



Produktoversigt

SF145-W

SF150-W

SF155-W

SF160-W

SF165-W

SF170-W



Den nye generation CIS-solcellemoduler

SF145-170-W moduler er certificeret for statisk belastning til 5.400 Pa ifølge IEC 61646, og velegnet i snerige områder. Solar Frontier's SF145-170 modulerie byder på den højeste effektivitetsgrad på 13,8 %. Alle moduler fra Solar Frontier er uden bly og cadmium samt overholder RoHS retningslinjerne.

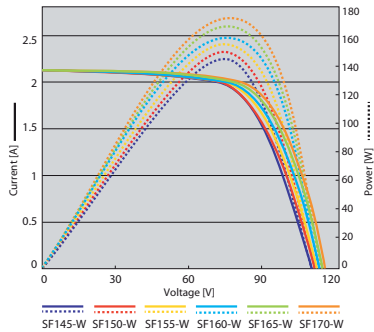
Færre produktionstrin og mindre råstofforbrug ved produktionen fører til markedets mindste energi-tilbagebetalingstid på under et år.

SF 145-170 modulerne bliver leveret i papirfri forpakning, og anvender istedet beskyttelses-hjørner i genbrugsplast.

Produkt & Teknologi Highlights

- Højeste effektivitetsgrad inden for masseproducerede tyndfilms-solceller på 13,8 %
- Verdensrekord på 20,9 % i laboratorie
- Sne-belastning: 5.400 Pa
- "Light Soaking Effect" øger effektiviteten efter installation
- Gode svagt-lys kvaliteter
- Stor skygge tolerance
- Høj temperatur stabilitet
- Resultat af udviklingsarbejde siden 1978
- Uden bly og cadmium

I-V Curve



STC Characteristics

| | | SF145-W | SF150-W | SF155-W | SF160-W | SF165-W | SF170-W |
|--------------------------|------|-----------|---------|---------|---------|---------|---------|
| Nominal power | Pmax | 145 W | 150 W | 155 W | 160 W | 165 W | 170 W |
| Module efficiency | % | 11.8 % | 12.2 % | 12.6 % | 13.0 % | 13.4 % | 13.8 % |
| Power tolerance | | +5 W/ 0 W | | | | | |
| Open circuit voltage | Voc | 107.0 V | 108.0 V | 109.0 V | 110.0 V | 110.0 V | 112.0 V |
| Short circuit current | Isc | 2.20 A | 2.20 A | 2.20 A | 2.20 A | 2.20 A | 2.20 A |
| Voltage at nominal power | Vmpp | 81.0 V | 81.5 V | 82.5 V | 84.0 V | 85.5 V | 87.5 V |
| Current at nominal power | Impp | 1.80 A | 1.85 A | 1.88 A | 1.91 A | 1.93 A | 1.95 A |

Standard Test Conditions (STC): 1,000 W/m² irradiance, module temperature 25 °C, air mass 1.5. Isc and Voc are ±10 % tolerance of STC rated values. Module output may rise due to the Light Soaking Effect. Subject to simulator measurement uncertainty (using best-in-class AAA solar simulator and applying Solar Frontier preconditioning requirements): +10 %/ -5 %.

Certificates and Guarantee



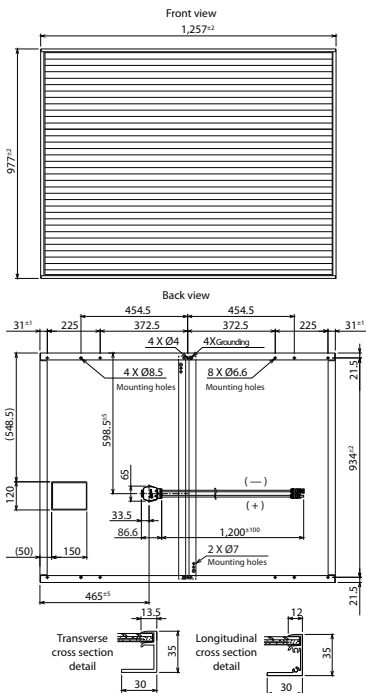
All new product classes are subject to immediate certification
 Product guarantee: 5 years (extended guarantee upon request)
 Power output guarantee: 90 % for 10 years, 80 % for 25 years

NOCT Characteristics

| | | SF145-W | SF150-W | SF155-W | SF160-W | SF165-W | SF170-W |
|--------------------------|------|---------|---------|---------|---------|---------|---------|
| Nominal power | Pmax | 108 W | 111 W | 115 W | 119 W | 123 W | 126 W |
| Open circuit voltage | Voc | 97.4 V | 98.3 V | 99.2 V | 100.0 V | 100.0 V | 102.0 V |
| Short circuit current | Isc | 1.76 A | 1.76 A | 1.76 A | 1.76 A | 1.76 A | 1.76 A |
| Voltage at nominal power | Vmpp | 76.0 V | 76.4 V | 77.4 V | 78.8 V | 80.2 V | 82.1 V |
| Current at nominal power | Impp | 1.43 A | 1.47 A | 1.49 A | 1.51 A | 1.53 A | 1.55 A |

Nominal Operating Cell Temperature Conditions: Module operating temperature at 800 W/m² irradiance, air temperature 20 °C, wind speed 1 m/s and open circuit condition.

Module Drawing



Performance at Low Irradiance

Efficiency reduction of maximum power from an irradiance of 1,000 W/m² to 200 W/m² at 25 °C is typically 2.0 %. The standard deviation for the reduction of efficiency is 1.9 %.

Temperature Characteristics

| | | |
|---------------------------------|----------|-----------|
| NOCT | | 47 °C |
| Temperature coefficient of Isc | α | +0.01 %/K |
| Temperature coefficient of Voc | β | -0.30 %/K |
| Temperature coefficient of Pmax | δ | -0.31 %/K |

Mechanical Characteristics

| | |
|-------------------------------|--|
| Dimensions (L x W x H) | 1,257 x 977 x 35 mm (49.5 x 38.5 x 1.4 in.) |
| Weight | 20 kg (44.1 lbs) |
| Application class (IEC 61730) | Class A |
| Fire rating (IEC 61730) | Class C |
| Safety class (IEC 61140) | II |
| Snow load | 5,400 Pa (IEC 61646) / 3,600 Pa design load (UL 1703) |
| Wind load | 2,400 Pa (IEC 61646) / 1,600 Pa design load (UL 1703) |
| Cell type | CIS glass substrate (cadmium free) |
| Front cover | Clear tempered glass, 3.2 mm |
| Encapsulant | EVA |
| Back sheet | Weatherproof plastic film (color: black & silver) |
| Frame | Anodized aluminum alloy (color: black) |
| Edge sealant | Butyl rubber |
| Junction box | Protection rating: IP67 (with bypass diode) |
| Adhesive | Silicone |
| Output cables (conductor) | 2.5 mm ² / AWG14 (halogen free) |
| Cable lengths (symmetrical) | 1,200 mm (47.2 in.) |
| Connectors | MC4 compatible |
| Packing information | 25 modules/pallet • 36 pallets/40' container (900 modules) |

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