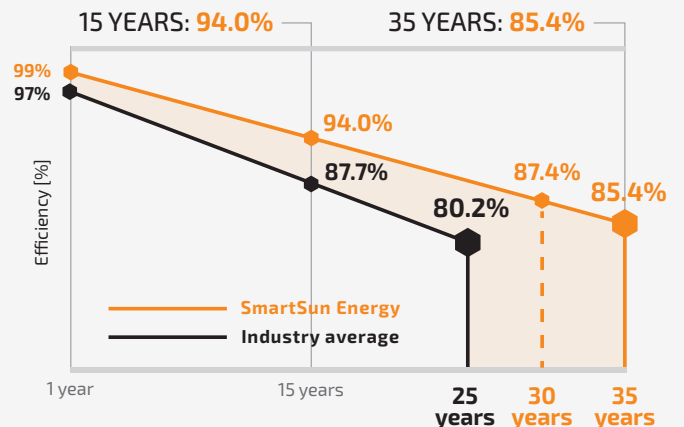
**EXTREME DURABILITY**  
Hurricane wind resistance (2400 Pa) and very high snow loads (5400 Pa)

**TÜV SÜD CERTIFIED RESISTANCE**  
TÜV SÜD certificates confirming salt mist and ammonia resistance as well as PID

PRODUCT WARRANTY: **35 YEARS**  
SMARTSUN ENERGY VS OTHER MODULES:



LINEAR POWER WARRANTY:



## PRODUCT SPECIFICATION (STC)

## MODULE CODE: SSP<sub>xxx</sub>S8-120NT

| Parameter                  | Symbol     | 470 W                             | 475 W   | 480 W   | 485 W   | 490 W   |
|----------------------------|------------|-----------------------------------|---------|---------|---------|---------|
| Maximum power              | $P_{MPP}$  | 470 W                             | 475 W   | 480 W   | 485 W   | 490 W   |
| Maximum power voltage      | $V_{MPP}$  | 36.79 V                           | 36.96 V | 37.13 V | 37.30 V | 37.47 V |
| Maximum power current      | $I_{MPP}$  | 12.78 A                           | 12.85 A | 12.93 A | 13.00 A | 13.07 A |
| Open circuit voltage       | $V_{OC}$   | 43.34 V                           | 43.51 V | 43.68 V | 43.85 V | 44.02 V |
| Short circuit current      | $I_{SC}$   | 13.55 A                           | 13.60 A | 13.65 A | 13.70 A | 13.75 A |
| Module efficiency          | $\eta$     | 21.70 %                           | 21.93 % | 22.16 % | 22.39 % | 22.62 % |
| Maximum system voltage     | $V_{SYS}$  | DC 1500 V (TÜV) / DC 1000 V (TÜV) |         |         |         |         |
| Maximum series fuse rating | $I_{FUSE}$ | 25 A                              |         |         |         |         |

Electrical parameters at standard test conditions (STC: AM=1.5; 1000 W/m<sup>2</sup>; Cells temperature: 25°C)

## PRODUCT SPECIFICATION (NMOT)

| Parameter             | Symbol    | 356 W   | 360 W   | 363 W   | 367 W   | 371 W   |
|-----------------------|-----------|---------|---------|---------|---------|---------|
| Maximum power         | $P_{MPP}$ | 356 W   | 360 W   | 363 W   | 367 W   | 371 W   |
| Maximum power voltage | $V_{MPP}$ | 35.41 V | 35.58 V | 35.74 V | 35.90 V | 36.07 V |
| Maximum power current | $I_{MPP}$ | 10.03 A | 10.09 A | 10.15 A | 10.20 A | 10.26 A |
| Open circuit voltage  | $V_{OC}$  | 41.22 V | 41.38 V | 41.54 V | 41.71 V | 41.87 V |
| Short circuit current | $I_{SC}$  | 10.67 A | 10.71 A | 10.74 A | 10.78 A | 10.82 A |

Electrical parameters at standard test conditions (STC: AM=1.5; 800 W/m<sup>2</sup>; Cells temperature: 20°C, Wind speed: 1 m/s)

## MECHANICAL DATA

|                 |  |
|-----------------|--|
| Dimensions      | 1903 x 1134 x 30 mm  |
| Weight          | 23.0 kg  |
| Glass           | Single; 3.2 mm tempered with AR Coating                      |
| Output cables   | Length: 2 x 120 cm<br>Section: 4 mm <sup>2</sup>             |
| Connectors      | MC4 compatible, IP68   |
| Cell type       | N-Type; Monocrystalline; Half-Cell (16 BB) 91.00 x 182.00 mm |
| Number of cells | 120 cells  |
| Frame corners   | Mechanically clamped   |
| Frame           | Anodized aluminum  |
| Bypass diodes   | 3 pcs.   |

## TEST, CERTIFICATIONS AND WARRANTIES

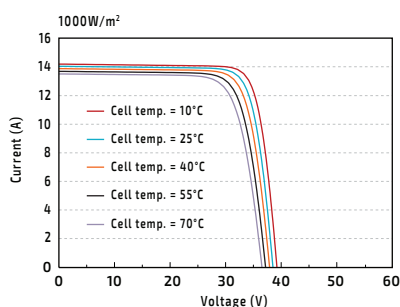
|                                     |  |
|-------------------------------------|--|
| Standard tests                      | IEC 61215, IEC 61730, IEC 61701<br>IEC 62716, Utility class „A“<br>Protection class „II“, LID < 0.5%<br>PPP 58042B |
| Fire resistance                     | Class „C“  |
| System certs                        | ISO 9001, ISO 14001, ISO 45001   |
| Certifications                      | TÜV SÜD, CE, WEEE  |
| Extreme wind and snow loads testing | Wind: 2400 Pa<br>Snow: 5400 Pa   |
| Power tolerance                     | from 0 to +5W  |
| Junction box                        | IP68   |
| Warranties                          | 35 years product warranty<br>35 years power warranty (85.4%)   |

## PACKING CONFIGURATION

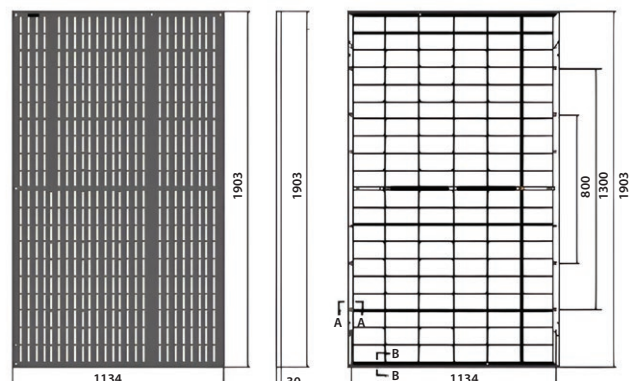
|                       |       |                      |     |
|-----------------------|-------|----------------------|-----|
| Container             | 40'HQ | Pieces per pallet    | 36  |
| Pallets per container | 24    | Pieces per container | 864 |

## TEMPERATURE CHARACTERISTICS

|                         |                   |                       |            |
|-------------------------|-------------------|-----------------------|------------|
| $I_{SC}(T_K, I_{SC})$   | 0.046 %/°C        | $V_{OC}(T_K, V_{OC})$ | -0.25 %/°C |
| $P_{MPP}(T_K, P_{MPP})$ | -0.30 %/°C        | NMOT                  | +45 ± 2°C  |
| Operating temperature   | from -40 to +85°C |                       |            |



## DIMENSIONS AND STRUCTURE (MM)



DUE TO CONTINUOUS PRODUCT IMPROVEMENT, SMARTSUN ENERGY RESERVES THE RIGHT TO MAKE CHANGES TO THE TECHNICAL DATA SHEET WITHOUT PRIOR NOTICE