



**MULTI
BUSBAR**

FU 435 / 440 / 460 M SILK® Pro

Monocrystalline Photovoltaic Module - 144 half-cut MBB cells

Engineered
in Italy

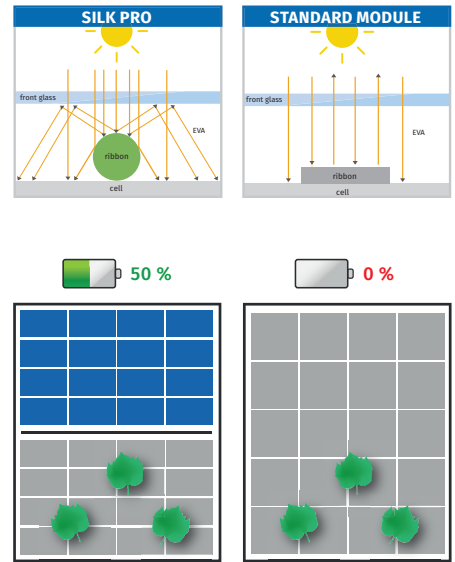


- > IEC 61215:2016 - IEC 61730:2016 & Factory Inspection
- > Fire Class C as per UL 790



GENERAL FEATURES

- **15-year product warranty**
- **9 busbar 166 mm half-cut PERC cells**
- **High module efficiency up to 20.82%**
- **Less shades and more reflected light** to the cell thanks to the round ribbon
- **2 independent section** design secures a higher energy yield in case of shading
- **Lower risk of hot spot and micro cracks**
- **Improved low light performance**
- **Low NMOT**, improving the power generation efficiency
- **Half cut design in combination with multi busbar** reduce operating current and internal resistance



GUARANTEES

Performance guarantee

Max power decrease **0.5%/year**

97% at the end of first year

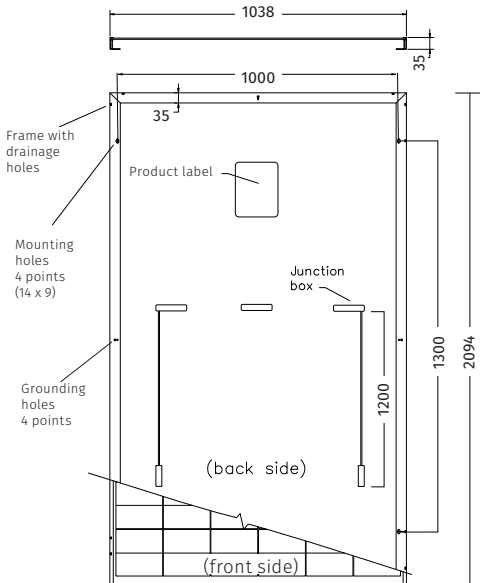
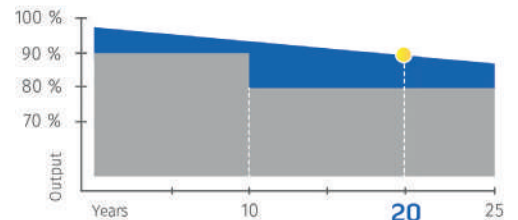
90% at the end of 20th year **NEW**

87% at the end of **25th year**

Product guarantee

15 YEARS **NEW**

Market standard performances
FuturaSun performances



Note: dimensions in mm
tolerance +/- 2 mm

ELECTRICAL DATA

| MODULE SILK® Pro | | FU 435 M SILK® Pro | FU 440 M SILK® Pro | FU 460 M SILK® Pro |
|--|---|--------------------|--------------------|--------------------|
| <i>Standard Test Conditions STC: 1000 W/m² - AM 1.5 - 25 °C - tolerance: Pmax (±3%), Voc (±4%), Isc (±5%)</i> | | | | |
| Module power (Pmax) | W | 435 | 440 | 460 |
| Open circuit voltage (Voc) | V | 48.90 | 49.10 | 49.90 |
| Short circuit current (Isc) | A | 11.24 | 11.30 | 11.55 |
| Maximum power voltage (Vmpp) | V | 40.74 | 40.94 | 41.71 |
| Maximum power current (Impp) | A | 10.68 | 10.75 | 11.03 |
| Module efficiency | % | 19.70 | 19.90 | 20.82 |

Nominal Module Operating Temperature NMOT: 800 W/m² - T=45 °C - AM 1.5

| | | | | |
|------------------------------|---|-------|-------|-------|
| Module power (Pmax) | W | 323 | 327 | 342 |
| Open circuit voltage (Voc) | V | 45.80 | 45.99 | 46.72 |
| Short circuit current (Isc) | A | 9.08 | 9.13 | 9.33 |
| Maximum power voltage (Vmpp) | V | 38.40 | 38.60 | 39.40 |
| Maximum power current (Impp) | A | 8.41 | 8.47 | 8.68 |

TEMPERATURE RATINGS

| | | |
|------------------------------|------|-----------------|
| Temperature coefficient Isc | %/°C | 0.05 |
| Temperature coefficient Voc | %/°C | -0.28 |
| Temperature coefficient Pmax | %/°C | -0.35 |
| NMOT ** | °C | 45 |
| Operating temperature | °C | from -40 to +85 |

**Nominal Module Operating Temperature *For All Black version

MECHANICAL SPECIFICATIONS

| | |
|------------------------------|--|
| Dimensions | 2094 x 1038 x 35 mm |
| Weight | 23.6 kg |
| Glass | High transmission, Low iron, Tempered, ARC, Transparent, 3.2 mm |
| Cell encapsulation | EVA (Ethylene Vinyl Acetate) |
| Cells | 144 monocrystalline half-cut PERC cells 166 x 83 mm |
| Backsheet | White or black* composite multilayer film |
| Frame | Silver or black* anodized aluminium frame with mounting and drainage holes |
| Junction box | Certified according to IEC 62790, IP 68 approved, 3 bypass diodes |
| Cables | Solar cable, length 1200 mm assembled with TongLing TL-CABLE01 or Stäubli PV-KST4/xz-UR or Zhejiang Jiaming PV-JM601 |
| Maximum reverse current (Ir) | 20 A |
| Maximum system voltage | 1000 V |
| Mechanical load (snow) | Design load: 3600 Pa |
| Mechanical load (wind) | Design load: 1600 Pa |
| Protection Class | II - accordance to IEC 61730 |
| Manufacturer | Made in China |

Authorized Dealer

2021_144m_435-460_Silk_Pro_en



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