

## RI-ENERGYFLOW-MACRO-R1



### Product Description

The RI-ENERGYFLOW-MIDI Series forms part of an expanding **RENAC by RAYLEIGH** family of inverters from Rayleigh Instruments.

These inverters are an ideal choice for residential projects with higher power density. Wider input voltage ranges offer more flexible installation and are a perfect match for high power PV panels.

### String Grid-Tied PV Inverters

- Available as 3.68kW, 5.0kW and 6.0kW - Single Phase versions
- Max. PV input current 16A
- Max. PV voltage up to 600V
- 150% PV input oversizing
- Type II SDP Surge Protection for both DC and AC
- High efficiency operation - up to 97.9%
- Over-temperature protection
- Integrated Export Control function
- Dual MPPT
- Natural cooling
- Remote monitoring
- Compact and lightweight
- IP65 Rated
- Easy installation
- Optional Wi-Fi/GPRS plug
- G98 and G99 compliant
- Remote firmware upgrade and setting
- Optional AFCI protection function



### DC Input (PV)

Model - RI-ENERGYFLOW-MACRO-R1	3.68K	5K	6K
Max. Recommended PV Power [Wp]	5500	7500	9000
Max. PV Power for single MPPT [Wp]	2800	3750	4500
Max. PV Input Voltage [V]	600		
MPPT Voltage Range [V]	80...550		
Rated PV Input Voltage [V]	360		
Start-up Voltage [V]	100		
No. of MPP Trackers	2		
No. of Strings per Tracker	1 / 1		
Max. PV Input Current [A]	16 / 16		
Max. Short-circuit Current [A]	20 / 20		

### AC Output

Model - RI-ENERGYFLOW-MACRO-R1	3.68K	5K	6K
Rated AC output power [W]	3680	5000	6000
Max. AC output Apparent Power [VA]	3680	5500	6000
Max. AC Output Current [A]	16	25	27.3
Rated AC Voltage [V]	L / N / PE, 220 / 230		
Grid Frequency [Hz]	50 / 60		
Adjustable Power Factor [cos $\Phi$ ]	0.8 leading ~ 0.8 lagging		
Output THDi (@Rated Output)	<3%		

### Efficiency

Model - RI-ENERGYFLOW-MACRO-R1	3.68K	5K	6K
Max. efficiency	97.9%	97.9%	97.9%
Euro efficiency	97.2%	97.2%	97.2%

### Protection Devices

Model - RI-ENERGYFLOW-MACRO-R1	3.68K	5K	6K
DC Insulation Monitoring	Integrated		
Input Reverse Polarity Protection	Integrated		
Anti-islanding protection	Integrated		
Residual Current Monitoring	Integrated		
AC Overcurrent Protection	Integrated		
AC Short Circuit Protection	Integrated		
DC Surge Protection	Integrated (Type II)		
AC Surge Protection	Integrated (Type II)		
AFCI Protection	Optional		
DC Isolator Switch	Optional		

## Mechanical

Model - RI-ENERGYFLOW-MACRO-R1	3.68K	5K	6K
Dimensions W x H x D (mm)	353 x 320 x 150		
Weight [Kg]	10		

## Environmental

Model - RI-ENERGYFLOW-MACRO-R1	3.68K	5K	6K
Operating temperature range	-25°C...+60°C		
Noise emission (typical)	<25dB		
Cooling type	Natural cooling		
Protection rating	IP65		
Max. operation altitude	4000m		
Max. operation humidity	0...100%		

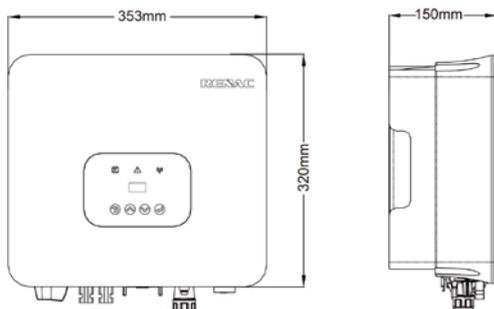
## Additional Features

Model - RI-ENERGYFLOW-MACRO-R1	3.68K	5K	6K
Display	LED & OLED		
Communication	RS485, USB Update, Optional WiFi, 4G, Ethernet		
Ambient Temperature Range	-25°C...+60°C		
Relative Humidity	0...100%		
Operating Altitude [M]	≤2000		
Standby Self Consumption [W]	<1		
Topology	Transformerless		
Cooling	Natural		
Ingress Protection	IP65		
Noise [dB]	<25		
Warranty [years]	5 years		

## Certification & Standards

Grid Regulation	VDE 0126-1-1, Ordinance No. 140, G98, G99,
Safety Regulation	IEC 62109-1, IEC 62109-2, EN 62919-1, EN 62619-2
EMC	IEC/EN61000-6-2, IEC/EN6100-6-3

## Dimensions (mm)



## Model Selection Table

Description	Model
3680W AC Output Inverter Dual MPPT	RI-ENERGYFLOW-MACRO-R1-3.68K
5000W AC Output Inverter Dual MPPT	RI-ENERGYFLOW-MACRO-R1-5K
6000W AC Output Inverter Dual MPPT	RI-ENERGYFLOW-MACRO-R1-6K