

# PRODUCT DATASHEET M 440 N 48 RB-BB-F7

PV PANELS N-TYPE BIFACIAL FULL BLACK | TopCon bifacial photovoltaic panels in full black version



# Areas of application

- Commercial and industrial installations
- Residential installations



#### Product benefits

- TopCon technology provides higher efficiency due to better sunlight conversion than standard panels
- Glass-glass modules offer improved protection against moisture, mechanical loads and fire protection
- 25-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**

- Bifacial both sides of the panel are absorbing the light
- 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)	440 W	
Maximum Power Current Imp (STC)	14.81 A	
Short Circuit Current Isc (STC)	15.94 A	
Maximum Power Voltage Vmp (STC)	29.73 V	
Open Circuit Voltage Voc (STC)	34.84 V	
Module efficiency factor (STC)	22.02 %	

# **ELECTRICAL DATA NMOT**

Maximum Power Pmax (NMOT)	331 W
Maximum Power Current Imp (NMOT)	12.00 A
Short Circuit Current Isc (NMOT)	12.90 A
Maximum Power Voltage Vmp (NMOT)	27.70 V
Open Circuit Voltage Voc (NMOT)	33.00 V

# **ELECTRICAL DATA STC and NMOT**

Power tolerance 3 %
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#### MECHANICAL DATA

Type of Faciality	Bifacial	
Cell material	Mono crystalline	
Number of cells	96	
Number of bypass diodes	3	
With frame	Yes	
Type of connection	Staubli MC4 EVO2	
Width	1134 mm	
Length	1762 mm	
Height	30 mm	
Product weight	24500.000 g	
Cable length	1.2 m	
Glass with anti-reflection coating	Yes	
Colour cells	Dark blue	
Colour frame	Black	
Front Glass	2.0 mm coated semi-tempered glass	
Back Glass	2.0 mm glazed semi-tempered glass	

# **TEMPERATURE RATINGS**

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

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Temperature coefficient Pmpp	-0.290 %/K
Temperature coefficient Uoc	-0.260 %/K

#### **OPERATING CONDITIONS**

Maximum series fuse rating	30 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	30 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	
PDF	User instruction / safety instructions	PV MODULE	
PDF	Declarations of conformity	PV PANEL	
POF	Product family datasheet	M440N48RB-BB-F7_EN	

#### LOGISTICAL DATA

Product code	Packaging unit (Pieces/Unit)	Dimensions (length x width x height)	Gross weight	Volume
4099854317521	Shipping box 36	1,784 mm x 1,120 mm x 1,144 mm	897000.00 g	2285.80 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.

# References / Links

- For Guarantee see www.ledvance.com/guarantee

# **DISCLAIMER**

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