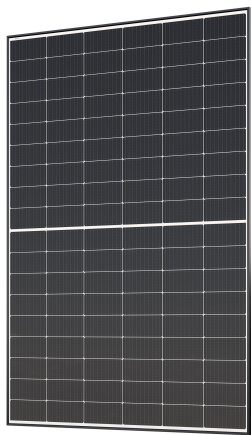


# PRODUCT DATASHEET

## M 410 P 54 LM-BF-F7

PV PANELS P-TYPE MONOFACIAL BLACK | PERC monofacial photovoltaic panels with black frame



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### Areas of application

- Commercial and industrial installations
- Residential installations

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### Product benefits

- 12-years of product guarantee, 25-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

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### 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)	410 W
Maximum Power Current Imp (STC)	13.04 A
Short Circuit Current Isc (STC)	13.95 A
Maximum Power Voltage Vmp (STC)	31.45 V
Open Circuit Voltage Voc (STC)	37.32 V
Module efficiency factor (STC)	21,00 %

## ELECTRICAL DATA NMOT

Maximum Power Pmax (NMOT)	310 W
Maximum Power Current Imp (NMOT)	10.44 A
Short Circuit Current Isc (NMOT)	11.16 A
Maximum Power Voltage Vmp (NMOT)	29.72 V
Open Circuit Voltage Voc (NMOT)	35.23 V

## ELECTRICAL DATA STC and NMOT

Power tolerance	3 %
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## MECHANICAL DATA

Type of Faciality	Monofacial
Cell material	Mono crystalline
Number of cells	108
Number of bypass diodes	3
With frame	Yes
Type of connection	Staubli MC4 EVO2
Width	1134 mm
Length	1722 mm
Height	30 mm
Product weight	21000.000 g
Cable length	1.2 m
Glass with anti-reflection coating	Yes
Colour backsheet	White
Colour cells	Dark blue
Colour frame	Black
Front Glass	2.0 mm coated semi-tempered glass

## TEMPERATURE RATINGS

Nominal operating cell temperature	45 °C
Temperature coefficient Isc	0.045 %/K

Temperature coefficient P <sub>mp</sub>	-0.335 %/K
Temperature coefficient U <sub>oc</sub>	-0.265 %/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
	User instruction / safety instructions	PV MODULE
	Declarations of conformity	CE Certificate PV Panels

## DISCLAIMER

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