



The Power Behind Competitiveness

Delta RPI-M50A

Grid-Tied Solar Inverter
RPI-M50A



Product Features

- Transformerless Inverter
- Dual MPP Trackers
- Peak Efficiency up to 98.6%
- Connects up to 12 Strings
- Ergonomic Grip Design
- Ultra Compact Size
- Built-in Energy-logger
- IP65 Protection Level
- Built-in AC/DC Switch

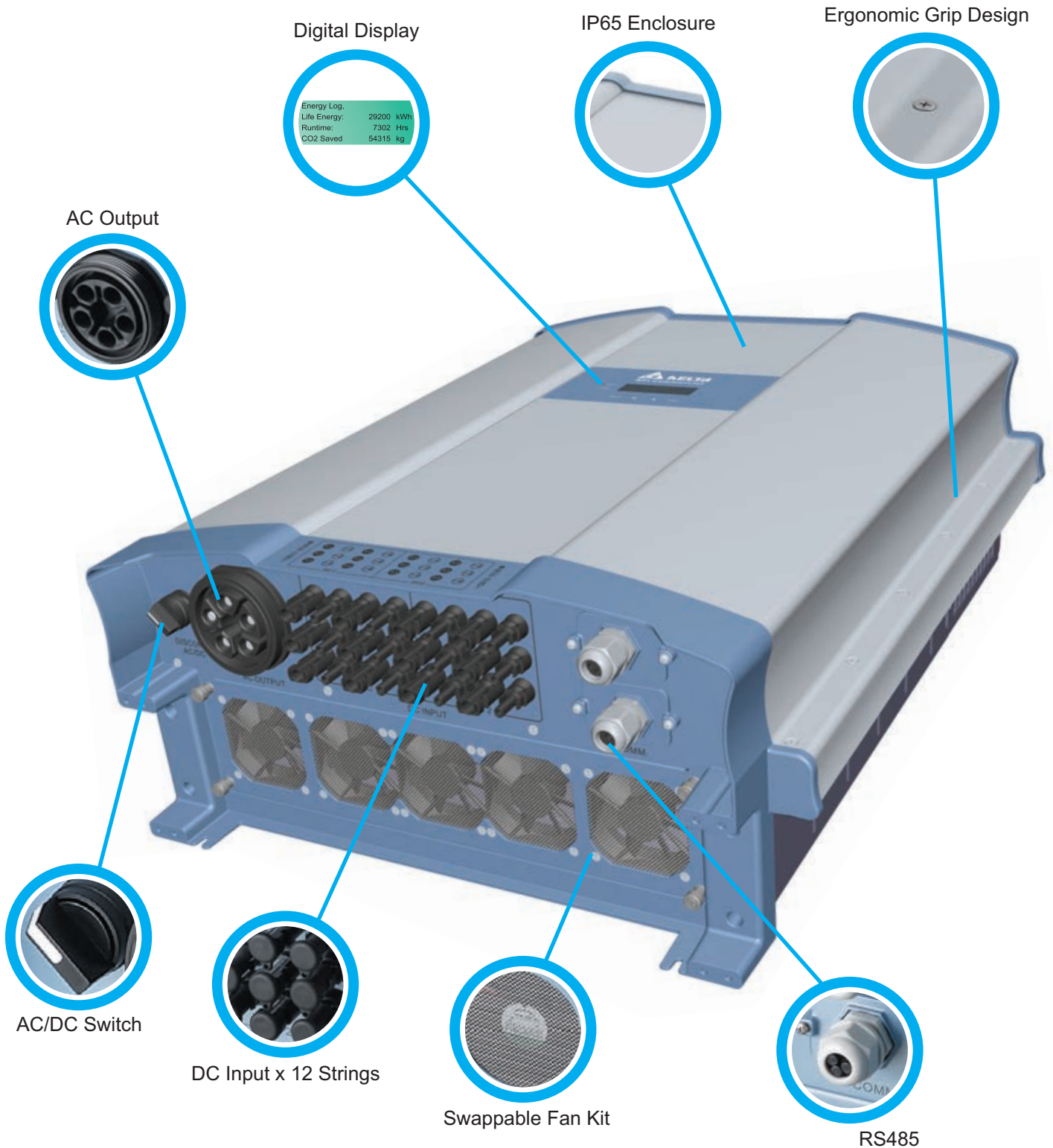
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 **DELTA**
Smarter. Greener. Together.

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

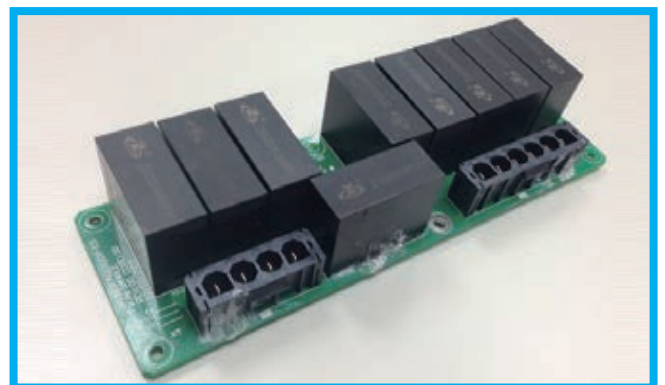
Ergonomic grip design gives more convenience while moving the inverter during installation. With special handle protection design, RPI-M50A can be easily placed down on the flat ground vertically without damaging various connectors at the bottom.



(Ergonomic Grip Design)

Built-in SPD & String Fuses

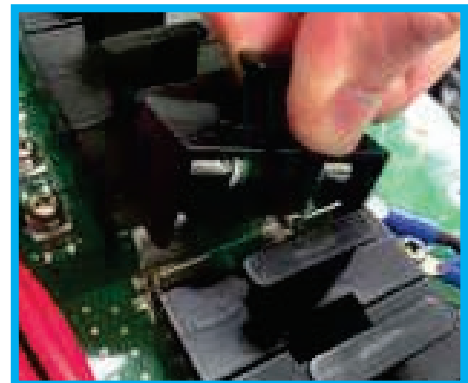
The RPI-M50A comes with built in PV fuse on both the positive and negative strings for all twelve inputs. Also the inverter has Type-2 SPD's (Surge Protection Device) for both the DC (One for each MPPT) and AC inputs. Both the PV fuse and SPD's can be replaced. This can bring down the overall PV system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



Finger-Safe Fuse Holder

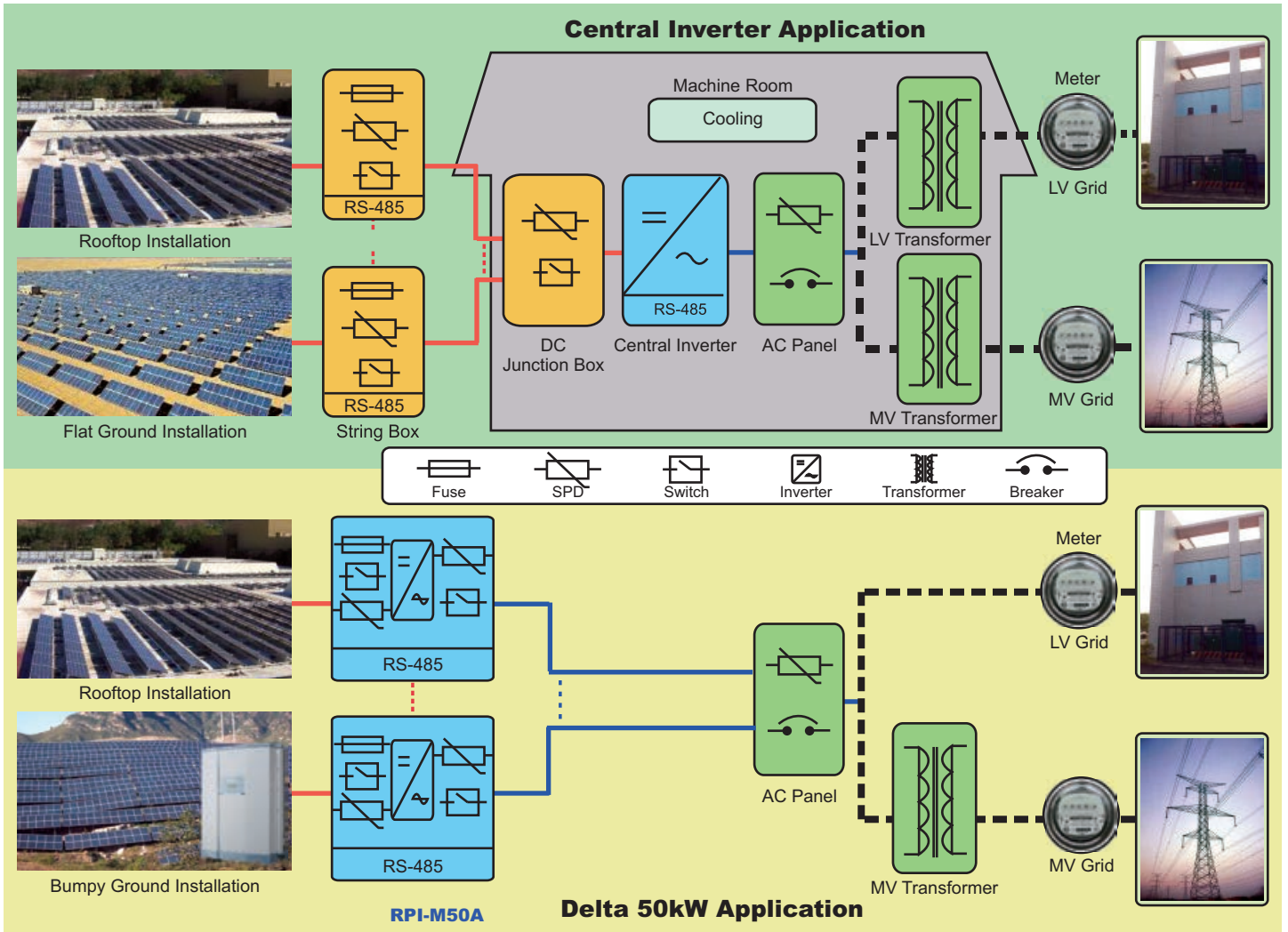
Protection Features

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
Recommended Max. DC Power	63kWp
Max. Input Voltage	1000 V
DC Voltage Range	200 - 1000 V
Start-up Voltage	>250 V
Start-up Power	40W
MPPT Voltage Range	200 - 1000 V
MPP Voltage Range, Full Power	520 - 800 V
Nominal DC Voltage	600 V
Max. Input Current per MPPT	50 A
Total Input Current	100 A
Maximum Short Circuit Current	60A / 60A
No. of Independent MPP Trackers	2
Unbalanced Input (%)	33 / 67
Input Connection Type	12 pair MC4
DC Disconnection Switch	Yes (Inbuilt)

OUTPUT (AC)	
Rated Output Power	50 kVA
Maximum Output Power	55 kVA
Rated Output Current	76 A
Max. Output Current	80 A
Inrush Current	200A / 100µs
Nominal AC Voltage	3 Ph, 415 V
AC Voltage Range	320~480 V
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
Harmonics	<3% at Rated Power
DC Injection	<0.5% at Rated Output Current
No. of Conductors (user settable)	4/5 Wire (L1, L2, L3, N, PE)

EFFICIENCY	
Maximum Efficiency	98.60%
Euro Efficiency	98.40%

PROTECTION	
Input-side Disconnection Device	Yes
Ground fault monitoring / Grid monitoring	Yes
DC reverse polarity protection	Yes
DC Over Voltage / Current Limitation Protection	Yes
DC Short Circuit Protection	Yes, PV Fuse - 1000V, 15A
AC Short Circuit Protection	Yes
AC Over Voltage / Current Limitation Protection	Yes
DC / AC Side Surge Protection - Inbuilt	Yes, SPD - Type 2

GENERAL DATA	RPI-M50A
Dimension (H/W/D)	740 x 612 x 278 mm
Weight (kg)	74kg
Operating Temperature Range	-25°C ~ +60°C (Full Power -20°C ~ +50°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; VDE V 0124; IEC 61727; IEC 62116
EMC	EN 61000-6-2; EN 61000-6-4
Safety	IEC 62109-1/-2
Efficiency	IEC 61683:1999; EN 50530 (As Per MNRE and SECI Requirement)
Environmental Testing	IEC 60068-2 (1,2,14,30) & (6,21,27,75,78)
Ingress Protection	IEC 60529

COMMUNICATION	
Communication Interface	MODBUS RTU over RS 485 Physical Layer
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
Dry Contact Relay (2 Nos.)	Yes

Notes

1. If PV Module is grounded (Negative / Positive Grounding), separate Isolation Transformer is required at the Grid interface of Inverter
2. Parallel Operation of Inverters is possible for large Power Plants
3. For Cos phi = 1 (VA=W); 55 kVa is Possible with: DC Input Voltage 600V; Symmetrical Loading; Ambient Temperature <34° C
4. Refer to Delta's Standard Warranty Terms and Conditions for more details.

For Any Sales / Application Engineering Support, Please Contact :

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