

RI-ENERGYFLOW-3P-SERIES-12-R3



Product Description

The RI-ENERGYFLOW-3P-SERIES-12-R3 range forms part of an expanding **RENAC by RAYLEIGH** family of inverters from Rayleigh Instruments.

These three phase on-grid inverters are designed for residential, small commercial and light industrial PV projects.

With integrated export control, optional AFCI protection and multiple electrical protections, the range provides safe, efficient solar generation.

150% PV input oversizing and 110% AC overloading capability allow users to maximise available generation from high wattage PV modules. A wide MPPT voltage range and low start-up voltage help provide earlier generation and longer working times.

3 Phase On-Grid Inverters

- Available as 6kW, 8kW, 10kW and 12kW - Three Phase, 2 MPPT versions
- 150% PV input oversizing and 110% AC overloading
- Wide MPPT range (140...1000V)
- Max. PV input voltage 1100V
- Export control function integrated
- Remote monitoring
- Remote firmware upgrade and setting
- Type II SPD for both DC and AC
- IP65 Rated
- Optional AFCI protection function
- G99 / EN 50549 compatible



DC Input (PV)

Model - RI-ENERGYFLOW-3P-SERIES-12-R3-	6K	8K	10K	12K
Recommended Max. PV Power [Wp]	9000	12000	15000	18000
Max. PV power for single MPPT [Wp]	4500	6000	7500	9000
Max. PV Input Voltage [V]	1100			
MPPT Voltage Range [V]	140...1000			
Rated Input Voltage [V]	600			
Start-up Voltage [V]	160			
No. of MPP Trackers	2			
No. of Input Strings per Tracker	1/1			
Max. PV Input Current [A]	16/16			
Max. Short-circuit Current [A]	20/20			

AC Output

Model - RI-ENERGYFLOW-3P-SERIES-12-R3-	6K	8K	10K	12K
Rated AC Output Power [W]	6000	8000	10000	12000
Max. AC Output Apparent Power [VA]	6600	8800	11000	13200
Max. AC Output Current [A]	10	13.4	16.7	20
Rated AC Voltage	3 / N / PE, 220 / 380, 230 / 400			
Grid Frequency [Hz] 50 / 60	50 / 60			
Adjustable Power Factor [cos phi]	0.8 leading - 0.8 lagging			
Output THDi (@Rated Output)	<3%			

Efficiency

Model - RI-ENERGYFLOW-3P-SERIES-12-R3-	6K	8K	10K	12K
Max. Efficiency	98.4%	98.5%	98.5%	98.5%
Euro Efficiency	97.5%	98.0%	98.0%	98.0%

Protection

Model - RI-ENERGYFLOW-3P-SERIES-12-R3-	6K	8K	10K	12K
DC Insulation Monitoring	Integrated			
Input Reverse Polarity Protection	Integrated			
Anti-island Protection	Integrated			
Residual Current Monitoring	Integrated			
AC Overcurrent Protection	Integrated			
AC Short-circuit Protection	Integrated			
String Current Monitoring	Integrated			
DC Surge Protection	Integrated (Type II)			
AC Surge Protection	Integrated (Type II)			
AFCI Protection	Optional			
PID Recovery Function	Optional			
DC Switch	Integrated			

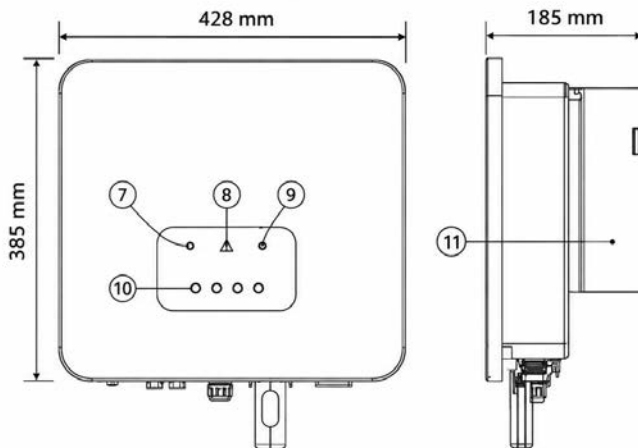
General Specifications

Model - RI-ENERGYFLOW-3P-SERIES-12-R3-	6K	8K	10K	12K
Size (Width x Height x Depth) [mm]	428 x 385 x 185			
Weight [kg]	15			
User Interface	LED + OLED			
Communication	RS485, USB Update Optional: WiFi, 4G, Ethernet			
Ambient Temperature Range [deg C]	-25...+60			
Relative Humidity	0...100%			
Operating Altitude [m]	≤2000			
Night Self-consumption [W]	<1			
Topology	Transformerless			
Cooling	Natural			
Ingress Protection	IP65			
Noise [dB]	<35			

Certification & Standards

Grid Regulation	EN 50549-1, EN 50549-PL, IEC 61727, IEC 62116, IEC 60068, IEC 61683
Safety Regulation	IEC 62109-1, IEC 62109-2
EMC	EN IEC 61000-6-1, EN IEC 61000-6-2, EN IEC 61000-6-3, EN IEC 61000-6-4, EN 62920

Dimensions (mm)



Model Selection Table

Description	Model
6kW AC Output Inverter	RI-EF-3P-SERIES-12-R3-6K
8kW AC Output Inverter	RI-EF-3P-SERIES-12-R3-8K
10kW AC Output Inverter	RI-EF-3P-SERIES-12-R3-10K
12kW AC Output Inverter	RI-EF-3P-SERIES-12-R3-12K