The Power Behind Competitiveness

# Delta RPI-M50A - India

Grid-Tied Solar Inverter
RPI-M50A

**Product Features**

- Transformerless Inverter
- Dual MPP Trackers
- Peak Efficiency up to 98.6%
- Connects up to 10 Strings
- Ergonomic Grip Design
- Ultra Compact Size
- Built-in Energy-logger
- IP65 Protection Level
- Built-in AC/DC Switch

www.deltaelectronicsindia.com

DELTA
Smarter. Greener. Together.

# Delta RPI-M50A

## The smallest & lightest 50 kW string inverter in the world.

Delta's latest revolutionary design "RPI-M50A" transformerless PV inverter is the lightest, smallest, and first wall mount-able 50KW string inverter in the world. With such compact size and light weight, RPI-M50A offers more design flexibility for all sizes of PV plants. IP65 enclosure provides higher level of protection and enhances its durability in a harsh outdoor environment.

# Design Features

## Thoughtful Grip Design

Ergonomic grip design gives more convenience while moving the inverter during installation. With special handle protection design, RPI-M50A can be easily placed down on the flat ground vertically without damaging various connectors at the bottom.

(Ergonomic Grip Design)

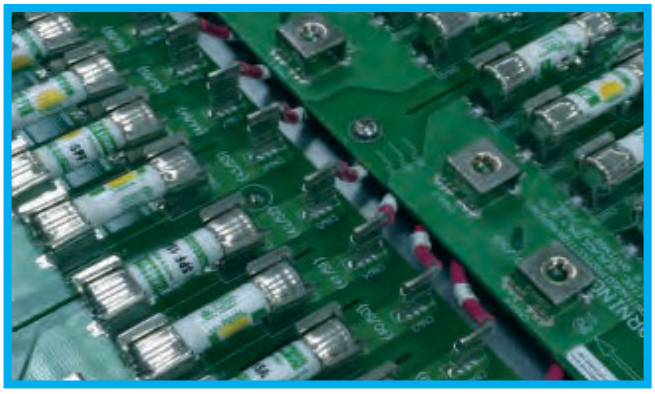
## Built-in SPD & String Fuses

The RPI-M50A comes with built in PV fuse on both the positive and negative strings for all ten inputs. Also the inverter has Type-2 SPD's (Surge Protection Device) for both the DC (One for each MPPT) and AC inputs. Both the PV fuse and SPD's can be replaced. This can bring down the overall PV system costing.

(Surge Protection Devices)

## Outstanding Performance

RPI-M50A comes with a peak efficiency of 98.6 %, guaranteeing better yields and returns on capital cost. The dual MPPT trackers ensure no compromise over shading losses and can accommodate PV arrays with different orientations.

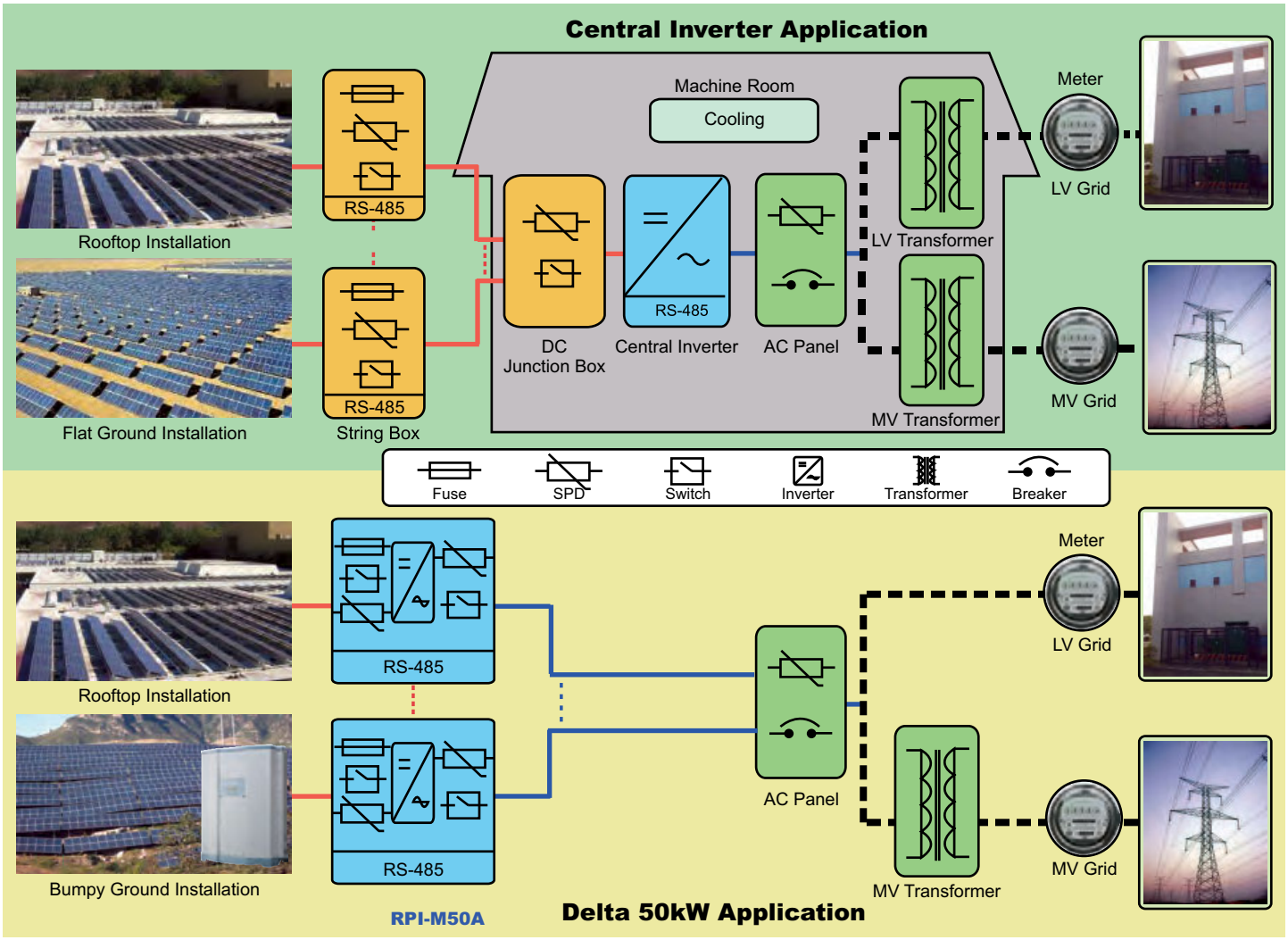


## Protection Features

### AC / DC Safety Switch

Integrated AC/DC switch makes maintenance and trouble shooting easy.

# PV System Comparison




# Savings with RPI-M50A

## Saving on System Cost :

Holistic design with built-in AC/DC switch, PV fuse and SPD's.

## Saving on Space Cost :

Thanks to the IP65 rating of the RPI-M50A, it can be mounted outdoors thereby reducing costs associated with control rooms for central inverters.

## Saving on DC Cable Cost :

The RPI-M50A can be mounted close to the PV panels which brings down the associated DC cable costs and DC cable losses which improves overall system efficiency.

## Dual MPPTs :

Two independent trackers ensure maximum yields even during partial shading of a string. This also helps in accommodating different string orientations within a system.

# Delta RPI-Commercial Series

## Technical data RPI-M50A

| INPUT (DC) | RPI-M50A |
|---|---|
| Max. DC Power | 62.5 kWp |
| Max. Input Voltage | 1000 V |
| DC Voltage Range | 200 - 1000 V |
| MPPT Voltage Range | 520 - 800 V |
| Start-up Voltage | > 250 V |
| Nominal DC Voltage | 600 V |
| Max. Input Current per MPPT | 50 A |
| Total Input Current | 100 A |
| No. of Independent MPP Trackers | 2 |
| Unbalanced Input (%) | 33 / 67 |
| Input Connection Type | 10 pair MC4 |
| DC Disconnection Switch | Yes (Inbuilt) |

| OUTPUT (AC) | |
|---|---|
| Rated Output Power | 50 kVA |
| Max. Output Current | 76 A |
| Nominal AC Voltage | 3 Ph, 400 V |
| AC Voltage Range | 400 V ± 20 % (320~480) |
| Nominal Frequency | 50 Hz |
| Frequency Range | 45 Hz - 55 Hz |
| Power Factor at Rated Power | Unity |
| Reactive Power (Adjustable) | 0.8 Lagging ~ 0.8 Leading |
| THD | <3% at Rated Power |
| No. of Conductors (user settable) | 4/5 Wire (L1,L2,L3,N,PE) |

| EFFICIENCY | |
|---|---|
| Maximum Efficiency | 98.60% |
| Euro Efficiency | 98.40% |

| PROTECTION | |
|---|---|
| AC/DC Disconnection Switch | Yes |
| Ground Fault Monitoring / Grid Monitoring | Yes |
| DC Reverse Polarity Protection | Yes |
| DC Over Voltage / Current Limitation Protection | Yes |
| DC Short Circuit Protection | Yes |
| DC String Fuse (Positive & Negative) | Yes, PV Fuse - 1000V, 15A |
| AC Short Circuit Protection | Yes |
| AC Over Voltage / Current Limitation Protection | Yes |
| Surge Protection - Inbuilt | Yes, Type 2<br>DC - (One for each MPPT) & AC input |

| GENERAL DATA | RPI-M50A |
|---|---|
| Dimension (H/W/D) | 740 x 612 x 278 mm |
| Weight (kg) | 70 |
| Operating Temperature Range | - 25 °C to + 60 °C<br>(Full Power - 20 °C to + 40 °C) |
| Relative Humidity | 0~100%, Non-condensing |
| Operating Elevation | < 2000 m |
| Degree of Protection | IP65 |
| Noise Level (Typical) | <65 dB (1m Front Panel) |
| Self Consumption at Night | < 2 Watts |

| SAFETY/STANDARDS | |
|---|---|
| Anti-islanding Protection / Grid Regulation | VDE-AR-N 4105; VDE 0126-1-1 |
| EMC | EN 61000-6-2; EN 61000-6-4 |
| Safety | IEC 62109-1/-2 |
| Efficiency | IEC 61683:1999 |
| Environmental Testing | IEC 60068-2-1; IEC 60068-2-2; IEC 60068-2-14; IEC 60068-2-30; IEC 60068-2-6; IEC 60068-2-21; IEC 60068-2-27; IEC 60068-2-75; IEC 60068-2-78 (As Per MNRE and SECI Requirement) |
| Ingress Protection | IEC 60529 |

| COMMUNICATION | |
|---|---|
| Communication Interface | MODBUS RTU over RS 485 Physical Layer |
| Graphical Display | 20 X 4 LCD |
| Built-in Energy Data Logger | Yes |
| Emergency Power Off (EPO) | Yes, External Switch to be Connected |

| WARRANTY | |
|---|---|
| Standard Warranty | 5 Years |

**Note**

1 For Thin-film Module Operation (Negative / Positive Grounding), Separate Isolation Transformer is Required at the Grid Interface of Inverter.
2 Mating MC4 Connectors Shall Not Be Part of Standard Supply.
3 Parallel Operation of Inverters is Possible For Large Power Plants.
4 Please Refer to our Standard Warranty Terms and Conditions For Details.

**For Any Sales / Application Engineering Support, Please Contact :**

Loop Solar

H8/3, DLF Phase I, Gurgaon - India

TEL +91 9971136369
www.loopsolar.com I email: info@loopsolar.com