



## RPI M50A

High efficiency 3-phase solar inverters for the European market - Perfect choice for large-scale solar PV systems, such as those used in the commercial or agricultural sectors.

### Versatile applications

- Aluminium housing ensures long lasting protection against moisture and corrosion
- Wide input voltage range
- Suitable for indoor and outdoor applications (IP65)
- Compact design for simplified installation – exceptional power density-to-size ratio

### Maximum profitability

- Peak efficiency of 98.6 %
- Built-in and replaceable AC and DC-side Type 2 SPDs (surge protection devices) and string fuses <sup>4)</sup>
- 2 MPP trackers - symmetrical and asymmetrical loading possible (40/60 % or 60/40 %)
- Nominal apparent power 50 kVA (55 kVA max. apparent power possible <sup>8)</sup>)

# 50 kVA transformerless solar inverters

## Technical data RPI M50A

| INPUT (DC)                             | RPI M50A  |
|--|---|
| Max. recommended PV power              | 70 kW <sub>p</sub> <sup>1)</sup>                                  |
| Max. input power                       | 58 kW   |
| Nominal power                          | 52 kW <sup>2)</sup>   |
| Voltage range                          | 200 ... 1100 V <sup>3)</sup>                                      |
| MPP operating voltage range            | 200 ... 1000 V  |
| Startup voltage                        | 250 V   |
| Voltage range for maximum power        | 520 ... 800 V symmetrical load (50/50 %)                          |
| Max. current                           | 100 A (50 A per MPP tracker)                                      |
| Max. number of MPP trackers            | Parallel inputs: 1 MPP tracker<br>Separate inputs: 2 MPP trackers |
| Input load                             | ≤ 34.8 kW per MPPT, symmetrical and asymmetrical                  |
| String Fuse Protection                 | 15 A <sup>4)</sup>  |
| Surge Protection Devices <sup>5)</sup> | Type 2  |

| OUTPUT (AC)                            | RPI M50A  |
|--|---|
| Max. apparent power                    | 55 kVA <sup>6)</sup> <sup>8)</sup>  |
| Nominal apparent power                 | 50 kVA <sup>6)</sup>  |
| Voltage range                          | 230 ± 20% / 400 V ± 20% <sup>7)</sup><br>3 phase + PE or 3 phase + N + PE |
| Nominal current                        | 73 A <sup>8)</sup>  |
| Nominal frequency                      | 50 / 60 Hz  |
| Frequency range                        | 50 / 60 Hz ± 5 Hz <sup>7)</sup>   |
| Power factor adjustable                | 0.8 cap ... 0.8 ind   |
| Total harmonic distortion (THD)        | < 3 % @ nominal apparent power  |
| Surge Protection Devices <sup>5)</sup> | Type 2  |

### GENERAL SPECIFICATION

|                                  |  |
|----------------------------------|--|
| Model name                       | RPI M50A   |
| Part numbers Delta <sup>5)</sup> | RPI M50A_120 Model: RPI503FA0E0000<br>RPI M50A_122 Model: RPI503FA0E0200 |
| Max. efficiency                  | 98.6 %   |
| Efficiency EU                    | 98.4 %   |
| Operating temperature            | -25 ... +60 °C   |
| Full power without derating      | -25 ... +40 °C   |
| Storage temperature              | -25 ... +60 °C   |
| Humidity                         | 0 ... 100 % non-condensing   |
| Max. operating altitude          | 2000 m (above sea level)   |
| Standard guarantee               | 5 years (guarantee extension is possible)                                |

### MECHANICAL DESIGN

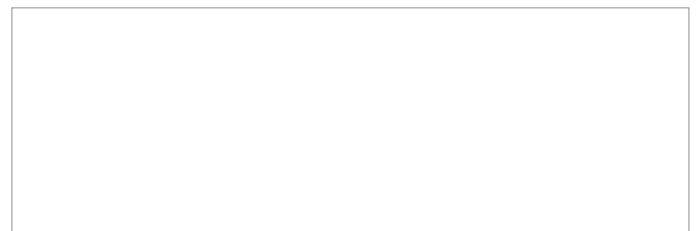
|                          |  |
|--------------------------|--|
| Size (L x W x D)         | 740 × 612 × 278 mm   |
| Weight                   | 74 kg  |
| Cooling                  | Fans   |
| AC connector             | China Aviation Optical-Electrical Technology Co. PVE5T125KE36 (included) |
| DC connector             | 10 pairs of Multi-Contact MC4 (included)                                 |
| Communication interfaces | 2 x RS485, 2 x Dry contacts, 1 x EPO, 6 x Digital inputs                 |
| DC disconnecter          | Integrated   |
| Display                  | 2 LEDs, 4-line LCD   |

| SAFETY / STANDARDS                          | RPI M50A   |
|---|--|
| Protection degree                           | IP65   |
| Safety class                                | I  |
| Configurable trip parameters                | Yes  |
| Insulation monitoring                       | Yes  |
| Overload behavior                           | Current limitation; power limitation   |
| Anti-islanding protection / Grid regulation | VDE 0126-1-1/A1; UTE C15-712-1<br>VDE 16 1-1 A1 VFR 2013/VFR 2014;<br>UTE C15-712 MV; French Islands (50 Hz/60 Hz);<br>G59/3 LV; VDE-AR-N 4105; BDEW;<br>ÖNORM E8001-4-712 + A1: 04/2014; TOR D4 |
| EMC   | EN61000-6-2; EN61000-6-3; EN61000-3-11;<br>EN61000-3-12  |
| Safety                                      | IEC62109-1 / -2; CE compliance   |

- 1) When operated with balanced DC inputs (50/50 %)
- 2) Max. 34.8 kW per DC input with asymmetrical load (60/40 %)
- 3) For some firmware versions limited to 1000 V
- 4) The value when internal temperature of the inverter is 25 °C. At higher internal temperatures, the value may drop to 10 A.
- 5) RPI M50\_120 model has integrated AC & DC-side Type 2 SPDs  
RPI M50\_122 model without SPDs
- 6) Cos Phi = 1 (VA = W)
- 7) AC voltage and frequency range will be programmed according to the individual country requirements.
- 8) 55 kVA / 80A<sub>AC</sub> is possible under the following conditions: DC input voltage 600 V with symmetrical load and ambient temp. is < 34 °C.

|              | DC SPDs | AC SPDs | String Fuses |
|--------------|---------|---------|--------------|
| RPI M50A_120 | X       | X       | X            |
| RPI M50A_122 |         |         | X            |

The M50A is available with (M50A\_120) and without (M50A\_122) AC and DC surge protection devices (SPDs). Important: The model RPI M50A\_122 contains no sockets for SPDs.



### United Kingdom

Email: [sales.uk@solar-inverter.com](mailto:sales.uk@solar-inverter.com)

Tel: 0800 051 4280 (Free Call)

### International

Email: [sales.europe@solar-inverter.com](mailto:sales.europe@solar-inverter.com)

Tel: +49 7641 455 547