

RI-ENERGYFLOW-STACK

Single-phase, all-in-one Hybrid
Modular Inverter & Battery Solution
for Solar and Energy Storage



Product Description

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

This elegant energy storage solution is available with a choice of three inverters:-

RI-EF-STACK-3.68kW
RI-EF-STACK-5.00kW
RI-EF-STACK-6.00kW

Once you have decided on your inverter power you also have a choice of 4 battery sizes from 5.12kWh to 20.40kWh:-

RI-EP-STACK-5.1kWh
RI-EP-STACK-10.2kWh
RI-EP-STACK-15.3kWh
RI-EP-STACK-20.4kWh

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

- Compact stackable modular single-phase storage solution
- Integral stacking plug connection - no need for cables between inverter and battery or from battery to battery
- Choice of 3 inverters and 4 battery sizes
- Maximum Solar input array sizes - 7.2kW or 10kW
- Power output versions - 3.68kW, 5kW or 6kW
- Choice of 5.12kWh, 10.24kWh, 15.36kWh or 20.40kWh battery sizes (powered by CATL and EVE)
- High performance DC/AC ratio with long battery lifecycle
- Back-up, self-use, off-grid and force time user modes
- Easy commissioning via Bluetooth
- Indoor or outdoor installation - IP66 rated + internal battery heater for outdoor installations (Suitable for UK winters)
- Supports Self Consumption, Peak Saving, Time-of-use, and Battery Priority operation modes
- Supports both on-grid and off-grid parallel configurations
- SG Ready Heat Pump compatible and optional AFCI
- Simple operation - Programmable software, App. control, cloud monitoring and remote firmware updates

BSI - PAS63100:2024 Standards

Our RI-ENERGYPACK-STACK battery units have heated blankets so that battery life is not degraded with external installation.

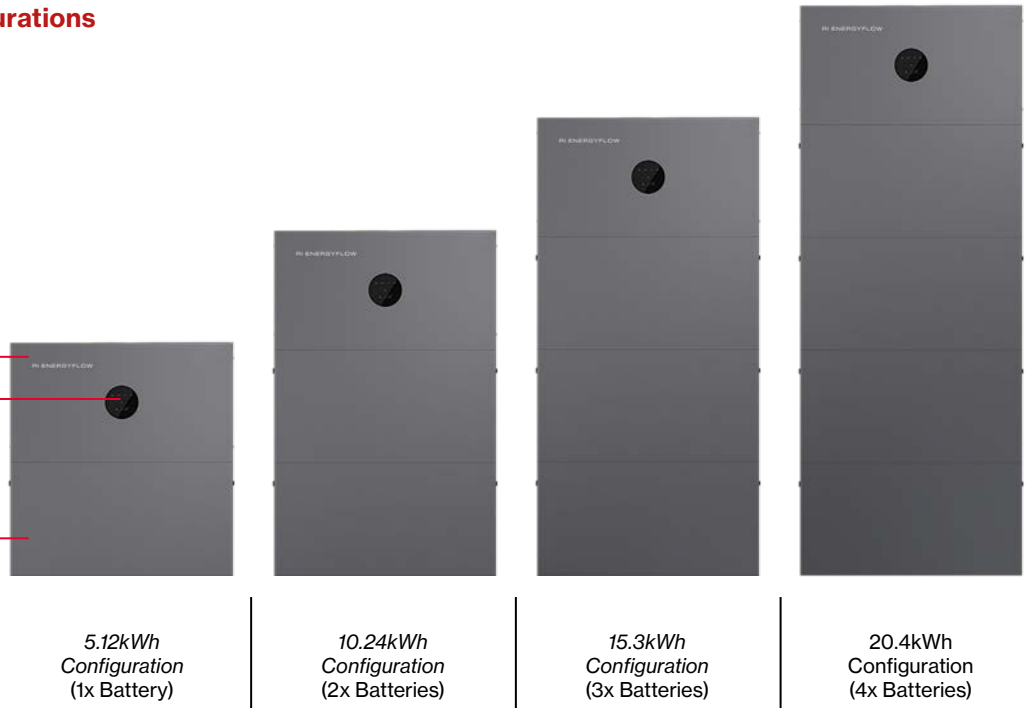
Additionally, all DC power connections are plug-type couplings concealed within the units and are only accessible by tool use for PAS63100:2024 compliance.

Inverters / Battery Configurations

*RI-EF-STACK
Inverter (3.68kW, 5kW or 6kW)*

EMS Display Screen

*RI-EP-STACK-5.1kWh
Battery Unit*



Technical Data - Inverters

RI-EF-STACK-	3.68kW	5.00kW	6.00kW
PV input data			
Max. PV-array power @STC	7.2kW	10kW	10kW
Max. PV Voltage	500V		
Nominal voltage	360V		
MPPT Voltage Range	120...480V		
MPPT Voltage Range with full load	200...425V	250...425V	250...425V
Start-up Voltage ⁽¹⁾	120V		
Number of MPPT Trackers	2		
Strings per MPPT Tracker	1		
Max. Input Current per MPPT	20A		
Max. Short-circuit current per MPPT	25A		
AC Output & Input data (Grid)			
Max. AC Continuous Output Power	3680W	5000W	6000W
Max. AC Apparent Output Power	3680VA	5000VA	6000VA
Max. Continuous Input Power	7360W	9200W	9200W
Nominal AC Voltage	230Vac		
Nominal Frequency	50Hz / 60Hz (±5Hz)		
Nominal Output Current	16A	21.7A	26.1A
Max. Output Current	16.7A	22.7A	27.3A
Max. Input Current	32A	40A	40A
Power Factor (cosφ)	0.8 leading ~ 0.8 lagging (adjustable)		
THDi	<3%		

(1) : Min. voltage for inverter to start power output

RI-EF-STACK-	3.68kW	5.00kW	6.00kW
AC Output data (Back-up)			
Nominal AC Output Power	3680W	5000W	6000W
Max. AC Output Power	3680VA	5000VA	6000VA
Max. Output Current	16A	21.7A	26.1A
Nominal Output Voltage	230Vac		
Nominal Output Frequency	50Hz / 60Hz		
Output THDv (@Linear Load)	< 3% (Linear Load)		
Battery Input Data			
Battery Type	LFP (LiFePO4)		
Nominal Battery Voltage	48V		
Charging Voltage Range	42...58V		
Max. Charging/Discharging Current	80A / 80A	120A / 120A	125A / 125A
Rated Charging/Discharging Power	3600W / 3900W	5000W / 5400W	6000W / 6400W
Battery Capacity	100...400Ah		
Efficiency			
Max. PV Efficiency	97.0%		
Euro. Efficiency	96.3%		
Protection			
DC Switch	Integrated		
Anti-islanding Protection	Integrated		
Residual Current Monitoring	Integrated		
PV Reverse Polarity Protection	Integrated		
AC Short Circuit Protection	Integrated		
AC Overvoltage Protection	Integrated		
DC / AC Surge Protection	DC Type II; AC Type III		
Remote Shutdown	Integrated		
AFCI	Optional		
General data			
Dimensions (W x H x D)	725 x 390 x 230mm		
Weight	24.8kg	25.5kg	25.5kg
Operating Temperature Range	-25°C...+60°C (>45°C derating)		
Cooling Type	Natural Convection		
Max. Operation Altitude	≤4000m		
Operation Humidity	0...95% (No Condensation)		
IP Class	IP66		
Topology	High Frequency Isolation		
Communication	RS-485 / CAN2.0 / WIFI / Bluetooth		
Display	LED / APP / WEB		

Certification & Standards

Certification and Standards	IEC/EN62109-1&2; IEC/EN 61000-6-1; IEC/EN 61000-6-2; EN 61000-6-3; IEC/EN 61000-6-4; IEC/EN 61000-3-11; EN 61000-3-12; IEC 60529; IEC 61727; IEC 62116; IEC 60068; IEC 61683; EN 50549-1; EN 50549-10; VDE-AR-N 4105; G98/G99; NC RfG:2018; C10/C11; CEI-021
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Technical Data - Batteries

RI-EP-STACK-	5.1kWh	10.2kWh	15.3kWh	20.4kWh
General Parameters				
Battery Type	LFP (LiFePO4)			
Cell Brand	EVE / CATL(optional)			
Energy Capacity	5.12kWh ⁽¹⁾	10.24kWh ⁽¹⁾	15.36kWh ⁽¹⁾	20.48kWh ⁽¹⁾
Usable Capacity	4.6kWh ⁽²⁾	9.2kWh ⁽²⁾	13.8kWh ⁽²⁾	18.4kWh ⁽²⁾
Max. Depth of Discharge	100%			
Nominal Voltage	51.2V			
Operating Voltage Range	44.8...57.6			
Battery Pack Round-Trip Efficiency	>94%			
Weight	51kg	102kg	153kg	204kg
Dimensions (W x H x D)	725 x 418 x 165mm (single battery pack)			
IP Protection	IP65			
Warranty	5 Year Product Warranty, 10 Year Performance			
Operation				
Max. Continuous Charging Current	50A (single battery pack)			
Max. Continuous Charging Power	2825W			
Max. Continuous Discharging Current	80A (single battery pack)			
Max. Continuous Discharging Power	4096W			
Operating Temperature Range	-10...50°C (Charging) / -10...50°C (Discharging) ⁽³⁾			
Cooling Type	Natural Cooling			
Humidity	0...90%			
BMS				
Modules Connection	Max. 4			
Capacity	100 / 200 / 300 / 400 Ah			
Communication	CAN			
Monitoring Parameters	System voltage,current,battery voltage, Battery temperature,PCBA temperature measurement			

Certification & Standards

Safety and Transportation	Pack: IEC/EN 62619; UN38.3; Cell: IEC/EN 62619; UN38.3; UL1973
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NOTE:

- (1). Total Energy Capacity is tested under the following conditions: @25°C, 0.5C charging/0.5C discharging, at the beginning of life.
- (2). Usable Energy Capacity refers to the energy discharged from 100% to the minimum state of energy (SoE).
- (3). The operating temperature parameters only apply to battery pack models with heating function. For battery pack models without heating function, the operating temperature range will be: 0...50°C (Charging), -10...50°C (Discharging).

Dimensions (mm)

Inverter : 725mm W x 390mm H x 230mm D

Battery Unit : 725mm W x 418mm H x 165mm D



Total Height x Width x Depth (mm)	5.12kWh 725 x 808 x 230	10.24kWh 725 x 1226 x 230	15.3kWh 725 x 1644 x 230	20.4kWh 725 x 2062 x 230
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Model Selection Table

Inverter and Battery Size	Model
3680W AC output Inverter with 5.12kWh Battery Storage	RI-ENERGYFLOW-STACK-3.68kW/5.12kWh
3680W AC output Inverter with 10.24kWh Battery Storage	RI-ENERGYFLOW-STACK-3.68kW/10.2kWh
3680W AC output Inverter with 15.36kWh Battery Storage	RI-ENERGYFLOW-STACK-3.68kW/15.3kWh
3680W AC output Inverter with 20.40kWh Battery Storage	RI-ENERGYFLOW-STACK-3.68kW/20.4kWh
5000W AC output Inverter with 5.12kWh Battery Storage	RI-ENERGYFLOW-STACK-5.00kW/5.12kWh
5000W AC output Inverter with 10.24kWh Battery Storage	RI-ENERGYFLOW-STACK-5.00kW/10.2kWh
5000W AC output Inverter with 15.36kWh Battery Storage	RI-ENERGYFLOW-STACK-5.00kW/15.3kWh
5000W AC output Inverter with 20.40kWh Battery Storage	RI-ENERGYFLOW-STACK-5.00kW/20.4kWh
6000W AC output Inverter with 5.12kWh Battery Storage	RI-ENERGYFLOW-STACK-6.00kW/5.12kWh
6000W AC output Inverter with 10.24kWh Battery Storage	RI-ENERGYFLOW-STACK-6.00kW/10.2kWh
6000W AC output Inverter with 15.36kWh Battery Storage	RI-ENERGYFLOW-STACK-6.00kW/15.3kWh
6000W AC output Inverter with 20.40kWh Battery Storage	RI-ENERGYFLOW-STACK-6.00kW/20.4kWh