

Thunder Solar

CONTACT US



Sanaa : 779666249 - 7111300001
Aden : 730506452 - 778074120



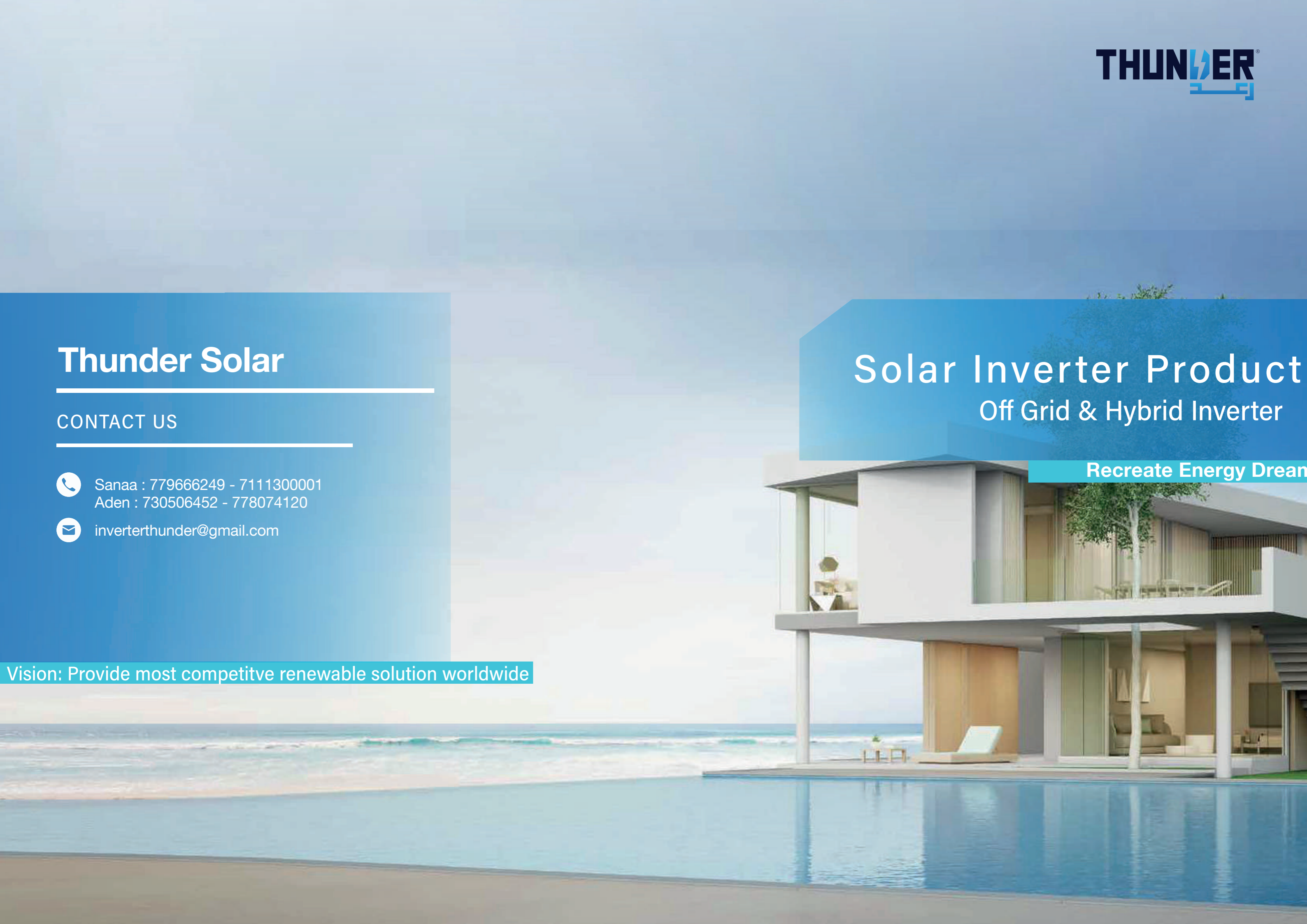
inverterthunder@gmail.com

Solar Inverter Product

Off Grid & Hybrid Inverter

Recreate Energy Dream

Vision: Provide most competitive renewable solution worldwide



COMPANY INTRODUCTION



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Product Family

Solar Off Grid Inverter

RMII (1.5/2.4kW)

- Pure Sine Wave Solar Inverter
- Configurable AC/Solar Input Priority via LCD setting
- Overload and Short Circuit Protection



RMIII (3.5/5.5kW)

- High PV input Voltage Range
- Support Lithium Battery
- Built-in 100A MPPT Solar Charger
- Work Without Battery



RMIII PRO (5.5kW)

- Built-in 100A MPPT Solar Charger
- Support Lithium Battery
- Support Maximum 9 units Parallel
- Work Without Battery



RMIII PRO (8kW)

- Built-in two 4000W MPPTs Solar Charger
- Support Maximum 6 units Parallel
- With Touch Buttons
- Work Without Battery



RMIII PRO (8kW)

- Built-in two 4000W MPPTs Solar Charger
- Support Maximum 6 units Parallel
- With RGB lights
- Work Without Battery



RGB Off Grid Inverter

RMIV (3.6/5.6kW)

- Built-in 120A MPPT Solar Charger
- Support Lithium Battery
- With RGB Lights
- Work Without Battery



RMIV PRO (5.6kW)

- Built-in 120A MPPT Solar Charger
- Support Lithium Battery
- Support Maximum 9 units Parallel
- Work Without Battery



RMIV PRO (8kW)

- Built-in two 4000W MPPTs Solar Charger
- Support Maximum 6 units Parallel
- Touchable Button With Large 5" Colored LCD
- Work Without Battery



Solar Hybrid Inverter

RMIII PRO (3.5/5.5kW)

- Built-in 100A MPPT Solar Charger
- Support Maximum 9 units Parallel
- Support Lithium Battery
- ON/OFF Grid Working Mode



Solar System Accessories

Accessories

- WIFI Module, Parallel Card
- AC/DC Breakers, SPD, FUSE
- Multiples MC4 connector
- AC/DC Cables
- PV Mounting System



RMII

- Pure Sine Wave Solar Inverter
- Configurable AC/Solar Input Priority via LCD setting
- Overload and Short Circuit Protection

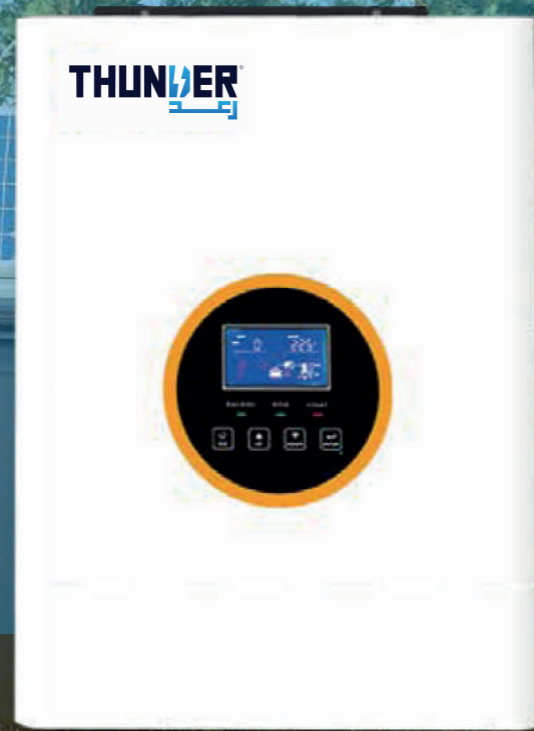


TECHNICAL DATA

Model	RMII 1512	RMII 3024
Rated Power	1500VA	3000VA
AC Input		
Voltage	230VAC	
Selectable Voltage Range	170-280VAC(For Personal Computers) 90-280VAC(For Home Appliances)	
Frequency Range	50Hz/60Hz(Auto Sensing)	
AC Output		
AC Voltage Regulation	230VAC±5%	
Surge Power	3000W	6000W
Efficiency(Peak)	90%-93%	
Efficiency(Peak) PV to INV	-	
Efficiency(Peak) Battery to INV	93%	
Transfer Time	10ms(For Personal Computer);20ms(For Home appliances)	
Battery		
Battery Voltage	12VDC	24VDC
Floating Charge Voltage	13.5VDC	27VDC
Overcharge Protection	16VDC	31VDC
Solar Charger & AC Charger		
Solar Charge Type	MPPT	
Maximum PV Array Power	700W	1400W
MPPT Range @ Operation Voltage	17-80VDC	30-80VDC
Maximum PV Array Open Circuit Voltage	102VDC	
Maximum Solar Charger Current	60A	
Maximum AC Charge Current	20A	
Maximum Charger Current	70A	
Physical		
Dimension,D*W*H(mm)	320*239*105	
Net Weight(kgs)	4.4	7
Communication Interface	RS232/USB/WIFI	
Operating Environment		
Humidity	5% to 95% Relative Humidity(Non-condensing)	
Operating Temperature	-10C to 55C	
Storage Temperature	-15C to 60C	

RMIII

- High PV input Voltage Range
- Support Lithium Battery
- Built-in 100A MPPT Solar Charger
- Work Without Battery

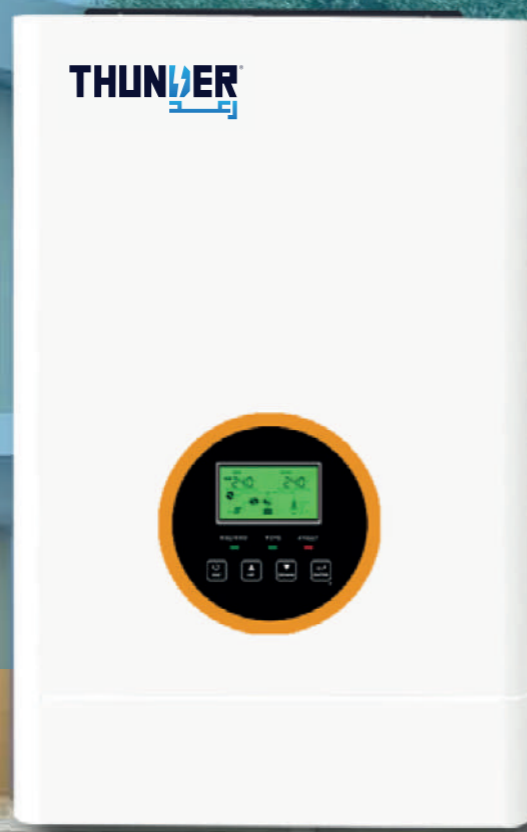


TECHNICAL DATA

Model	RMIII 3524	RMIII 5548
Rated Power	3500VA/3500W	5500VA/5500W
AC Input		
Voltage	230VAC	
Selectable Voltage Range	170-280VAC(For Personal Computers) 90-280VAC(For Home Appliances)	
Frequency Range	50Hz/60Hz(Auto Sensing)	
AC Output		
AC Voltage Regulation	230VAC±5%	
Surge Power	7000W	11000W
Efficiency(Peak)	up to 93.5%	
Efficiency(Peak) PV to INV	93%	
Efficiency(Peak) Battery to INV	93%	
Transfer Time	10ms(For Personal Computer);20ms(For Home appliances)	
Battery		
Battery Voltage	24VDC	48VDC
Floating Charge Voltage	27VDC	54VDC
Overcharge Protection	33VDC	63VDC
Solar Charger & AC Charger		
Solar Charge Type	MPPT	
Maximum PV Array Power	4500W	5500W
MPPT Range @ Operation Voltage	90-450VDC	90-450VDC
Maximum PV Array Open Circuit Voltage	500VDC	
Maximum Solar Charger Current	100A	
Maximum AC Charge Current	80A	
Maximum Charger Current	100A	
Physical		
Dimension,D*W*H(mm)	424*302*126.5	
Net Weight(kgs)	8.5	9
Communication Interface	RS232/USB/RS485/WIFI/Dry-Contact	
Operating Environment		
Humidity	5% to 95% Relative Humidity(Non-condensing)	
Operating Temperature	-10C to 50C	
Storage Temperature	-15C to 60C	

RMIII PRO

- Built-in 100A MPPT Solar Charger
- Support Lithium Battery
- Support Maximum 9 units Parallel
- Work Without Battery

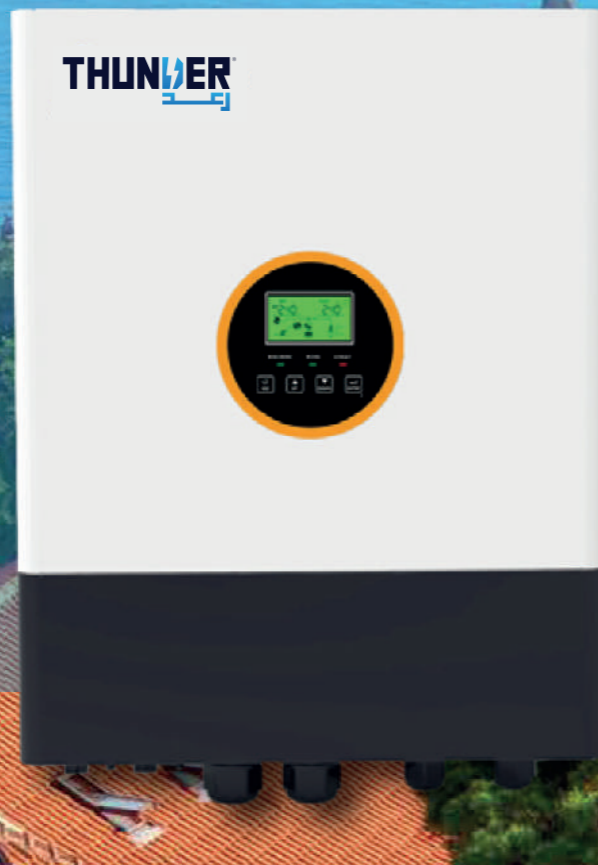


TECHNICAL DATA

Model	RMIII PRO 5548
Rated Power	5500VA/5500W
AC Input	
Voltage	230VAC
Selectable Voltage Range	170-280VAC(For Personal Computers) 90-280VAC(For Home Appliances)
Frequency Range	50Hz/60Hz(Auto Sensing)
AC Output	
AC Voltage Regulation	230VAC±5%
Surge Power	11000W
Efficiency(Peak)	up to 93.5%
Efficiency(Peak) PV to INV	93%
Efficiency(Peak) Battery to INV	93%
Transfer Time	10ms(For Personal Computer);20ms(For Home appliances)
Battery	
Battery Voltage	48VDC
Floating Charge Voltage	54VDC
Overcharge Protection	63VDC
Solar Charger & AC Charger	
Solar Charge Type	MPPT
Maximum PV Array Power	5500W
MPPT Range @ Operation Voltage	90-450VDC
Maximum PV Array Open Circuit Voltage	500VDC
Maximum Solar Charger Current	100A
Maximum AC Charge Current	80A
Maximum Charger Current	100A
Physical	
Dimension,D*W*H(mm)	480*302*120
Net Weight(kgs)	10
Communication Interface	RS232/USB/RS485/WIFI/Dry-Contact
Operating Environment	
Humidity	5% to 95% Relative Humidity(Non-condensing)
Operating Temperature	-10C to 50C
Storage Temperature	-15C to 60C

RMIII PRO

- Built-in two 4000W MPPTs Solar Charger
- Support Maximum 6 units Parallel
- With Touch Buttons
- Work Without Battery



TECHNICAL DATA

Model	RMIII PRO 8048
Rated Power	8000VA/8000W
AC Input	
Voltage	230VAC
Selectable Voltage Range	170-280VAC(For Personal Computers) 90-280VAC(For Home Appliances)
Frequency Range	50Hz/60Hz(Auto Sensing)
AC Output	
AC Voltage Regulation	230VAC±5%
Surge Power	16000W
Efficiency(Peak)	up to 93.5%
Efficiency(Peak) PV to INV	93%
Efficiency(Peak) Battery to INV	93%
Transfer Time	10ms(For Personal Computer);20ms(For Home appliances)
Battery	
Battery Voltage	48VDC
Floating Charge Voltage	54VDC
Overcharge Protection	60VDC
Solar Charger & AC Charger	
Solar Charge Type	MPPT
Maximum PV Array Power	4000W*2
MPPT Range @ Operation Voltage	90-450VDC
Maximum PV Array Open Circuit Voltage	500VDC
Maximum Solar Charger Current	60A*2
Maximum AC Charge Current	120A
Maximum Charger Current	120A
Physical	
Dimension,D*W*H(mm)	604.5*420*141
Net Weight(kgs)	21
Communication Interface	RS232/USB/RS485/WIFI/Dry-Contact
Operating Environment	
Humidity	5% to 95% Relative Humidity(Non-condensing)
Operating Temperature	-10C to 50C
Storage Temperature	-15C to 60C

RMIII PLUS R

- Built-in two 4000W MPPTs Solar Charger
- Support Maximum 6 units Parallel
- With RGB lights
- Work Without Battery

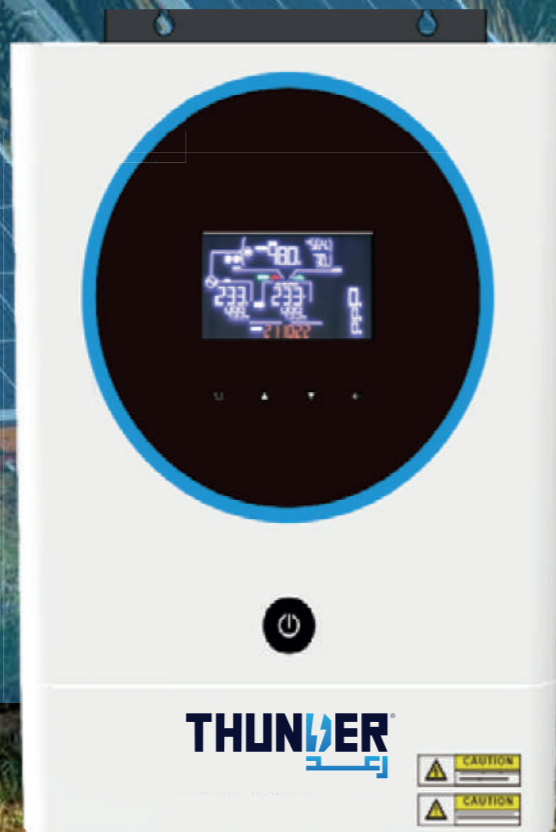


TECHNICAL DATA

Model	RMIII PLUS 8048R
Rated Power	8000VA/8000W
AC Input	
Voltage	230VAC
Selectable Voltage Range	170-280VAC(For Personal Computers) 90-280VAC(For Home Appliances)
Frequency Range	50Hz/60Hz(Auto Sensing)
AC Output	
AC Voltage Regulation	230VAC±5%
Surge Power	16000W
Efficiency(Peak)	up to 93.5%
Efficiency(Peak) PV to INV	93%
Efficiency(Peak) Battery to INV	93%
Transfer Time	10ms(For Personal Computer);20ms(For Home appliances)
Battery	
Battery Voltage	48VDC
Floating Charge Voltage	54VDC
Overcharge Protection	66VDC
Solar Charger & AC Charger	
Solar Charge Type	MPPT
Maximum PV Array Power	4000W*2
MPPT Range @ Operation Voltage	90-450VDC
Maximum PV Array Open Circuit Voltage	500VDC
Maximum Solar Charger Current	60A*2
Maximum AC Charge Current	120A
Maximum Charger Current	120A
Physical	
Dimension,D*W*H(mm)	432.5*553.6*147.4
Net Weight(kgs)	19
Communication Interface	RS232/USB/RS485/WIFI/Dry-Contact
Operating Environment	
Humidity	5% to 95% Relative Humidity(Non-condensing)
Operating Temperature	-10C to 50C
Storage Temperature	-15C to 60C

RMV

- Built-in 120A MPPT Solar Charger
- Support Lithium Battery
- With RGB Lights
- Work Without Battery

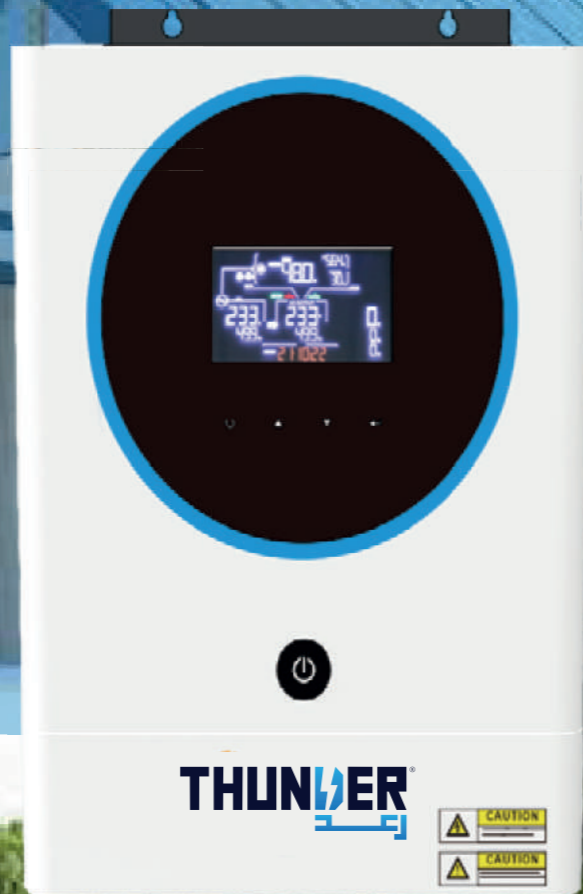


TECHNICAL DATA

Model	RMIV 3624	RMIV 5648
Max PV Array Power	3600W	5600W
Rated Output Power	3600W	5600W
Maximum PV Array Open Circuit Voltage	500VDC	
MPPT Range @ Operating Voltage	90-450VDC	
GRID-TIE OPERATION		
GRID OUTPUT(AC)		
Nominal Output Voltage	220/230/240VAC	
Output Voltage Range	184-265VAC	
Nominal Output Current	16.4A/15.7A/15A	25.5A/24.3A/23.3A
Efficiency	up to 93.5%	
OFF-GRID, HYBRID OPERATION		
GRID INPUT		
Acceptable Input Voltage Range	120-280VAC	
Frequency Range	50Hz/60Hz(Auto sensing)	
BATTERYMODE OUTPUT(AC)		
Nominal Output Voltage	220/230/240VAC	
Output Wave form	Pure sine wave	
BATTERY & CHARGER		
Nominal DC Voltage	24VDC	48VDC
Maximum Solar Charge Current	120A	
Maximum AC Charge Current	100A	
Maximum Charge Current	120A	
Emergency output power		
Maximum output power	3600W	5600W
Surge power	3600W	5600W
Automatic Transfer Time	< 8ms	
GENERAL		
INTERFACE		
Parallel Function	Yes	
Communication	RS232/USB/RS485/WIFI/Dry-Contact	
ENVIRONMENT		
Humidity	0~90%RH(No Condensing)	
Operating Temperature	0 to 50C	
Dimention(W*D x H)mm	403*302*126.5	
Net Weight(KG)	9	10
Rough Weight(KG)	10	11

RMIV PRO

- Built-in 120A MPPT Solar Charger
- Support Lithium Battery
- Support Maximum 9 units Parallel
- Work Without Battery

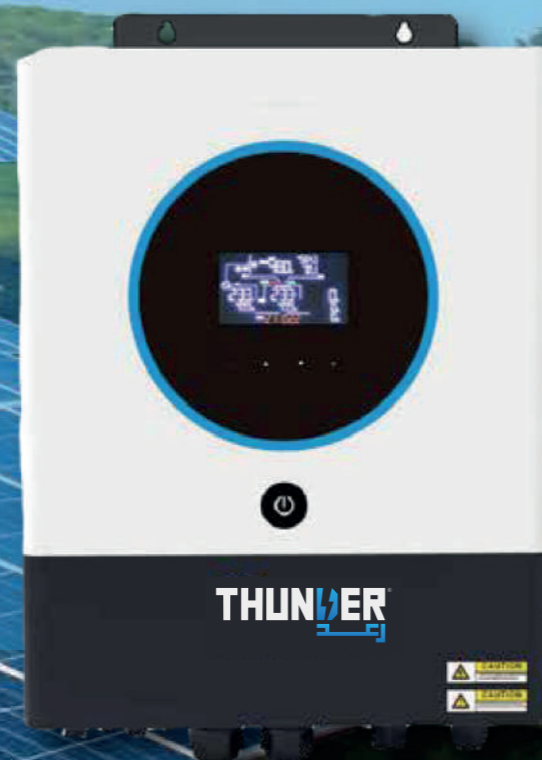


TECHNICAL DATA

Model	RMIV PRO 5648
Max PV Array Power	5600VA/5600W
INPUT	
Voltage	230VAC
Selectable	170-280VAC(For Personal Computers);170-280VAC(For Home Appliances)
Frequency Range	50Hz/60Hz(Auto sensing)
OUTPUT	
AC Voltage Regulation(Batt.Mode)	230VAC±5%
Surge Power	11200VA
Efficiency(Peak)	up to 93.5%
Transfer Time	10ms(For Personal Computers);20ms(For Home Appliances)
Waveform	Pure sine wave
BATTERY	
Battery Voltage	48VDC
Floating Charge Voltage	54VDC
Overcharge Protection	63VDC
SOLAR CHARGER & AC CHARGER	
Maximum PV Array Open Circuit Voltage	500VDC
Maximum PV Array Power	6000W
MPPT Range @ Operating Voltage	90~450VDC
Maximum Solar Charge Current	120A
Maximum AC Charge Current	100A
Maximum Charge Current	120A
PHYSICAL	
Dimension,D*W*H(mm)	480*302*120
Net Weight(kgs)	9
Communication Interface	RS232/USB/RS485/WIFI/Dry-Contact
ENVIRONMENT	
Humidity	5% to 95%Relative Humidity(Non-condensing)
Operating Temperature	-10C to 50C
Storage Temperature	-15C to 60C

RMIV PRO

- Built-in two 4000W MPPTs Solar Charger
- Support Maximum 6 units Parallel
- Touchable Button With Large 5" Colored LCD
- Work Without Battery

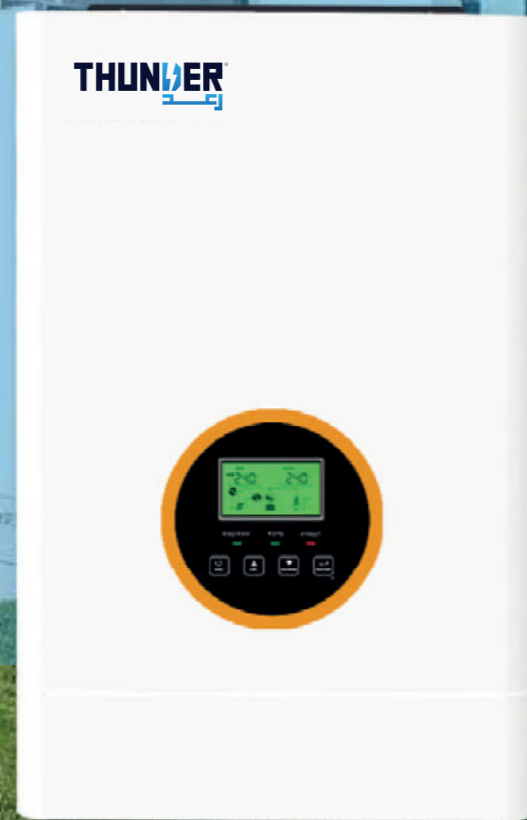


TECHNICAL DATA

Model	RMIV PRO 8048
Max PV Array Power	8000VA/8000W
INPUT	
Voltage	230VAC
Selectable	170-280VAC(For Personal Computers) 170-280VAC(For Home Appliances)
Frequency Range	50Hz/60Hz(Auto sensing)
OUTPUT	
AC Voltage Regulation(Batt.Mode)	230VAC±5%
Surge Power	16000VA
Efficiency(Peak)	up to 93.5%
Transfer Time	10ms(For Personal Computers);20ms(For Home Appliances)
Waveform	Pure sine wave
BATTERY	
Battery Voltage	48VDC
Floating Charge Voltage	54VDC
Overcharge Protection	60VDC
SOLAR CHARGER & AC CHARGER	
Maximum PV Array Open Circuit Voltage	500VDC
Maximum PV Array Power	4000W*2
MPPT Range @ Operating Voltage	90~450VDC
Maximum Solar Charge Current	120A
Maximum AC Charge Current	120A
Maximum Charge Current	120A
PHYSICAL	
Dimension,D*W*H(mm)	604.5*420*141
Net Weight(kgs)	21
Communication Interface	RS232/USB/RS485/WIFI/Dry-Contact
ENVIRONMENT	
Humidity	5% to 95%Relative Humidity(Non-condensing)
Operating Temperature	-10C to 50C
Storage Temperature	-15C to 60C

RMIII PRO E

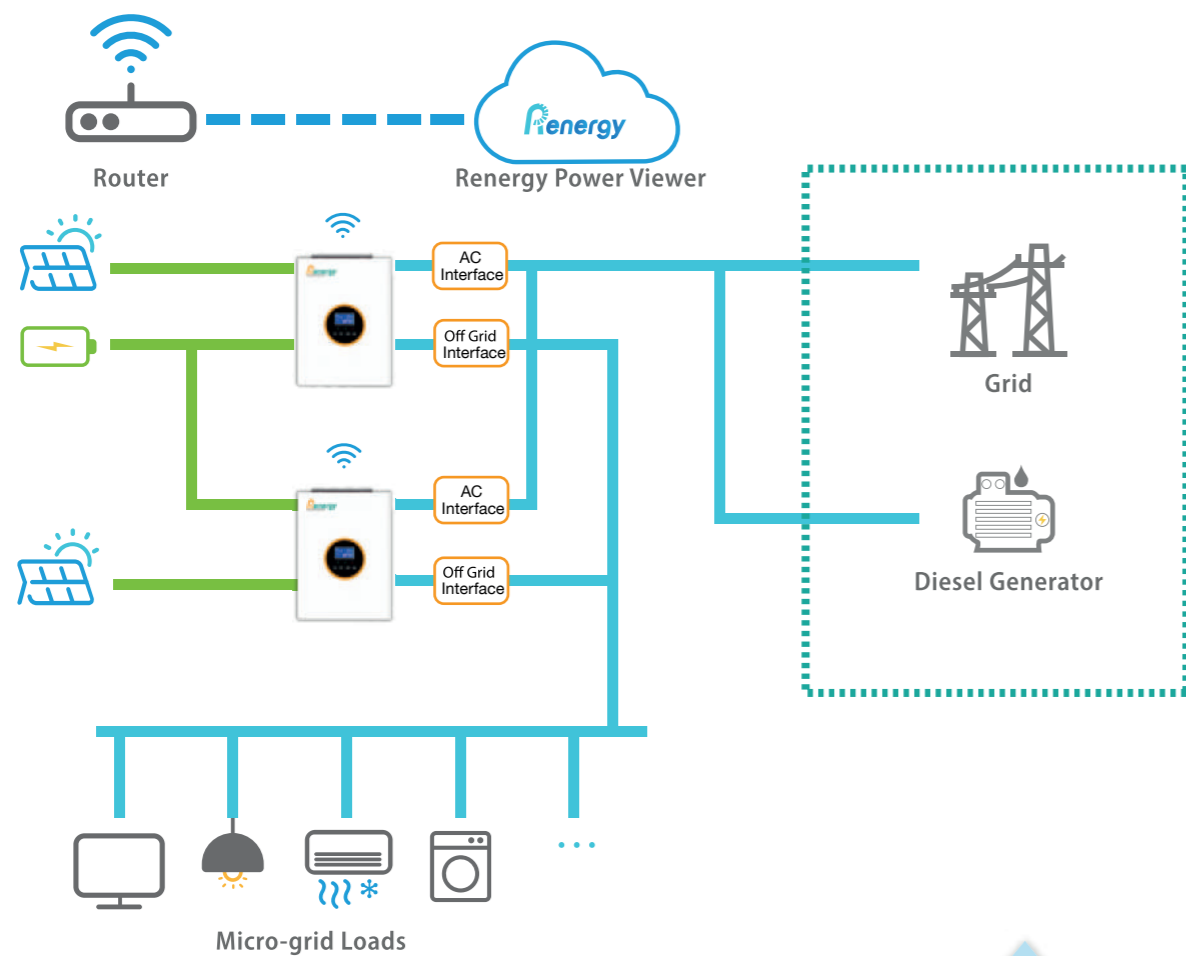
- Built-in 100A MPPT Solar Charger
- Support Lithium Battery
- Support Maximum 9 units Parallel
- ON/OFF Grid Working Mode



TECHNICAL DATA

Model	RMIII PRO 3524E	RMIII PRO 5548E
Max PV Array Power	5600W	
Rated Output Power	3500W	5500W
Maximum PV Array Open Circuit Voltage	500VDC	
MPPT Range @ Operating Voltage	90-450VDC	
GRID OUTPUT(AC)		
Nominal Output Voltage	220/230/240VAC	
Output Voltage Range	184-265VAC	
Nominal Output Current	13.6A/13.0A/12.5A	25A/23.9A/22.9A
Efficiency	Up to 93.5%	
GRID INPUT		
Acceptable Input Voltage Range	120-280VAC	
Frequency Range	50Hz/60Hz(Auto sensing)	
BATTERYMODE OUTPUT(AC)		
Nominal Output Voltage	220/230/240VAC	
Output Wave form	Pure sine wave	
BATTERY&CHARGER		
Nominal DC Voltage	24VDC	48VDC
Maximum Solar Charge Current	100A	
Maximum AC Charge Current	60A	
Maximum Charge Current	100A	
Emergency output power		
Maximum output power	3500W	5500W
Surge power	7000W	11000W
Automatic Transfer Time	< 8ms	
INTERFACE		
Parallel Function	Yes	
Communication	USB or RS232/Dry-Contact	
ENVIRONMENT		
Humidity	0~90%RH(No Condensing)	
Operating Temperature	0 to 50C	
Dimention(W*D*H)mm	115*300*400	
Net Weight(KG)	9	10
Rough Weight(KG)	10	11

Off Grid System Introduction



Off grid system is a good solution for the area where the grid power is unstable, expensive or there is no electricity at all.

Advantage of solar power:

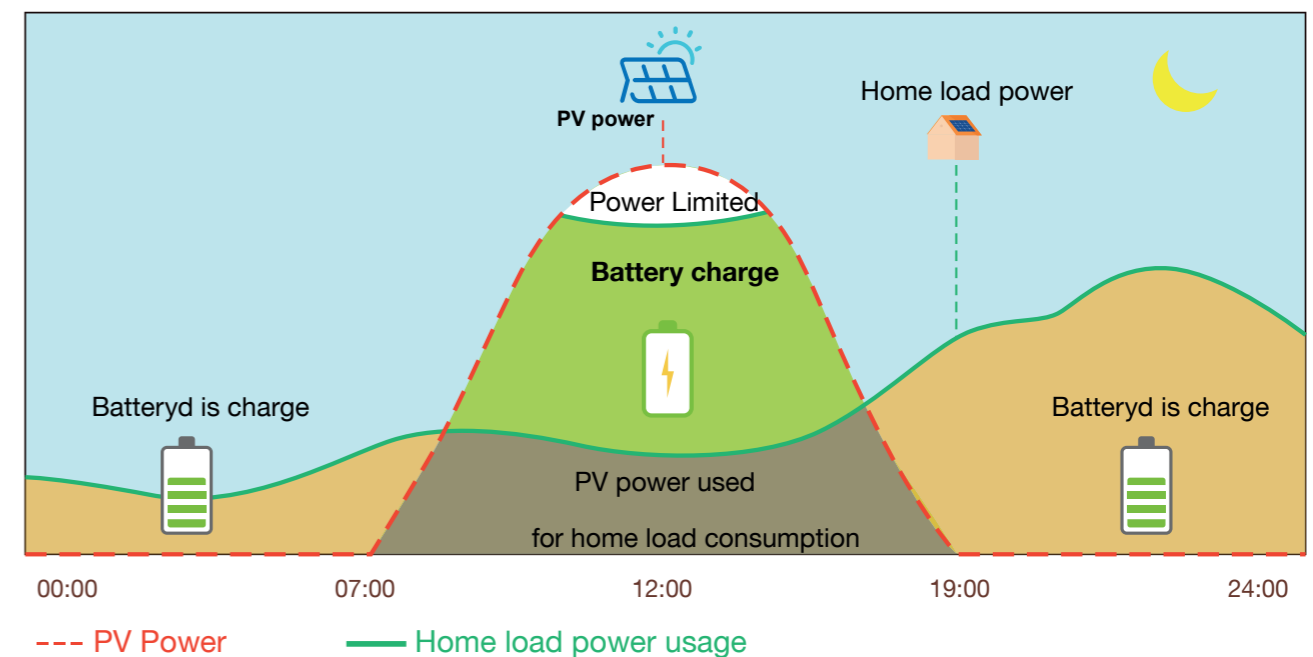
- Easy to operate
- Efficient
- Cost-effective
- Environment-friendly

Off grid system can partially or completely replace diesel generator. Flexible from 1kW to 48kW.

Off Grid System Working Mode

RM 1-8kW series off grid inverters can support the system to work as a back-up power or a replacement of diesel generator. Since the inverter support paralleling function, the capacity of system can range from 1kW to 48kW. The inverter support several working modes.

- **Pure off-grid working mode:**
working as traditional off grid inverters, can set output to battery first or load first.
- **Hybrid working mode:**
Working as a hybrid, support solar and utility jointly take the load, can set to self consumption mode or charge priority mode.
- **UPS working mode:**
Work as UPS back up, can provides battery backup when the utility fails or drops to an unacceptable voltage level with in a few milliseconds.



Smart Energy Management System

- thunder focus on making things easier.
- RM series inverter optional WIFI modules.



References

