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RI-ENERGYFLOW-3P-MODULAR

3 Phase Modular Inverter & Battery Solution for Solar and Energy Storage

- 10kW or 12kW power output modular three-phase storage solution
- A choice of 10.2kWh, 20.4kWh, 30.6kWh or 40.8kWh storage capacity
- CATL high performance LFP battery modules
- Unbalanced load in each phase
- 10kW or 12kW output with support for up to 40kW/160kWh (multiple units combined)
- Support for generator control (DI/DO)
- Supporting 200% oversized PV power On & Off grid parallel system
- Back-up, self-use, off-grid and force time user modes
- On/Off grid switching time of less than 20ms
- Easy indoor or outdoor installation - IP65 rated
- Can be configured to operate as a backup supply
- Short Circuit, AC Leakage, Grounding, Anti-islanding, Overload, Surge, Temperature and DC Polarity protection
- Simple operation - Programmable software, App control and remote cloud monitoring
- Natural cooling

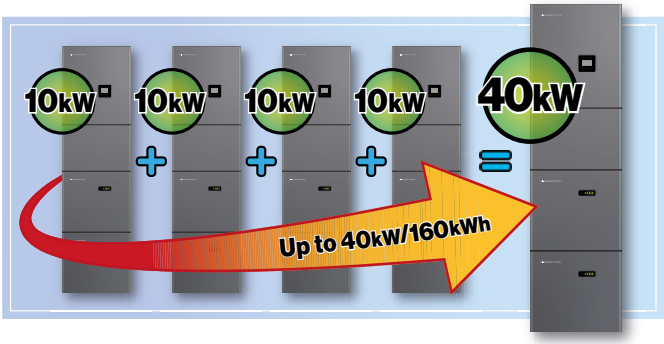
Product Description

The RI-ENERGYFLOW-3P-MODULAR system is a family of modular inverters and battery storage units.

The three-phase inverter is available with a choice of battery capacities from 10.2kWh to 40.8kWh:-

RI-ENERGYPACK-MODULAR-10.2
RI-ENERGYPACK-MODULAR-20.4
RI-ENERGYPACK-MODULAR-30.6
RI-ENERGYPACK-MODULAR-40.8

The units are supplied in an integrated modular housings that are easy to install and easy on the eye.



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Rayleigh Instruments Limited
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Inverters / Battery Configurations

Technical Data - Inverters

RI-ENERGYFLOW-3P-MODULAR-	10kW	12kW
PV string input		
Max. Continuous PV Input Power	20kW	
Max. DC Voltage	1100V	
Nominal Voltage	720V	
MPPT Voltage Range	140V-1000V	
MPPT Range (Full Load)	420V-850V	480V...850V
Start Voltage	130V	
PV Generation Voltage	≥200V	
MPPT Tracker	2	
Strings per MPPT	1	
Max. Input Current Per MPPT	15A	
Max. Short-circuit Current Per MPPT	20A	
AC Output (Gird)		
Nominal AC Output Power	10kW	12kW
Max. AC Apparent Power	11kVA	13.2kVA
Nominal AC Voltage	400Vac 3W+N+PE	
AC Grid Frequency Range	50 / 60Hz ±5Hz	
Max. Output Current	14.5A	17.4A
Max. Input Current	16A	19.2A
Power Factor (cos Φ)	0.8 leading - 0.8 lagging	

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RI-ENERGYFLOW-3P-MODULAR-	10kW	12kW
AC Output data (Back-up)		
Max. Output Apparent Power	10kVA	
Rated Output Power	9.2kW	
Rated/Max. Output Current	14.5A/16A	
Nominal Output Voltage	400V	
Nominal Output Frequency	50/60Hz (±5Hz)	
Output THDv (@Linear Load)	<3% (Linear load)	
Battery Input Data		
Battery Type	LFP (LiFePO4)	
Nominal Battery Voltage	51.2V	
Charging Voltage range	44...58V	
Max. Charging/Discharging Current	160A / 200A	
Communication interfaces	RS485 / CAN	
Efficiency		
Max. PV efficiency	97.6%	
Euro efficiency	97%	
Max. Battery to Load Efficiency	94%	
Battery charged by PV Max. Efficiency	98%	
General data		
Dimension [W x H x D]	540 x 980 x 240 mm	
Weight	47kg	
Mounting	Wall fixing	
User Interface	LCD/App	
Communication	RS485 / CAN2.0 / WIFI / 4G	
Operating Temperature Range	-25°C...+60°C (Derating >45°C)	
Relative Humidity	0...95% (No condensation)	
Max. Operating Altitude	2000m	
Standby Self Consumption	<2W per module	
Topology	Battery Isolation	
Cooling	Fan	
Protection Grades	IP65	
Noise	<25db	
Warranty	5year Product Warranty, 10 Year Performance Warranty*	
Protection	DC Isolator Switch Anti-islanding Protection Output Overcurrent Protection DC Reverse Polarity Protection String Fault Detection AC/DC Surge Protection - DC Type II, AC Type III Insulation Detection AC Short-circuit Protection	

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Technical Data - Batteries

RI-ENERGYPACK-MODULAR-	10.2	20.4	30.6	40.8
Nominal Energy	10.24kWh	20.4kWh	30.6kWh	40.8kWh
Operating Voltage Range	44V...58V			
Nominal Voltage	51.2V			
Max. Charging Current	160A			
Max. Discharging Current	200A			
Rated DC power	4096W			
Battery Type	LFP (LiFePO4)			
Communication	CAN and RS485 compatible			
Max. Storage Period	6 months			
Humidity Range	0...95% Non condensing)			
Ambient Temperature	0°C...50°C (Charging) / –10°C...50°C (Discharging)			
Storage Temperature Range	–30°C...60°C			
IP Grade	IP65			
Battery dimensions W x H x D	540 × 490 × 240mm per battery module			
Battery weight	Approx. 108Kg	Approx. 216Kg	Approx. 324Kg	Approx. 432Kg
Max Power Charge / Discharge	2825W / 4096W (Per 5.1kWh Battery Module)			
Capacity	200Ah	400Ah	600Ah	800Ah
Modules connection	Max. 8			
Power consumption	<2W per battery module			
Depth of Discharge (DOD)	90%			
Cycle Life	10,000			
3S Peak Power(kW)	6.9kW			
3S Peak Current(A)	30A			
Charging Current(A)	50A			
Discharge Current(A)	80A			
Ventilation type	Passive and Active Cooling			
DC Circuit Breaker	125A			
Internal resistance	<20mΩ			
Monitoring parameters	System voltage, current,cell voltage, cell temperature, PCBA temperature measurement			

Certification & Standards

Regulations	Pack: IEC/EN 62619;UN38.3 Cell: IEC/EN 62619;UN38.3;UL1973

Information Required with Order

Build your order number - example	RI-ENERGYFLOW-3P-MODULAR-	10kW	/20.4kWh
Model			
Inverter Power Output - *10kW or 12kW*			
Battery Storage Capacity - *10.2kWh, 20.4kWh, 30.6kWh or 40.8kWh*			

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