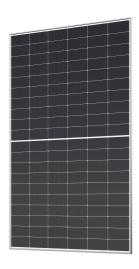


# PRODUCT DATASHEET M 470 N 60 LM -SF-F3

PV PANELS N-TYPE MONOFACIAL SILVER | TopCon monofacial photovoltaic panels with silver frame



# Areas of application

- Utility installations
- Commercial and industrial installations
- Residential installations



#### Product benefits

- TopCon technology provides higher efficiency due to better sunlight conversion than standard panels
- 15-years of product guarantee, 30-years of linear power output guarantee
- Limited PID-effect (potential induced degradation) thanks to strict quality control in production process
- Very low yearly degradation of the cells thanks to the better resistance to high temperatures
- Durable design and highest production standards guarantees operational reliability and quality

#### **Product features**

- Original Stäubli MC4 EVO 2 connectors
- Available in a long cable version
- Frame made of anodized aluminum alloy
- Multi-bus bar (MBB) technology
- Maximum static load up to 5400 Pa

# TECHNICAL DATA

# **ELECTRICAL DATA STC**

Maximum Power Pmax (STC)	470 W
Maximum Power Current Imp (STC)	13.44 A
Short Circuit Current Isc (STC)	14.16 A
Maximum Power Voltage Vmp (STC)	34.98 V
Open Circuit Voltage Voc (STC)	42.63 V
Module efficiency factor (STC)	21.71 %

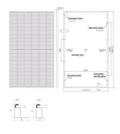
# **ELECTRICAL DATA NMOT**

Maximum Power Pmax (NMOT)	353 W
Maximum Power Current Imp (NMOT)	10.73 A
Short Circuit Current Isc (NMOT)	11.43 A
Maximum Power Voltage Vmp (NMOT)	32.90 V
Open Circuit Voltage Voc (NMOT)	40.23 V

# **ELECTRICAL DATA STC and NMOT**

Power tolerance	3 %

## MECHANICAL DATA



Type of Faciality	Monofacial
Cell material	Mono crystalline
Number of cells	120
Number of bypass diodes	3
With frame	Yes
Type of connection	Staubli MC4 EVO2
Width	1134 mm
Length	1909 mm
Height	30 mm
Product weight	22300.000 g

Cable length	1.2 m	
Glass with anti-reflection coating	Yes	
Colour backsheet	White	
Colour cells	Dark blue	
Colour frame	Silver	
Front Glass	2.0 mm coated semi-tempered glass	

## **TEMPERATURE RATINGS**

Nominal operating cell temperature	44 °C
Temperature coefficient Isc	0.046 %/K
Temperature coefficient Pmpp	-0.300 %/K
Temperature coefficient Uoc	-0.250 %/K

# **OPERATING CONDITIONS**

Maximum series fuse rating	25 A
Temperature range in operation	-40+85 °C
Front Side Maximum Static Loading	5400 Pa
Rear Side Maximum Static Loading	2400 Pa
Reverse current load	25 A

# **EQUIPMENT / ACCESSORIES**

- Product is delivered as a whole, no assembly required from customer
- MC4 EVO 2 connectors are fitted to the panel
- 3 bypass diodes are already installed in the panel

## DOWNLOAD DATA

Documents and certificates Document name		Document name	
User instruction / safety instructions PV MODULE		PV MODULE	
POF	Declarations of conformity	CE Certificate PV Panels	
POF	Product family datasheet	M460-480N60LM-SF-F3_EN	
PDF	EPD	PV_Panels_EPD_F3	

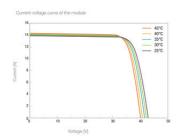
## LOGISTICAL DATA

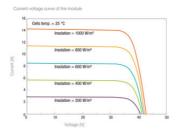
Product code Packaging unit (Pieces/Unit) Dimensions (length x width x height) Gross weight Volume	)
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Product code	Packaging unit (Pieces/Unit)	Dimensions (length x width x height)	Gross weight	Volume
4099854137266	Shipping box 36	1,918 mm x 1,120 mm x 1,147 mm	803880.00 g	2463.94 dm <sup>3</sup>

The mentioned product code describes the smallest quantity unit which can be ordered. One shipping unit can contain one or more single products. When placing an order, for the quantity please enter single or multiples of a shipping unit.

### ADDITIONAL CATALOG INFORMATION





### **DISCLAIMER**

Subject to change without notice. Errors and omission excepted. Always make sure to use the most recent release.