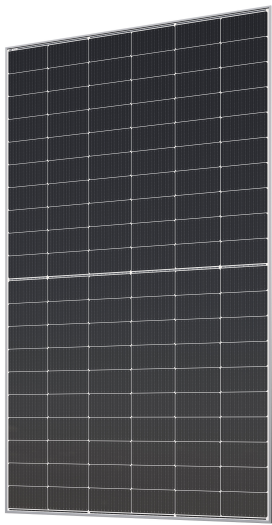


# PRODUCT DATASHEET

## M 690 N 66 UB -SF-F7

PV PANELS N-TYPE BIFACIAL SILVER | TopCon bifacial photovoltaic panels with silver frame



SUPERIOR  
CLASS

### 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
- 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)        | 690 W   |
| Maximum Power Current Imp (STC) | 17.21 A |
| Short Circuit Current Isc (STC) | 18.24 A |
| Maximum Power Voltage Vmp (STC) | 40.10 V |
| Open Circuit Voltage Voc (STC)  | 47.80 V |
| Module efficiency factor (STC)  | 22.21 % |

## ELECTRICAL DATA NMOT

|                                  |         |
|----------------------------------|---------|
| Maximum Power Pmax (NMOT)        | 526 W   |
| Maximum Power Current Imp (NMOT) | 14.07 A |
| Short Circuit Current Isc (NMOT) | 14.72 A |
| Maximum Power Voltage Vmp (NMOT) | 37.40 V |
| Open Circuit Voltage Voc (NMOT)  | 45.30 V |

## ELECTRICAL DATA STC and NMOT

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

## MECHANICAL DATA

|                                    |                                   |
|------------------------------------|-----------------------------------|
| Type of Faciality                  | Bifacial                          |
| Cell material                      | Mono crystalline                  |
| Number of cells                    | 132                               |
| Number of bypass diodes            | 3                                 |
| With frame                         | Yes                               |
| Type of connection                 | Staubli MC4 EVO2                  |
| Width                              | 1303 mm                           |
| Length                             | 2384 mm                           |
| Height                             | 35 mm                             |
| Product weight                     | 37500.000 g                       |
| Cable length                       | 0.3 m                             |
| Glass with anti-reflection coating | Yes                               |
| Colour cells                       | Dark blue                         |
| Colour frame                       | Silver                            |
| Front Glass                        | 2.0 mm coated semi-tempered glass |

## TEMPERATURE RATINGS

|                                    |            |
|------------------------------------|------------|
| Nominal operating cell temperature | 43 °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        | 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           |
|  | Declarations of conformity             | PV PANELS F7        |
|  | Product family datasheet               | M685 705N66UB SF F7 |
|  | EPD                                    | EPD EN PV PANELS F7 |

## LOGISTICAL DATA

| Product code  | Packaging unit (Pieces/Unit) | Dimensions (length x width x height) | Gross weight | Volume                  |
|---------------|------------------------------|--------------------------------------|--------------|-------------------------|
| 4099854593352 | Unpacked<br>1                | 2,384 mm x 1,303 mm x 33 mm          | 37.50 g      | 102.51 dm <sup>3</sup>  |
| 4099854593369 | Shipping box<br>33           | 2,386 mm x 1,100 mm x 1,300 mm       | 1259500.00 g | 3411.98 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](http://www.ledvance.com/guarantee)

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