



## Highlights



Assembled with multi-busbar cells, reduce shading effect on the energy generation, lower risk of hot spot.



Pass the test for weather resistance in harsh environments (salt mist, ammonia corrosion and sand).



Excellent encapsulating materials and strict production process to ensure highly resistance against PID (Potential Induced Degradation) of PV module.



Lower oxygen and carbon content result in lower LID.



Series and parallel design, reduce the series resistance RS of module, reduce the loss of internal electrical performance, and improve the power generation capacity of whole system.



Cutting solar cell technology, which significantly reduces string current and module damage, it is good choice for projects in high temperature areas.



## TECHNICAL SPECIFICATIONS

### 670W

**Electrical data** (at standard conditions (STC) irradiance 1000 watt/m<sup>2</sup>, spectrum AM 1,5 at a cell temperature of 25°C)

Type	Nominal output P <sub>mpp</sub>	Nominal voltage U <sub>mpp</sub>	Nominal current I <sub>mpp</sub>	Short circuit current I <sub>sc</sub>	Open circuit voltage U <sub>oc</sub>	Module conversion efficiency
NB640-66M	640 Wp	37,20V	17,20A	18,35A ± 4%	45,00V ± 3%	20,60%
NB650-66M	650 Wp	37,40V	17,40A	18,44A ± 4%	45,30V ± 3%	20,93%
NB660-66M	660 Wp	37,60V	17,55A	18,53A ± 4%	45,70V ± 3%	21,25%
NB670-66M	670 Wp	37,80V	17,75A	18,62A ± 4%	46,10V ± 3%	21,57%
NB680-66M	680 Wp	38,00V	17,90A	18,71A ± 4%	46,50V ± 3%	21,90%

#### Design

Frontside	3,2 mm hardened, low-reflection white glass
Cells	210 monocrystalline high efficiency cells
Backside	Composite film
Frame	35 mm silver aluminium frame

#### Mechanical data

L x W x H	2384 x 1303 x 35 mm
Weight	33kg with Aluminum frame

#### Power connection

Socket	Protection Class IP68
Wire	approx. 1,2 m, 4 mm <sup>2</sup>
Plug-in system	Plug/socket IP68, Stäubli EVO2 / EVO2 pluggable

#### Limit values

System voltage	1500V~2000V DC
NOCT (nominal operating cell temperature)*	45°C +/-2K
Max. load-carrying capacity	2400 N/m <sup>2</sup>
Reverse current feed IR	20,0 A
Permissible operating temperature	-40°C to 85°C / -40°F to 185°F

(No external voltages greater than U<sub>oc</sub> may be applied to the module)

\* NOCT, irradiance 800 W/m<sup>2</sup>; AM 1,5; wind speed 1 m/s; Temperature 20°C

#### Temperature coefficients

Voltage U <sub>oc</sub>	-0,27 %/K
Current I <sub>sc</sub>	0,048 %/K
Output P <sub>mpp</sub>	-0,35 %/K

#### Low-light performance

I-U characteristic curve	Current I <sub>pp</sub>	Voltage U <sub>pp</sub>
200 W/m <sup>2</sup>	2,24 A	40,05 V
400 W/m <sup>2</sup>	4,51 A	40,51 V
600 W/m <sup>2</sup>	6,74 A	40,82 V
800 W/m <sup>2</sup>	8,91 A	41,17 V
1000 W/m <sup>2</sup>	10,94 A	41,61 V

#### Packaging

Module pieces per pallet	31
Module pieces per HC-container	558

#### I-V Curve

