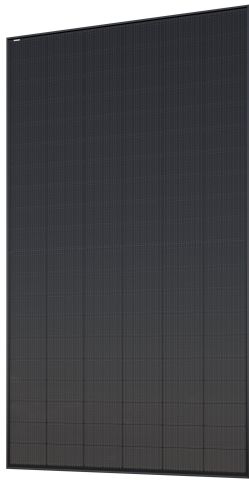


PRODUCT DATASHEET

M 450 H 48 RD -BB-F9

PV PANELS HJT-TYPE MONOFACIAL FULL BLACK | HJT monofacial photovoltaic panels in full black version



Areas of application

- Commercial and industrial installations
- Residential installations

Product benefits

- HJT solar cells achieve the highest degree of efficiency due to heterojunction technology
- Glass-glass modules offer improved protection against moisture, mechanical loads and fire protection
- HJT technology significantly reduces the power degradation of the cells over the years
- 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
- Durable design and highest production standards guarantees operational reliability and quality

Product features

- Heterojunction (HJT) solar modules with glass-glass protection
- Original Stäubli MC4 EVO 2 connectors
- Available in a long cable version
- Frame made of anodized aluminum alloy
- Maximum static load up to 5400 Pa

TECHNICAL DATA

ELECTRICAL DATA STC

| | |
|---------------------------------|---------|
| Maximum Power Pmax (STC) | 450 W |
| Maximum Power Current Imp (STC) | 14.68 A |
| Short Circuit Current Isc (STC) | 15.38 A |
| Maximum Power Voltage Vmp (STC) | 30.66 V |
| Open Circuit Voltage Voc (STC) | 36.50 V |
| Module efficiency factor (STC) | 22.52 % |

ELECTRICAL DATA NMOT

| | |
|----------------------------------|---------|
| Maximum Power Pmax (NMOT) | 342 W |
| Maximum Power Current Imp (NMOT) | 11.73 A |
| Short Circuit Current Isc (NMOT) | 12.29 A |
| Maximum Power Voltage Vmp (NMOT) | 29.17 V |
| Open Circuit Voltage Voc (NMOT) | 34.84 V |

ELECTRICAL DATA STC and NMOT

| | |
|-----------------|-----|
| Power tolerance | 3 % |
|-----------------|-----|

MECHANICAL DATA

| | |
|------------------------------------|--|
| Type of Faciality | Monofacial |
| 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 | 23000.000 g |
| Cable length | 1.2 m |
| Glass with anti-reflection coating | Yes |
| Colour cells | Dark blue |
| Colour frame | Black |
| Front Glass | Yes |
| Back Glass | 2.0 mm tempered glass / Anti-reflective coating / Double glass |

TEMPERATURE RATINGS

| | |
|------------------------------------|-----------|
| Nominal operating cell temperature | 44 °C |
| Temperature coefficient Isc | 0.040 %/K |

| | |
|------------------------------|------------|
| Temperature coefficient Pmpp | -0.290 %/K |
| Temperature coefficient Uoc | -0.240 %/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 |
|--|--|-----------------|
|  | User instruction / safety instructions | PV MODULE |
|  | Product family datasheet | M450H48RD-BB-F9 |

LOGISTICAL DATA

| Product code | Packaging unit (Pieces/Unit) | Dimensions (length x width x height) | Gross weight | Volume |
|---------------|------------------------------|--------------------------------------|--------------|-------------------------|
| 4099854346200 | Shipping box 36 | 1,784 mm x 1,140 mm x 1,140 mm | 843000.00 g | 2318.49 dm ³ |

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.