

RI-ENERGYFLOW-3P-SERIES-50



Product Description

The RI-ENERGYFLOW-3P-SERIES-50 range forms part of an expanding family of inverters from Rayleigh Instruments.

These inverters are designed for small industrial and commercial projects. With fuse free design, optional AFCI function and other multiple protections, ensures a higher safety level of operation.

A maximum efficiency of 99% with a maximum DC input voltage of 1100V, a wider MPPT range and a lower start-up voltage of 160V, guarantees an earlier generation of power and a longer working time. An advanced ventilation system also ensures the inverter dissipates heat efficiently.

50% DC input oversizing capability allows users to increase significantly the power output by adding extra solar panels.

10% AC output overloading enables this inverter to be operated on its full capacity by adding extra reflections from the backside of bifacial panels, thus maximizing solar powered energy generation, giving you a higher yield.

3 Phase On-Grid Inverters

- Available as 30kW, 36kW, 40kW and 50kW - Three Phase, 3/4 MPPT versions
- 40A Input current per MPPT
- Compatible with high-wattage panels
- Remote monitoring
- Compact Size and weight
- Wide MPPT range (180...1000V)
- 150% DC input oversizing and 110% AC overloading
- Low Start-up voltage (160V)
- Remote Firmware update
- Optional AFCI & Smart PID recovery function
- Type II SPD for both DC and AC
- IP65 Rated
- Easy installation
- G98, G99 and G100 compliant

DC Input Data

| Model - RI-ENERGYFLOW-3P-SERIES-50- | 30KW | 36KW | 40KW | 50KW |
|---|--------------|-------|-------------------|-------|
| Recommended Max. PV Power [Wp] | 45000 | 54000 | 60000 | 75000 |
| Max. PV power for single MPPT [Wp] | 15000 | 15000 | 15000 | 20000 |
| Max. PV Input Voltage [V] | 1100 | | | |
| MPPT Voltage Range [V] | 180...1000 | | | |
| Rated Input Voltage [V] | 600 | | | |
| Start-up Voltage [V] | 200 | | | |
| No. of MPP Trackers | 3 | | 4 | |
| No. of Input Strings per Tracker | 2 / 2 / 2 | | 2 / 2 / 2 / 2 | |
| Max. Input Current Per MPPT [A] | 40 / 40 / 40 | | 40 / 40 / 40 / 40 | |
| Max. Short-circuit Current per MPPT [A] | 50 / 50 / 50 | | 50 / 50 / 50 / 50 | |

AC Output Data

| Model - RI-ENERGYFLOW-3P-SERIES-50- | 30KW | 36KW | 40KW | 50KW |
|-------------------------------------|--|-------|-------|-------|
| Rated AC Power [W] | 30000 | 36000 | 40000 | 50000 |
| Max. Output Power [VA] | 33000 | 39600 | 44000 | 55000 |
| Max. AC Current [A] | 50 | 60 | 66.6 | 83.3 |
| Rated AC Voltage / Range [V] | 3 / N / PE, 380, 400; ±20%; 3 / PE, 380, 400; ±20% | | | |
| Grid frequency / range [Hz] | 50 / 60Hz ±5 | | | |
| Adjustable Power Factor [cos Φ] | 0.8 leading ~ 0.8 lagging | | | |
| Output THDi (@Rated Output) | <3% | | | |

Efficiency

| Model - RI-ENERGYFLOW-3P-SERIES-50- | 30KW | 36KW | 40KW | 50KW |
|-------------------------------------|--------|------|------|------|
| Max. Efficiency | 99.00% | | | |
| Euro Efficiency | 98.50% | | | |

Protection

| Model - RI-ENERGYFLOW-3P-SERIES-50- | 30KW | 36KW | 40KW | 50KW |
|-------------------------------------|----------------------|------|------|------|
| DC Switch | Integrated | | | |
| 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 | | | |
| AFCI Protection | Optional | | | |
| Anti-PID function | Optional | | | |
| DC Surge Protection | Integrated (Type II) | | | |
| AC Surge Protection | Integrated (Type II) | | | |

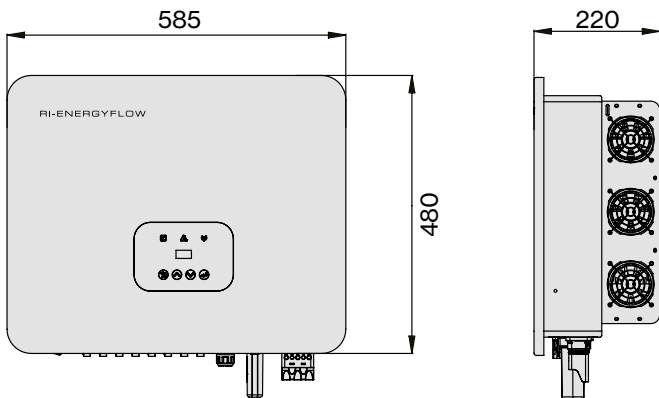
General Specifications

| Model - RI-ENERGYFLOW-3P-SERIES-50- | 30KW | 36KW | 40KW | 50KW |
|-------------------------------------|--|------|------|------|
| Size (Width x Height x Depth) [mm] | 585 x 480 x 220 | | | |
| Weight [kg] | 37 | | | |
| User Interface | LED + OLED | | | |
| Communication | RS485 and USB or Wifi or 4G (Optional) | | | |
| Ambient Temperature Range [°C] | -25...+60 | | | |
| Relative Humidity | 0...100% | | | |
| Operating Altitude [m] | ≤2000 | | | |
| Standby Self Consumption [W] | <0.2 | | | |
| Topology | Transformerless | | | |
| Cooling | Fan | | | |
| Enclosure | IP65 | | | |
| Noise [dB] | < 60 | | | |
| Warranty | 5 years (Optional 7 or 10 years) | | | |

Certification & Standards

| | |
|-------------------|--|
| Grid Regulation | VDE-AR-N4105, EN 50549, G98, G99, G100 |
| Safety Regulation | IEC 62109-1, IEC 62109-2 |
| EMC | IEC 61000-6-1, EN 61000-6-3 |

Dimensions (mm)



Model Selection Table

| Description | Model |
|-------------------------|---------------------------------|
| 30kW AC Output Inverter | RI-ENERGYFLOW-3P-SERIES-50-30KW |
| 36kW AC Output Inverter | RI-ENERGYFLOW-3P-SERIES-50-36KW |
| 40kW AC Output Inverter | RI-ENERGYFLOW-3P-SERIES-50-40KW |
| 50kW AC Output Inverter | RI-ENERGYFLOW-3P-SERIES-50-50KW |