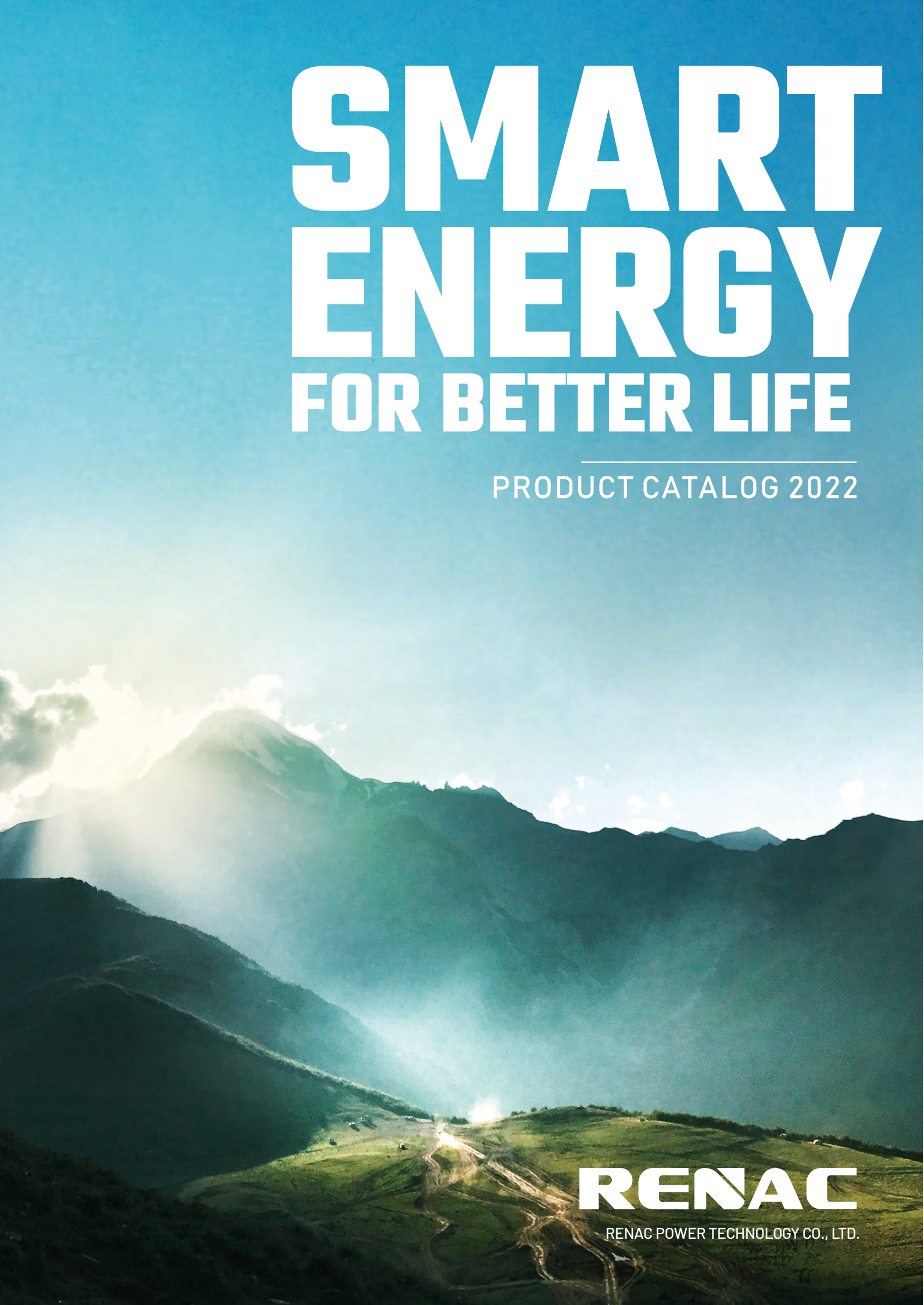
SMART ENERGY FOR BETTER LIFE

PRODUCT CATALOG 2022



RENAC

RENAC POWER TECHNOLOGY CO., LTD.

ABOUT RENAC

In recent years challenges in the field of energy have become increasingly stringent and complex in terms of primary resources consumption and of pollutant emissions. Smart energy is the process of using devices and technologies for energy-efficiency while promoting eco-friendliness and driving down costs.

RENAC Power is a leading manufacturer of On Grid Inverters, Energy Storage Systems and a Smart Energy Solutions Developer. Our track record spans over more than 10 years and covers the complete value chain. Our dedicated Research and Development team plays a pivotal role in the company structure and our Engineers constantly research develop redesign and test new products and solutions aiming at constantly improving their efficiency and performance for both the residential and commercial markets.

RENAC Power inverters consistently deliver higher yields and ROI and have become the preferred choice for customers in Europe, South America, Australia and South Asia, etc.

With a clear vision and a solid range of products and solutions we remain at the forefront of Solar energy striving to support our partners addressing any commercial and business challenge.

PROFESSIONAL

- 20+ years' experience on electronics
- EMS for various energy management scenarios
- Cell level monitoring and diagnosis on battery
- IOT and cloud computing for more flexible ESS solutions

SAFE & RELIABLE

- 50+ International certifications
- 100+ internal rigorous testing
- Cloud Monitoring and diagnosis on system and products
- Strict selection on BOM, LiFePO4 and metal CAN battery cells

SYSTEM SOLUTION

- All-in-one design for ESS
- Integrated solutions for PCS, BMS and Cloud platform
- EMS and Cloud platform integrate multiple scenarios
- Fully integrated energy management solutions

PERFECT SERVICE

- 10+ global service centers
- Professional training for global partners
- Efficient service solutions by cloud platform
- Remote control and parameter setting by web and app

Menu

On-grid Inverters

R1 Mini Series

1.1kW / 1.6kW / 2.2kW / 2.7kW / 3.3kW / 3.7kW
Single Phase, 1 MPPT

RENAC R1 Mini Series inverters are ideal choices for residential projects with higher power density, wider input voltage range for more flexible installation and a perfect match for high power PV panels.

NATURAL COOLING, MUTE OPERATION

REMOTE MONITORING

COMPACT SIZE

IP65 RATED

EASY INSTALLATION

BUILT-IN ZERO EXPORT FUNCTION (OPTIONAL)

R1 Mini Series

Model	R1-1K1-SS	R1-1K6-SS	R1-2K2-SS	R1-2K7-SS	R1-3K3-SS	R1-3K7-SS
DC Input Data						
Max. Recommended PV Power [Wp]	1400	2400	2800	3500	4200	4800
Max. DC Input Voltage [V]	500	500	500	550	550	550
MPPT Voltage Range [V]	50 ~ 500	50 ~ 500	50 ~ 500	50 ~ 550	50 ~ 550	50 ~ 550
Rated Input Voltage [V]	360					
Start-up Voltage [V]	70					
No. of MPP Trackers	1					
No. of Input Strings per Tracker	1					
Max. DC Input Current [A]	13.5	13.5	13.5	13.5	16	13.5
Max. Short-circuit Current per MPPT [A]	17	17	17	17	20	17
DC Switch	Optional					
AC Output Data						
Rated AC Power [W]	1100	1600	2200	2700	3300	3680
Max. Output Power [VA]	1100	1600	2200	2700	3300	3680
Max. AC Current [A]	4.8	7.2	9.6	12	14.4	16
Rated AC Voltage / Range[V]	220 / 230; 160 ~ 290					
Grid Frequency / Range [Hz]	50 / 60; ±5					
Adjustable Power Factor [cosϕ]	0.8 leading ~ 0.8 lagging					
Output THDi (@Rated Output)	≤2%					
Efficiency						
Max. Efficiency	97.00%	97.10%	97.10%	97.30%	97.30%	97.30%
Euro Efficiency	96.50%	96.60%	96.60%	96.80%	96.80%	96.80%
General Data						
Size (Width*Height*Depth) [mm]	295 x 260 x 115					335 x 260 x 120
Weight [kg]	6.8	6.8	6.8	6.8	6.8	7.5
User Interface	LCD					
Communication	RS485 or WIFI or GPRS					
Ambient Temperature Range [°C]	-25 ~ 60					
Relative Humidity	0 ~ 100%					
Operating Altitude [m]	≤4000					
Standby Self Consumption [W]	<0.2					
Topology	Transformerless					
Cooling	Natural Convection					
Protection Grades	IP65					
Noise [dB]	<30					
Warranty [years]	5 / 7 / 10					
Certifications & Standards						
Grid Regulation	VDE 0126-1-1, G98, EN 50549, C10/11, PEA, MEA, AS 4777, CEI 0-21, IEC 61727, IEC 62116, IEC 60068, IEC 61683					
Safety Regulation	IEC 62109-1, IEC 62109-2					
EMC	EN 61000-3-2, EN 61000-3-3, EN 61000-6-1, EN 61000-6-3, IEC 61000-4-16, IEC 61000-4-18, IEC 61000-4-29					

Protection

- DC Insulation Monitoring
- Input Reverse Polarity Protection
- Anti-island Protection
- Residual Current Monitoring
- Over-heat Protection
- AC Overcurrent Protection
- AC Short-circuit Protection
- AC Overvoltage Protection
- DC Surge Protection
- AC Surge Protection

On-grid Inverters

R1 Macro Series

4kW / 5kW / 6kW
Single Phase, 2 MPPT

RENAC R1 Macro Series is a single-phase on-grid inverter with excellent compact size, comprehensive software and hardware technology. The R1 Macro Series offers high efficiency and class-leading functional fan-less, low-noise design.

NATURAL COOLING, MUTE OPERATION

REMOTE MONITORING

30% DC OVERSIZING

IP65 RATED

EASY INSTALLATION

BUILT-IN ZERO EXPORT FUNCTION (OPTIONAL)

R1 Macro Series

Model	NAC4K-DS	NAC5K-DS	NAC6K-DS
DC Input Data			
Max. Recommended PV Power [Wp]	5200	6500	7800
Max. DC Power for Single MPPT [Wp]	4000	4000	4000
Max. DC Input Voltage [V]		600	
MPPT Voltage Range [V]		100 ~ 550	
Rated Input Voltage [V]		360	
Start-up Voltage [V]		120	
No. of MPP Trackers		2	
No. of Input Strings per Tracker	1 / 1	1 / 1	1 / 1
Max. DC Input Current [A]	16 / 16	16 / 16	16 / 16
Max. Short-circuit Current per MPPT [A]	20 / 20	20 / 20	20 / 20
DC Switch		Optional	
AC Output Data			
Rated AC Power [W]	4000	5000	6000
Max. Output Power [VA]	4400	5500	6600
Max. AC Current [A]	19.2	24	28.7
Rated AC Voltage / Range [V]		220 / 230; 160 ~ 290	
Grid Frequency / Range [Hz]		50 / 60; ±5	
Adjustable Power Factor [cosϕ]		0.8 leading ~ 0.8 lagging	
Output THDi (@Rated Output)		≤2%	
Efficiency			
Max. Efficiency	97.80%	97.80%	97.80%
Euro Efficiency	97.20%	97.20%	97.20%
General Data			
Size (Width*Height*Depth) [mm]		395 x 330 x 185	
Weight [kg]		12	
User Interface		LCD	
Communication		RS485(Standard),Wifi or GPRS	
Ambient Temperature Range [°C]		-25 ~ 60	
Relative Humidity		0 ~ 100%	
Operating Altitude [m]		≤4000	
Standby Self Consumption [W]		< 0.2	
Topology		Transformerless	
Cooling		Natural Convection	
Protection Grades		IP65	
Noise [dB]		< 30	
Warranty [years]		5 / 7 / 10	
Certifications & Standards			
Grid Regulation	VDE 0126-1-1, C10/11, G99, PEA, MEA, AS 4777, EN 50549, CEI 0-21, IEC 61727, IEC 62116, IEC 60068, IEC 61683, ABNT NBR 16150		
Safety Regulation	IEC 62109-1, IEC 62109-2		
EMC	EN 61000-3-2, EN 61000-3-3, EN 61000-3-11, EN 61000-3-12, EN 61000-6-2, EN 61000-6-3, IEC 61000-4-16, IEC 61000-4-18, IEC 61000-4-29		

Protection

- DC Insulation Monitoring
- Input Reverse Polarity Protection
- Anti-island Protection
- Residual Current Monitoring
- Over-heat Protection
- AC Overcurrent Protection
- AC Short-circuit Protection
- AC Overvoltage Protection
- DC Surge Protection
- AC Surge Protection

On-grid Inverters

R1 Moto Series

8kW/ 10kW / 10.5kW
Single Phase, 2 MPPT

Renac R1 Moto Series inverters fully meet the market's demand for high-power single-phase residential models, and are suitable for rural houses and urban villas with larger roof areas. They can substitute to install two or more low power single-phase inverters. While ensuring the revenue of power generation, the system cost can be greatly reduced.

NATURAL COOLING, MUTE OPERATION

30% DC OVERSIZING

SAFE & RELIABLE

26A INPUT CURRENT PER MPPT

EASY INSTALLATION

BUILT-IN ZERO EXPORT FUNCTION (OPTIONAL)

R1 Moto Series

Model	R1-8K-DS	R1-10K-DS	R1-10K5-DS
DC Input Data			
Max. Recommended PV Power [Wp]	12000	15000	16000
Max. DC Power for Single MPPT [Wp]	7500 / 6000	7500 / 7500	7500 / 7500
Max. DC Input Voltage [V]		600	
MPPT Voltage Range [V]		100 ~ 550	
Rated Input Voltage [V]		360	
Start-up Voltage [V]		120	
No. of MPP Trackers		2	
No. of Input Strings per Tracker	2 / 1	2 / 2	2 / 2
Max. DC Input Current [A]	26 / 20	26 / 26	26 / 26
Max. Short-circuit Current per MPPT [A]	33 / 26	33 / 33	33 / 33
DC Switch		Optional	
AC Output Data			
Rated AC Power [W]	8000	10000	10440
Max. Output Power [VA]	8800	10000	9570@220V; 10005@230V; 10440@240V
Max. AC Current [A]	38.5	43.75	43.8
Rated AC Voltage / Range [V]		220 / 230 / 240; 160 ~ 290	
Grid Frequency / Range [Hz]		50 / 60; ±5	
Adjustable Power Factor [cosϕ]		0.8 leading ~ 0.8 lagging	
Output THDi (@Rated Output)		≤2%	
Efficiency			
Max. Efficiency	97.8%	98.1%	98.1%
Euro Efficiency	97.2%	97.5%	97.5%
General Data			
Size (Width*Height*Depth) [mm]		395 x 330 x 185	
Weight [kg]		16	
User Interface		LCD	
Communication		RS485(Standard),Wifi or GPRS	
Ambient Temperature Range [°C]		-25 ~ 60	
Relative Humidity		0 ~ 100%	
Operating Altitude [m]		≤4000	
Standby Self Consumption [W]		< 0.2	
Topology		Transformerless	
Cooling	Natural	Fan	Fan
Protection Grades		IP65	
Noise [dB]	< 30	< 40	< 40
Warranty [years]		5 / 7 / 10	
Certifications & Standards			
Grid Regulation	IEC 61727, IEC 62116, IEC 60068, IEC 61683, ABNT NBR 16150		
Safety Regulation	IEC 62109-1, IEC 62109-2		
EMC	EN 61000-3-2, EN 61000-3-3, EN 61000-3-11, EN 61000-3-12, EN 61000-6-2, EN 61000-6-3, IEC 61000-4-16, IEC 61000-4-18, IEC 61000-4-29		

Protection

- DC Insulation Monitoring
- Input Reverse Polarity Protection
- Anti-island Protection
- Residual Current Monitoring
- Over-heat Protection
- AC Overcurrent Protection
- AC Short-circuit Protection
- AC Overvoltage Protection
- DC Surge Protection
- AC Surge Protection

On-grid Inverters

R3 Note Series

4kW / 5kW/ 6kW / 8kW / 10kW / 12kW / 15kW
Three Phase, 2 MPPT

RENAC R3 Note Series inverter is one of the best options available in the residential and commercial sectors by its technical strengths, which make it be one of the most productive inverters in the market. With the high efficiency of (98.5%), enhanced oversizing and overloading capabilities, R3 Note Series represents an outstanding improvement in the inverter industry.

NATURAL COOLING, MUTE OPERATION

50% DC INPUT OVERSIZING

REMOTE MONITORING

IP65 RATED

WIDE MPPT RANGE (140-950V)

BUILT-IN ZERO EXPORT FUNCTION (OPTIONAL)

R3 Note Series

Model	R3-4K-DT	R3-5K-DT	R3-6K-DT	R3-8K-DT	R3-10K-DT	R3-12K-DT	R3-15K-DT
DC Input Data							
Max. Recommended PV Power [Wp]	6000	7500	9000	12000	15000	18000	22500
Max. DC Power for Single MPPT [Wp]	3000	3750	4500	6000	7500	9000	15000 / 7500
Max. DC Input Voltage [V]				1000			
MPPT Voltage Range [V]				140 ~ 950			
Rated Input Voltage [V]				630			
Start-up Voltage [V]				160			
No. of MPP Trackers				2			
No. of Input Strings per Tracker	1 / 1	1 / 1	1 / 1	1 / 1	1 / 1	1 / 1	2 / 1
Max. DC Input Current [A]	16 / 16	16 / 16	16 / 16	16 / 16	16 / 16	16 / 16	20 / 16
Max. Short-circuit Current per MPPT [A]	20 / 20	20 / 20	20 / 20	20 / 20	20 / 20	20 / 20	26 / 20
DC Switch				Integrated			
AC Output Data							
Rated AC Power [W]	4000	5000	6000	8000	10000	12000	15000
Max. Output Power [VA]	4400	5500	6600	8800	11000	13200	16500
Max. AC Current [A]	6.4	8	9.6	12.8	16.0	19.2	24.0
Rated AC Voltage / Range [V]				3 / PE 380 , 400 ;±20% ; 3 / N / PE 380 , 400 ;±20%			
Grid Frequency / Range [Hz]				50 / 60; ±5			
Adjustable Power Factor [cosϕ]				0.8 leading ~ 0.8 lagging			
Output THDi (@Rated Output)				< 3%			
Efficiency							
Max. Efficiency	98.40%	98.40%	98.40%	98.50%	98.50%	98.50%	98.50%
Euro Efficiency	97.80%	97.80%	97.80%	98.00%	98.00%	98.00%	98.00%
General Data							
Size (Width*Height*Depth) [mm]	455 x 390 x 160			455 x 390 x 175			455 x 390 x 190
Weight [kg]	16.3			18.3			21.6
User Interface	LCD						
Communication	RS485 (Standard), Wifi or GPRS						
Ambient Temperature Range [°C]	-25 ~ 60						
Relative Humidity	0 ~ 100%						
Operating Altitude [m]	≤ 4000						
Standby Self Consumption [W]	< 0.2						
Topology	Transformerless						
Cooling	Natural Convection						
Protection Grades	IP65						
Noise [dB]	< 30						
Warranty [years]	5 / 7 / 10						
Certifications & Standards							
Grid Regulation	C10/11, PEA, MEA, G98, G99, EN 50549, CEI 0-21, CEI 0-16, IEC 61727, IEC 62116, IEC 60068, IEC 61683						
Safety Regulation	IEC 62109-1, IEC 62109-2						
EMC	EN 61000-3-2, EN 61000-3-3, EN 61000-6-2, EN 61000-6-3, EN 61000-3-11, EN 61000-3-12, IEC 61000-4-16, IEC 61000-4-18, IEC 61000-4-29						

Protection

- DC Insulation Monitoring
- Input Reverse Polarity Protection
- Anti-island Protection
- Residual Current Monitoring
- Over-heat Protection
- AC Overcurrent Protection
- AC Short-circuit Protection
- AC Overvoltage Protection
- DC Surge Protection
- AC Surge Protection

On-grid Inverters

R3 LV Series

10kW / 12kW / 15kW
Three Phase, 2 MPPT

RENAC R3 LV Series three-phase inverter is designed with low voltage power input small commercial PV applications. Developed as a preferable choice for South American market demand on low-voltage inverters above 10kW, it is applicable to the different grid voltage ranges in the region, which mainly cover 208V, 220V and 240V. With the R3-LV series inverter, the system configuration can be simplified instead of installation of an expensive transformer which adversely affects the system's conversion efficiency.

NATURAL COOLING, MUTE OPERATION

50% DC INPUT OVERSIZING

REMOTE MONITORING

IP65 RATED

SUPPORT LVRT AND OVRT

BUILT-IN ZERO EXPORT FUNCTION (OPTIONAL)

Model	R3-10K-LV	R3-12K-LV	R3-15K-LV
DC Input Data			
Max. Recommended PV Power [Wp]	15000	18000	22500
Max. DC Power for Single MPPT [Wp]	7500	9000	11250
Max. DC Input Voltage [V]		800	
MPPT Voltage Range [V]		150 ~ 650	
Rated Input Voltage [V]		380	
Start-up Voltage [V]		165	
No. of MPP Trackers		2	
No. of Input Strings per Tracker	2 / 2	2 / 2	2 / 2
Max. DC Input Current [A]	30 / 30	30 / 30	30 / 30
Max. Short-circuit Current per MPPT [A]	39 / 39	39 / 39	39 / 39
DC Switch		Integrated	
AC Output Data			
Rated AC Power [W]	9000@208 Vac 10000@220 Vac 11000@240 Vac	11000@208 Vac 12000@220Vac 13000@240Vac	14000@208Vac 15000@220Vac 16000@240Vac
Max. Output Power [VA]	11000	13000	16000
Max. AC Current [A]	27.1	31.9	40
Rated AC Voltage / Range [V]		150 ~ 300	
Grid Frequency / Range [Hz]		50 / 60; ±5	
Adjustable Power Factor [cosϕ]		0.8 leading ~ 0.8 lagging	
Output THDi (@Rated Output)		< 3%	
Efficiency			
Max. Efficiency	98.40%	98.40%	98.50%
Euro Efficiency	98.10%	98.20%	98.20%
General Data			
Size (Width*Height*Depth) [mm]		506 x 386 x 185	
Weight [kg]		23	
User Interface		LCD	
Communication		RS485 (Standard), Wifi or GPRS	
Ambient Temperature Range [°C]		-25 ~ 60	
Relative Humidity		0 ~ 100%	
Operating Altitude [m]		≤ 4000	
Standby Self Consumption [W]		< 0.2	
Topology		Transformerless	
Cooling		Fan	
Protection Grades		IP65	
Noise [dB]		< 45	
Warranty [years]		5 / 7 / 10	
Certifications & Standards			
Safety Regulation		IEC 62109-1,IEC 62109-2	
EMC		EN 61000-1, EN 61000-2, EN 61000-3, EN 61000-4, EN 61000-4-16, EN 61000-4-18, EN 61000-4-29	

Protection

- DC Insulation Monitoring
- Input Reverse Polarity Protection
- Anti-island Protection
- Residual Current Monitoring
- Over-heat Protection
- AC Overcurrent Protection
- AC Short-circuit Protection
- AC Overvoltage Protection
- DC Surge Protection
- AC Surge Protection

On-grid Inverters

R3 Pre Series

10kW / 15kW / 17kW / 20kW / 25kW
Three Phase, 2 MPPT

The R3 Pre Series inverter is especially designed for three-phase residential and small commercial projects. With its compact design, the R3 Pre series inverter is 40% lighter than the previous generation. The maximum conversion efficiency can reach 98.5%. The maximum input current of each string reach to 20A, which can be perfectly adapted to high power module to increase the power generation.

- 37.5A INPUT CURRENT PER MPPT
- 50% DC INPUT OVERSIZING
- SAFE & RELIABLE
- 110% LONG-TIME OVERLOAD ABILITY
- MAXIMUM DC INPUT VOLTAGE 1100V
- BUILT-IN ZERO EXPORT FUNCTION (OPTIONAL)

R3 Pre Series

Model	R3-10K-G5	R3-15K-G5	R3-17K-G5	R3-20K-G5	R3-25K-G5	R3-25K-G5-P
DC Input Data						
Max. Recommended PV Power [Wp]	15000	22500	25500	30000	37500	37500
Max. DC Power for Single MPPT [Wp]	7500	13500/9000	12750	15000	18750	18750
Max. DC Input Voltage [V]	1100					
MPPT Voltage Range [V]	150 ~ 1000					
Rated Input Voltage [V]	630					
Start-up Voltage [V]	165					
No. of MPP Trackers	2					
No. of Input Strings per Tracker	1 / 1	2 / 1	2 / 2	2 / 2	2 / 2	2 / 2
Max. DC Input Current [A]	20 / 20	30 / 20	30 / 30	30 / 30	30 / 30	37.5 / 30
Max. Short-circuit Current per MPPT [A]	26 / 26	39 / 26	39 / 39	39 / 39	39 / 39	49 / 39
DC Switch	Integrated					
AC Output Data						
Rated AC Power [W]	10000	15000	17000	20000	25000	25000
Max. Output Power [VA]	11000	16500	18700	22000	27500	27500
Max. AC Current [A]	16	24	27.1	31.9	40	40
Rated AC Voltage / Range [V]	3 / PE 380, 400; ±20%; 3 / N / PE 380, 400; ±20%					
Grid Frequency / Range [Hz]	50 / 60; ±5					
Adjustable Power Factor [cosϕ]	0.8 leading ~ 0.8 lagging					
Output THDi (@Rated Output)	< 3%					
Efficiency						
Max. Efficiency	98.30%	98.30%	98.40%	98.50%	98.50%	98.50%
Euro Efficiency	98.00%	98.00%	98.10%	98.20%	98.20%	98.20%
General Data						
Size (Width*Height*Depth) [mm]	506 x 386 x 185					
Weight [kg]	23					
User Interface	LCD					
Communication	RS485 (Standard), Wifi or GPRS					
Ambient Temperature Range [°C]	-25 ~ 60					
Relative Humidity	0 ~ 100%					
Operating Altitude [m]	≤ 4000					
Standby Self Consumption [W]	< 0.2					
Topology	Transformerless					
Cooling	Natural	Natural	Fan	Fan	Fan	Fan
Protection Grades	IP65					
Noise [dB]	< 30			< 45		
Warranty [years]	5 / 7 / 10					
Certifications & Standards						
Grid Regulation	IEC 61727, IEC 62116, IEC 60068, IEC 61683					
Safety Regulation	IEC 62109-1, IEC 62109-2					
EMC	EN 61000-3-2, EN 61000-3-3, EN 61000-6-2, EN 61000-6-3, EN 61000-3-11, EN 61000-3-12, IEC 61000-4-16, IEC 61000-4-18, IEC 61000-4-29					

Protection

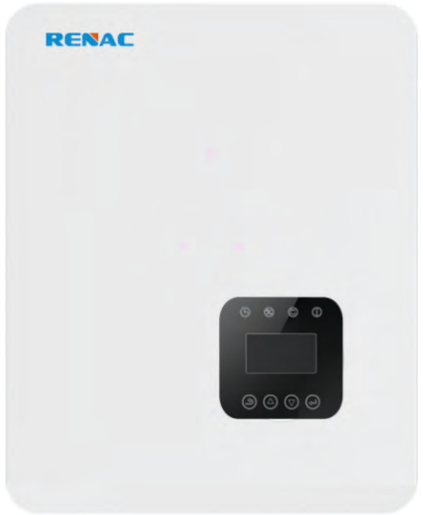
- DC Insulation Monitoring
- Input Reverse Polarity Protection
- Anti-island Protection
- Residual Current Monitoring
- Over-heat Protection
- AC Overcurrent Protection
- AC Short-circuit Protection
- AC Overvoltage Protection
- DC Surge Protection
- AC Surge Protection

On-grid Inverters

R3 Pro Series

30kW / 33kW / 36kW / 40kW
Three Phase, 3 MPPT

RENAC Pro Series inverter is especially designed for residential and small commercial projects. With its compact design, the inverter is light and easy to install. The max efficiency is 98.8%. With an advanced designed ventilation system, the inverter is able to dissipate heat efficiently.



NATURAL COOLING, MUTE OPERATION

50% DC INPUT OVERSIZING

REMOTE MONITORING

IP66 RATED

SUPPORT LVRT AND OVRT

BUILT-IN ZERO EXPORT FUNCTION (OPTIONAL)

Model	R3-30K-G5	R3-33K-G5	R3-36K-G5	R3-40K-G5
DC Input Data				
Max. Recommended PV Power [Wp]	45000	49500	54000	60000
Max. DC Input Voltage [V]	1100			
MPPT Voltage Range [V]	200 ~ 1000			
Rated Input Voltage [V]	620			
Start-up Voltage [V]	250			
No. of MPP Trackers	3			
No. of Input Strings per Tracker	2 / 2 / 2	2 / 2 / 2	2 / 2 / 2	2 / 2 / 2
Max. DC Input Current [A]	30 / 30 / 30	30 / 30 / 30	30 / 30 / 30	30 / 30 / 30
Max. Short-circuit Current per MPPT [A]	40 / 40 / 40	40 / 40 / 40	40 / 40 / 40	40 / 40 / 40
DC Switch	Integrated			
AC Output Data				
Rated AC Power [W]	30000	33000	36000	40000
Max. Output Power [VA]	33000	36300	39600	44000
Max. AC Current [A]	47.8	52.6	57.3	63.8
Rated AC Voltage / Range [V]	3 / PE 380 , 400 ; ±20% ; 3 / N / PE 380 , 400 ; ±20%			
Grid Frequency / Range [Hz]	50 / 60 ; ±5			
Adjustable Power Factor [cosϕ]	0.8 leading ~ 0.8 lagging			
Output THDi (@Rated Output)	< 3 %			
Efficiency				
Max. Efficiency	98.80%	98.80%	98.80%	98.80%
Euro Efficiency	98.50%	98.50%	98.50%	98.50%
General Data				
Size (Width*Height*Depth) [mm]	380 x 483 x 227			
Weight [kg]	32.5			
User Interface	LCD			
Communication	RS485 (Standard), Wifi or GPRS			
Ambient Temperature Range [°C]	-25 ~ 60			
Relative Humidity	0 ~ 100%			
Operating Altitude [m]	≤ 4000			
Standby Self Consumption [W]	< 0.2			
Topology	Transformerless			
Cooling	Fan Cooling	Fan Cooling	Fan Cooling	Fan Cooling
Protection Grades	IP66			
Noise [dB]	< 35			
Warranty [years]	5 / 7 / 10			
Certifications & Standards				
Grid Regulation	PEA, MEA, EN 50549, CEI 0-16, CEI 0-21, IEC 61727, IEC 62116, IEC 60068, IEC 61683, G99			
Safety Regulation	IEC 62109-1, IEC 62109-2			
EMC	EN 61000-3-2, EN 61000-3-3, EN 61000-6-2, EN 61000-6-3, EN 61000-3-11, EN 61000-3-12, IEC 61000-4-16, IEC 61000-4-18, IEC 61000-4-29			
Protection				

- DC Insulation Monitoring
- Input Reverse Polarity Protection
- Anti-island Protection
- Residual Current Monitoring
- Over-heat Protection
- AC Overcurrent Protection
- AC Short-circuit Protection
- AC Overvoltage Protection
- DC Surge Protection
- AC Surge Protection

On-grid Inverters

R3 Plus Series

50kW / 60kW / 70kW / 75kW / 80kW
Three Phase, 3~4 MPPT

RENAC R3 Plus Series inverter is ideal for medium to large sized commercial projects, especially for large-scale commercial roofs and farm plants. The range applies advanced topology and innovative control technology to achieve a maximum efficiency of 99.0% and maximum long-term returns and profitability for project owners.

- 50% DC INPUT OVERSIZING
- 3~4 MPPTS
- IP65 RATED
- REMOTE MONITORING
- STRING MONITORING AND SHORTER O&M TIME
- REMOTE ACTIVE / REACTIVE POWER LIMIT CONTROL

R3 Plus Series

Model	NAC50K	NAC60K	NAC70K	NAC75K	NAC80K
DC Input Data					
Max. Recommended PV Power [Wp]	75000	90000	105000	112500	120000
Max. DC Input Voltage [V]			1100		
MPPT Voltage Range [V]			200 ~ 1000		
Rated Input Voltage [V]			620		
Start-up Voltage [V]			250		
No. of MPP Trackers	3	3	4	4	4
No. of Input Strings per Tracker	4 / 4 / 4	4 / 4 / 4	3 / 3 / 3 / 3	4 / 4 / 3 / 3	4 / 4 / 3 / 3
Max. DC Input Current [A]	44 / 44 / 44	44 / 44 / 44	35 / 35 / 35 / 35	44 / 44 / 35 / 35	44 / 44 / 35 / 35
Max. Short-circuit Current per MPPT [A]	46 / 46 / 46	46 / 46 / 46	46 / 46 / 46 / 46	60 / 60 / 46 / 46	60 / 60 / 46 / 46
DC Switch			Integrated		
AC Output Data					
Rated AC Power [W]	50000	60000	70000	75000	80000
Max. Output Power [VA]	55000	66000	77000	75000	88000
Max. AC Current [A]	79.4	95.3	111.1	109	127
Rated AC Voltage / Range [V]			3 / PE 380 , 400 ; ±20% ; 3 / N / PE 380 , 400 ;±20%		
Grid Frequency / Range [Hz]			50 / 60; ±5		
Adjustable Power Factor [cosΦ]			0.8 leading ~ 0.8 lagging		
Output THDi (@Rated Output)			< 3%		
Efficiency					
Max. Efficiency	99.00%	99.00%	99.00%	99.00%	99.00%
Euro Efficiency	98.37%	98.37%	98.50%	98.50%	98.50%
General Data					
Size (Width*Height*Depth) [mm]	630 x 815 x 260	630 x 815 x 260	640 x 841 x 285	640 x 841 x 285	640 x 841 x 285
Weight [kg]	62	63	76	79	79
User Interface			LCD		
Communication			RS485 (Standard), Wifi or GPRS		
Ambient Temperature Range [°C]			-25 ~ 60		
Relative Humidity			0 ~ 100%		
Operating Altitude [m]			≤ 4000		
Standby Self Consumption [W]			< 1		
Topology			Transformerless		
Cooling			Fan Cooling		
Protection Grades			IP65		
Noise [dB]			< 60		
Warranty [years]			5 / 7 / 10		
Certifications & Standards					
Grid Regulation			PEA, MEA, IEC 61727, IEC 62116		
Safety Regulation			IEC 62109-1, IEC 62109-2		
EMC			EN 61000-6-2, EN 61000-6-4		

Protection

- DC Insulation Monitoring
- Input Reverse Polarity Protection
- Anti-island Protection
- Residual Current Monitoring
- Over-heat Protection
- AC Overcurrent Protection
- AC Short-circuit Protection
- AC Overvoltage Protection
- DC Surge Protection
- AC Surge Protection

On-grid Inverters

R3 Max Series

120kW / 150kW
Three Phase, 10 / 12 MPPT

Renac R3 Max Series 120-150kW three phase series string inverter adopt 10/12 MPPT design to provide a more flexible configuration scheme. The maximum input current of each string reach to 13A, which can be perfectly adapted to high power module to increase the power generation. Configuration can be easily done via Bluetooth. Smart I-V Curve Function, Night SVG Function, making the O&M easier.

MAX.DC/AC RATIO UP TO 1.5	10 / 12 MPPTS	Smart I-V Curve Function	DC & AC TYPE II SPD	AFCI FUNCTION OPTIONAL	1100Vdc, 400/500Vac

Model	R3-120K	R3-150K-HV
DC Input Data		
Max. Recommended PV Power [Wp]	180000	225000
Max. DC Input Voltage [V]	1100	
MPPT Voltage Range [V]	200 ~ 1000	
Rated Input Voltage [V]	620	780
Start-up Voltage [V]	250	
No. of MPP Trackers	10	12
No. of Input Strings per Tracker	2	2
Max. DC Input Current [A]	26	26
Max. Short-circuit Current per MPPT [A]	40	40
DC Switch	Integrated	
AC Output Data		
Rated AC Power [kW]	120@25°C, 110@40°C, 100@50°C	150@25°C, 136@40°C, 120@50°C
Max. Output Power [VA]	121000	150000
Max. AC Current [A]	176.4	174.5
Rated AC Voltage / Range [V]	3W+N+PE, 230 / 400Vac; 320 ~ 480V	3W+PE, 500Vac; 400 ~ 621V
Grid Frequency / Range [Hz]	50 / 60; ±5	
Adjustable Power Factor [cosφ]	0.8 leading ~ 0.8 lagging	
Output THDi (@Rated Output)	< 3%	
Efficiency		
Max. Efficiency	98.70%	99.00%
Euro Efficiency	98.30%	98.50%
General Data		
Size (Width*Height*Depth) [mm]	1055 x 700 x 336	
Weight [kg]	98	110
User Interface	LED Indicator, Blue tooth + APP	
Communication	RS485 (Standard), Wifi or GPRS	
Ambient Temperature Range [°C]	-25 ~ 60	
Relative Humidity	0 ~ 100%	
Operating Altitude [m]	≤ 4000	
Standby Self Consumption [W]	< 1	
Topology	Transformerless	
Cooling	Fan Cooling	
Protection Grades	IP66	
Noise [dB]	≤ 60	≤ 70
Warranty [years]	5 / 7 / 10	
Certifications & Standards		
Grid Regulation	IEC 61727, IEC 62116	
Safety Regulation	IEC 62109-1, IEC 62109-2	
EMC	EN 61000-6-2, EN 61000-6-4	

Protection

- DC Insulation Monitoring
- Input Reverse Polarity Protection
- Anti-island Protection
- Residual Current Monitoring
- Over-heat Protection
- AC Overcurrent Protection
- AC Short-circuit Protection
- AC Overvoltage Protection
- DC Surge Protection
- AC Surge Protection

On-grid Inverters

N1 HL Series

3kW / 3.68kW / 5kW
Single Phase, 2 MPPT, Hybrid Inverter

RENAC N1 HL Series Hybrid inverter is applicable with both on-grid and off-grid PV systems. It controls the flow of energy intelligently. End users can choose to charge batteries with free, clean solar electricity or grid electricity and discharge stored electricity when it is needed with flexible operation mode choices.

SMART MANAGEMENT VIA WEB & APP	EMERGENCY POWER SUPPLY	'PLUG & PLAY' INSTALLATION	IP65 RATED	EMS INTEGRATED, UP TO 8 OPERATION MODES	COMPATIBLE WITH LI-ION & LEAD-ACID BATTERY (48V)

N1 HL Series

Model	ESC3000-DS	ESC3680-DS	ESC5000-DS
DC Input Data			
Max. Recommended PV Power [Wp]	3900	4600	6500
Max. DC Input Voltage [V]		580	
MPPT Voltage Range		100 ~ 550	
Start-up Voltage [V]		110	
No. of MPP Trackers		2	
No. of Input Strings per Tracker		1	
Max. DC Input Current [A]		13.5 / 13.5	
Max. Short-circuit Current per MPPT [A]		17 / 17	
DC Switch		Integrated	
AC Output Data(On-grid)			
Rated AC Power [W]	3000	3680	5000[1]
Max. Output Power [VA]	3000	3680	5000[1]
Max. AC Current [A]	13	16	21.7
Rated AC Voltage / Range [V]		220 / 230; 180 ~ 270	
Grid Frequency / Range [Hz]		50 / 60; ±5	
Adjustable Power Factor [cosϕ]		0.8 leading ~ 0.8 lagging	
Output THDi (@Rated Output)		< 3%	
Battery Data			
Battery Type		Lead-acid battery / lithium battery	
Recommended Battery Voltage [V]		48	
Battery Voltage Range [V]		40 ~ 60	
Max. Charging / Discharging Power [W]		3000	
Max. Charging / Discharging Current [A]		60	
Communication Interface		CAN	
EPS Output(With Battery)			
EPS Rated Power [W]		3000	
EPS Rated Voltage [V]		220 / 230	
EPS Rated Frequancy [Hz]		50 / 60	
EPS Rated Current [A]		13	
Output THDI(@Rated Output)		< 3%	
Automatic Switch Time [s]		< 5	
Peak Power, Duration [W,s]		4500, 10	
Efficiency			
Max. Efficiency	97.60%	97.60%	97.60%
Euro Efficiency	97.00%	97.00%	97.00%
Battery Charge / Discharge Efficiency	94.00%	94.00%	94.00%
General Data			
Size (Width*Height*Depth) [mm]		526 x 528 x 193	
Weight [kg]		29.5	
User Interface		LCD	
Communication		RS485 (Standard), Wifi or GPRS	
Ambient Temperature Range [°C]		-25 ~ 60	
Relative Humidity		0 ~ 100%	
Operating Altitude [m]		≤ 4000	
Standby Self Consumption [W]		< 1	
Topology		Transformerless	
Cooling		Natural Convection	
Protection Grades		IP65	
Noise [dB]		< 35	
Warranty [years]		5 / 7 / 10	
Certifications & Standards			
Grid Regulation		G98, G99, NRS-097, MEA, PEA, AS 4777, EN 50438, CEI - 021, EN 50549, IEC 61727, IEC 62116, IEC 60068, IEC 61683	
Safety Regulation		IEC 62109-1, IEC 62109-2, IEC 62040	
EMC		EN 61000-6-2, EN 61000-6-3, EN 61000-4-16, EN 61000-4-18, EN 61000-4-29	
Protection			

- DC Insulation Monitoring
- Input Reverse Polarity Protection
- Anti-island Protection
- Residual Current Monitoring
- Over-heat Protection
- AC Overcurrent Protection
- AC Short-circuit Protection
- AC Overvoltage Protection
- DC Surge Protection
- AC Surge Protection

[1]: The AC output power for VDE-AR-N 4105, VDE0126 and NRS097-2-1 is limited to 4600VA, for AS/NZS 4777.2 is limited to 4999VA & 21.7A.

Energy Storage System

N1 HV/AC Series

3kW / 3.68kW / 5kW / 6kW
Single Phase, 2 MPPT,
High-Voltage Hybrid /AC coupled Inverter

RENAC N1 HV/AC Series hybrid/AC coupled inverters are compatible with 80-450V high voltage batteries. It improves the system efficiency and lower the system cost significantly. The charging/discharging power could reach 6kw and is suitable for operation mode like VPP (Virtual Power Plant).

SMART MANAGEMENT VIA WEB & APP

EMERGENCY POWER SUPPLY

IP65 RATED

'PLUG & PLAY' INSTALLATION

6000W CHARGING / DISCHARGING RATE

EMS INTEGRATED, UP TO 8 OPERATION MODES

N1 HV/AC Series

Model	N1-HV-3.0 N1-AC-3.0	N1-HV-3.68 N1-AC-3.68	N1-HV-5.0 N1-AC-5.0	N1-HV-6.0 N1-AC-6.0
DC Input Data				
Max. Recommended PV Power [Wp]	4500	5500	7500	9000
Max. DC Input Voltage [V]	600			
MPPT Voltage Range [V]	120 ~ 550			
Rated DC input Voltage [V]	360			
Start-up Voltage [V]	150			
No. of MPP Trackers	2			
No. of Input Strings per Tracker	1			
Max. DC Input Current [A]	13.5 / 13.5			
Max. Short-circuit Surrent per MPPT [A]	17 / 17			
DC Switch	Integrated			
AC Output Data(On-grid)				
Rated AC Power [W]	3000	3680	5000[1]	6000
Rated. AC Current [A]	13	16	21.7 [1]	26.1
Rated AC Voltage / Range [V]	220 / 230 / 240; 160 ~ 290			
Grid Frequency / Range [Hz]	50 / 60 ; ±5			
Ajustable Power Factorl [cos ϕ]	0.8 leading ~ 0.8 lagging			
Output THDi(@Rated Output)	<2%			
Output DC(Battery)				
Battery Type	Lithium			
Battery Voltage Range [V]	80 ~ 450			
Max. Charging / Discharging Current [A]	25			
Max. Charging / Discharging Power [W]	4500 / 3000	5500 / 3680	6000 / 5000	6000 / 6000
Communication Interface	CAN			
EPS Output(With Battery)				
EPS Rated Power [W]	3000	3680	5000	6000
EPS Rated Voltage [V]	220 / 230			
EPS Rated Frequancy [HZ]	50 / 60			
EPS Rated Current [A]	13	16	21.7	26.1
Output THDi(@Rated Output)	<2%			
Automatic Switch Time [s]	<0.5			
Peak Apparent Power(rated).Duration [s]	120% Overload.600			
Efficiency				
Max. Efficiency	97.42%	97.45%	97.50%	97.50%
Euro Efficiency	97.15%	97.17%	97.20%	97.20%
Battery Charge / Discharge Efficiency	97.15%	97.17%	97.20%	97.20%
Protection				
DC Insulation Monitoring	Intergrated			
Input Reverse Polarity Protection	Intergrated			
Anti-island Protection	Intergrated			
Residual Current Monitoring	Intergrated			
Over-heat Protection	Intergrated			
AC Overcurrent Protection	Intergrated			
AC Short-circuit Protection	Intergrated			
AC Overvoltage Protection	Intergrated			
DC Surge Protection	Integrated (Type III)			
AC Surge Protection	Integrated (Type III)			
General Data				
Size(Width*Height*Depth) [mm]	506 x 386 x 170			
Weight [kg]	20			
User Interface	LED+OLED			
Communication	Rs485 / Meter / USB / CAN / DRM / WIFI (optional) / GPRS (optional)			
Operating Temperature Range [°C]	-30 ~ 60			
Relative Humidity	0 ~ 95%			
Operating Altitude [m]	≤ 2000			
Standby Self Consumption [W]	<15 for hot standby, <3 for cold standby			
Topology	Transformerless			
Cooling	Natural Convection			
Protection Grades	IP65			
Noise [dB]	<35			
Warranty	5 / 7 / 10 years			
Certifications & Standards				
Grid Regulation	AS 4777, EN 50549, IEC 61727, CEI 0-21, IEC 62116, IEC 60068, IEC 61683			
Safety Regulation	IEC 62109-1, IEC 62109-2, IEC 62040, EN 61000-6-2, EN 61000-6-3,			
EMC	EN 61000-4-16, EN 61000-4-18, EN 61000-4-29			

[1]: The AC output power for VDE-AR-N 4105, VDE0126 and NRS097-2-1 is limited to 4600VA&20A, for AS/NZS 4777.2 is limited to 4999VA & 21.7A.

Energy Storage System

PowerCase

3.58kWh / 7.16kWh / 10.74kWh / 14.32kWh
LiFePO4 Lithium-ion Battery

RENAC PowerCase is a LiFePO4 Lithium-ion Battery system. It offers a 3.58kWh modular that can be expanded in parallel with up to 4 batteries 14.32kWh system. The PowerCase encompasses the latest LFP technology which ensures more reliable applications under wider temperature range.

MODULAR DESIGN, EXPANDABLE

CAPACITY UP TO 14.32KWH

IP65 RATED

EASY INSTALLATION

SAFE AND LONG LIFESPAN

HIGH POWER OUTPUT & USABLE ENERGY RATIO

PowerCase

Model	PC-3.58	PC-7.16	PC-10.74	PC-14.32
Battery				
Battery Type	LiFePO4			
Battery Module [Module]	1	2	3	4
Nominal Characteristics				
Nominal Voltage [V]	51.2			
Battery Capacity [Ah]	70	140	210	280
Nominal Battery Energy [kWh]	3.58	7.16	10.74	14.32
Electrical Specification				
Voltage Range [V]	43.2 ~ 57.6			
Recommand C Rate [C]	0.5			
Max. Charging Current [A]	50	100	100	100
Max. Discharging Current [A]	50	100	100	100
Mechanical Specifications				
Net Weight [kg]	59	94	59 + 94	94 + 94
Demension [mm]	536 x 170 x 1037			
Ingress Rating	IP65			
Color	White (Customizable)			
Cooling	Natural Convection			
Communication Specifataction				
Communication Port	CAN			
Operation Conditions				
Operation Temperature Range [°C]	0 ~ 55			
Operation Humidity	< 100%			
Altitude [m]	< 2000			
Calender Life [Cycles,°C]	> 6000, 25			
Certification				
Safety	CE / EN 62619			
EMC	EN 61000			
Transport	UN38.3			
Environment	ROHS			
Protection				

- OverCharge / Overdischarge Protection
- OverCurrent Protection
- Overtemperature Protection
- Short Circuit Protection

Energy Storage System

LV 48070 Plus

3.58kWh
LiFePO4 Lithium-ion Battery

The LV 48070 Plus is a high-performance, expandable battery storagemodular.It is designed with flexible combination and suitable for variousenergy storage applications.Additional batteries can be installed in parallel.Easy installation with 'plug and play' solution saves time and cost.

HIGH POWER DENSITY (3.58KWH IN COMPACT SIZE)

LONG LIFE WITH MORE THAN 6000 CYCLES

EASY INSTALLATION

FLEXIBLE MODULAR SYSTEM

WIDE TEMPERATURE TOLERANCE (-10~50°C)

HIGH EFFICIENCY WITH 98% CHARGE /DISCHARGE EFFICIENCY

Lv48070 Plus

Nominal Characteristics	
Nominal Voltage [V]	51.2
Nominal Capacity [kWh]	3.58
Usable Capacity [kWh]	3.2
Mechanical Specifications	
Dimension [mm]	475 x 426 x 132
Weight [kg]	35
Cooling Method	Nature Cooling
IPrating of Enclosure	IP 20
Electrical Specification	
Discharge Voltage [V]	43.2 ~ 56.0
Charge Voltage [V]	55.2 ~ 57.6
Recommend Charge/Discharge Current [A]	35
Max. lutput Current [A]	60
Max. Output Current [A]	70
Peak Output Current [A]	100 @5S
Depth of Discharge	90%
Communication Specifatiaction	
Communication	RS485, CAN
eneral Data	
Battery String Configuration	1 ~ 8 units in parallel
Working Temperature	0 ~ 50°C Charge-10 ~ 50°C Discharge
Storage Temperature	-20 ~ 40°C(Recommended: 0 ~ 35°C)
Power self-consumption when Running [W]	≤ 2
Power self-consumption when Standby [W]	1@≤48h; 0@ > 48h
Humidity	0 ~ 85%RH
Certification	
Reference to Standards	CE, IEC 62619, UL1642, IEC 61000, UN38.3, ROHS
Protection	
Overload Protection	integrated
Short-circuit Protection	integrated

Energy Storage System

Turbo H1 Series

3.74kWh / 7.48 kWh / 11.23 kWh / 14.97kWh / 18.7kWh High voltage Battery

RENAC Turbo H1 is a high voltage, scalable battery storage module. It offers a 3.74 kWh model that can be expanded in series with up to 5 batteries with 18.7kWh capacity. Easy installation with plug and play.

MODULAR DESIGN AND EASY INSTALLATION

PLUG AND PLAY

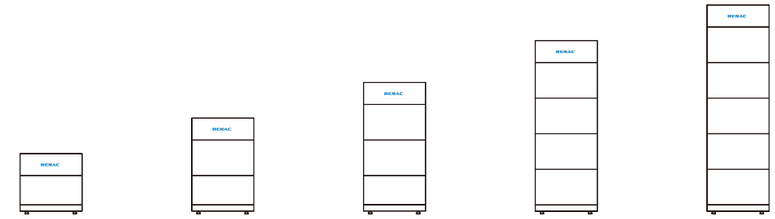
IP65 RATED

SCALABLE TO 18.7KWH

REMOTE UPGRADE AND ONLINE DIAGNOSIS

SUITABLE FOR BACK-UP SYSTEMS

Turbo H1 Series



Model	TB-H1-3.74	TB-H1-7.48	TB-H1-11.23	TB-H1-14.97	TB-H1-18.7
Electrical Parameters					
Nominal Energy[1] [kWh]	3.74	7.48	11.23	14.97	18.7
Usable Energy(90%DOD) [kWh]	3.36	6.73	10.1	13.47	16.83
Nominal Voltage [V]	96	192	288	384	480
Voltage Range [V]	81 ~ 108	162 ~ 216	243 ~ 324	324 ~ 432	405 ~ 540
Maximum Charge / Discharge Current [A][2]			30 / 30		
Depth of Discharge			90%		
Cooling			Natural		
General					
Battery Technology			LiFePO4		
Dimensions (H*W*D) [mm]	606 x 651 x 217	932 x 651 x 217	1258 x 651 x 217	1584 x 651 x 217	1910 x 651 x 217
Weight [kg]	49.5	86.8	124.1	161.4	198.7
Number of Battery Units	1	2	3	4	5
Enclosure			IP65		
Type of Installation			Floor Stand / Indoor or Outdoor		
Operating Temperature Range [°C][3]			-10 ~ +50		
Communication			CAN / RS485		
Cycle Life [90%DOD]			>6000 cycles		
Warranty[4]			10 Years		
Operating Altitude [m]			≤ 2000		
Certification					
Certificates			UN 38.3, EN / IEC 62619, IEC 62040, EN 62477-1, IEC 62040-1, EN 61000-6-1 / -3		

[1] Nominal Energy: Test conditions: 100% DOD, 0.2C charge & discharge at + 25 °C.

[2] The recommended charging and discharging current is 20/30A.

[3] Ambient temperature charging(0 ~ 40°C), Discharging(-10 ~ +50°C).

[4] Conditions apply. Refer to Renac Power Battery Warranty Policy.

Energy Storage System

A1 HV Series

3kW / 3.68kW / 5kW / 6kW
All in One ESS

The RENAC A1-HV Series All-in-one ESS combines a hybrid inverter and high-voltage batteries for maximum round-trip efficiency and charge / discharge rate capacity.It is integrated in one compact and stylish unitfor the easy installation.

EMS INTEGRATED, UP TO 8 OPERATION MODES	SMART MANAGEMENT VIA WEB & APP	IP65 RATED	EXPANDABLE STORAGE	'PLUG & PLAY' INSTALLATION	6000W CHARGING / DISCHARGING RATE

A1 HV Series

Model	A1-HV-3.0	A1-HV-3.68	A1-HV-5.0	A1-HV-6.0
DC Input Data				
Max. Recommended PV Power [Wp]	4500	5500	7500	9000
Max. DC Input Voltage [V]	600			
MPPT voltage Range [V]	120 ~ 550			
Start-up Voltage [V]	150			
No. of MPP Trackers	2			
No. of Input Strings per Tracker	1			
Max. DC Input Current [A]	13.5 / 13.5			
Max. Short-circuit Current per MPPT [A]	17 / 17			
DC Switch	Standard			
Battery Data				
Battery Type	lithium battery			
Recommended Battery Voltage [V]	300			
Battery Voltage Range [V]	85 ~ 450			
Max. Charging / Discharging Power [W]	4500 / 3000	5500 / 3680	6000 / 5000	6000 / 6000
Max. Charging / Discharging Current [A]	25			
Communication Interface	CAN / RS485			
AC Output Data (On-grid)				
Rated AC Power [W]	3000	3680	4600	6000
Max. Output Power [VA]	3000	3680	5000	6000
Max. AC Current [A]	13	16	21.7	26.1
Rated AC Voltage / Range [V]	220 / 230; 180 ~ 270			
Grid Frequency / Range [Hz]	50 / 60; ±5			
Ajustable Power Factor [cos ϕ]	0.8 leading ~ 0.8 lagging			
Output THDi (@Rated Output)	< 2%			
EPS AC Output Data (Back-UP)				
EPS Rated Power [VA]	3000	3680	5000	6000
EPS Rated Voltage [V]	220 / 230			
EPS Rated Frequency [Hz]	50 / 60			
Max. Output Current [A]	13	16	21.7	26.1
Output THDi (@Rated Output)	< 2%			
Automatic Switch Time [s]	< 0.5			
Peak power, Duration [VA, s]	120% Overload, 600			
Efficiency				
Max. Efficiency	97.42%	97.45%	97.50%	97.50%
Euro Efficiency	97.15%	97.17%	97.20%	97.20%
Max. Battery Discharge Efficiency(BAT to AC)	97.15%	97.17%	97.20%	97.20%
General Data				
Size (Width*Height*Depth) [mm]	561 x (855+N x 325) x 237 (N [1] = 1 ~ 4)			
Weight [kg]	33 + N x 38.7 (N [1] = 1 ~ 4)			
User Interface	LCD			
Communication	RS485 (Standard), Wifi or GPRS			
Ambient Temperature Range [°C]	-10°C ~ 50°C [2]			
Relative Humidity	0 ~ 100%			
Operating Altitude [m]	≤ 2000			
Standby Self Consumption [W]	< 1			
Topology	Transformerless			
Cooling	Natural Convection			
Protection Grades	IP65			
Noise [dB]	< 35			
Warranty [years]	5 / 7 / 10			
Certifications & Standards				
Grid Regulation	AS 4777, EN 50549, IEC 61727, CEI 0-21, IEC 62116, IEC 60068, IEC 61683			
Safety Regulation	IEC 62109-1, IEC 62109-2, IEC 62040, IEC 62619			
EMC	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4, EN 61000-4-16, EN 61000-4-18, EN 61000-4-29			

Protection

- DC Insulation Monitoring
- Input Reverse Polarity Protection
- Anti-island Protection
- Residual Current Monitoring
- Over-heat Protection
- AC Overcurrent Protection
- AC Short-circuit Protection
- AC Overvoltage Protection
- DC Surge Protection
- AC Surge Protection

[1] Number of battery modules.
[2] Operating temperature range: Charging(0 ~ +40°C),Discharging(-10 ~ +50°C).

Off-grid inverter

01 HF Series

3.6kW / 5kW

RENAC 01 HF series off-grid solar inverter is integrated with a MPPT solar charge controller, a high frequency pure sine wave inverter and a UPS function module in one machine. This inverter can work with or without batteries, and can be wired in parrallel to expand the output capacity. It is widely used in household systems, communication base stations, monitoring systems, pastoral areas, and 5G auxiliary power supply.

Product Features

Working modes switch according to priority;
Parallel operation up to 6 units;
Compatible with lead-acid and lithium batteries;
Double rating of surge power suitable for motor loads;
Can work with or without batteries.

AUTOMATIC SWITCHING OF WORKING MODE

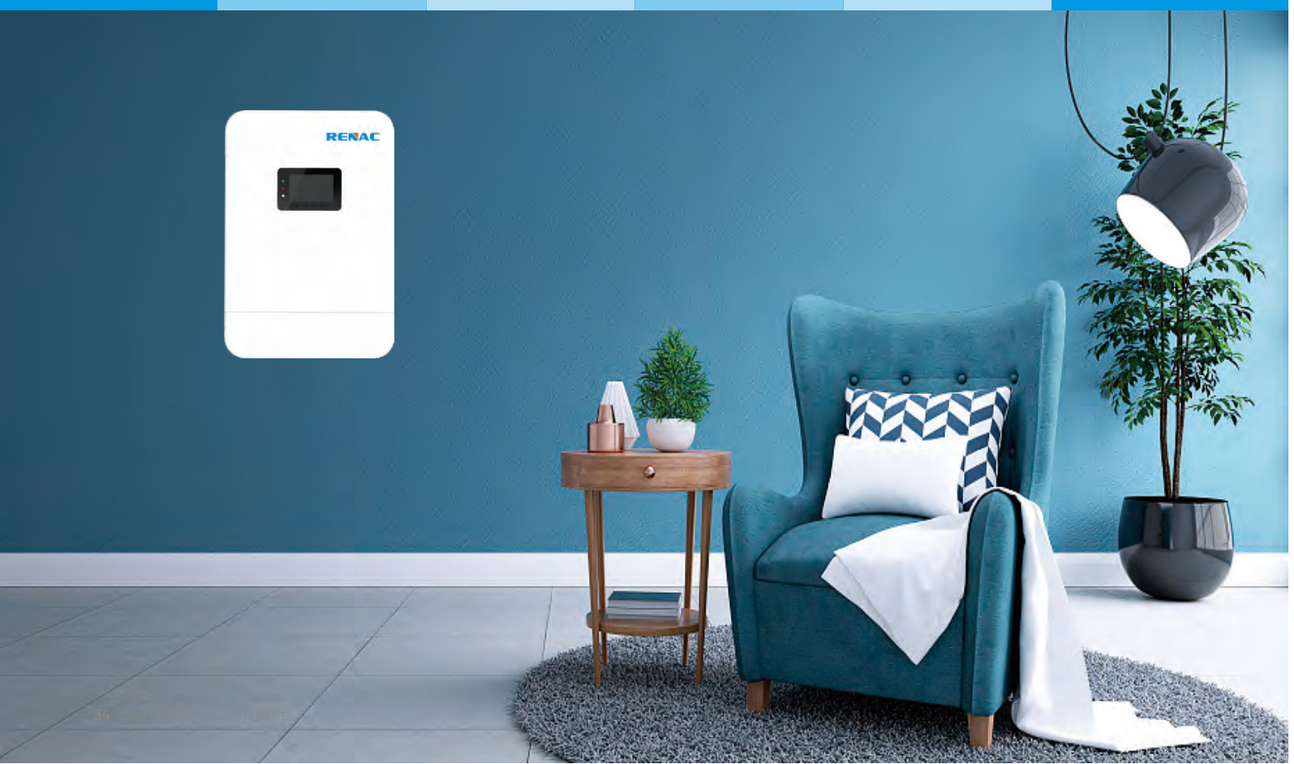
BUILT-IN MPPT SOLAR CHARGER

PARALLEL OPERATION UP TO 6 UNITS

COMPATIBLE WITH LEAD-ACID AND LITHIUM BATTERIES

SUPPORT HIGHER SURGE POWER

WORK WITH OR WITHOUT BATTERIES



Model	01-HF-3.6		01-HF-5.0
Battery			
Nominal Battery Voltage [V]		48	
Battery Voltage Range [V]		40 ~ 56	
Battery Type		Lithium / Lead-acid	
Solar Charger			
Max. PV Input Power [Wp]	4500		6000
Max. PV Input Voltage [V]		450	
Max. PV Input Current [A]		18	
MPPT Range [V]		120 ~ 430	
MPP Trackers/String per Tracker	80	1 / 1	100
Max Charging Current [A]	93%		93%
Max. Efficiency			
AC Charger			
Nominal AC Input Voltage [V]		220 / 230 / 240	
Max. AC Charge Current [A]	60		80
AC Voltage Range [Vac]		180 ~ 275	
Frequency Range [Hz]		50 / 60; ± 5	
Inverter Output			
Rated Output Power [W/VA]	3600 / 3600		5000 / 5000
Parallel Capacity		6 units max.	
Nominal Output Voltage [V]		220 / 230 / 240	
Nominal Output Frequency [Hz]		50 / 60 by setting	
Surge Power [W]	7200		10000
Max. Efficiency		93	
THDv		<5	
Transfer Time		10ms (For Personal Computers); 20ms (For Home Appliances)	
General Parameters			
Protection Degree		IP20	
Dimension [mm]		320 x 500 x 134	
Weight [kg]		12	
Operating Temperature		0 ~ 55°C	
Storage Temperature		-15~60°C	
Communication		WIFI or GPRS (optional)	

Smart Energy Cloud

Titan Solar Cloud

Titan Solar Cloud provides systematic O&M management for solar Projects based on the technology of IOT, big data and cloud computing.

Systematic Solutions

Titan Solar Cloud collects comprehensive data from solar projects, including data from inverters, meteorological station, combiner box, DC combiner, electric and module strings.

Intelligent O&M

Titan Solar Cloud platform realizes centralized O&M, including intelligent fault diagnosis, fault automatic positioning and close-cycle O&M, etc.

Data Connection Compatibility

Titan Cloud is able to connect different brand inverters by compatible with communication agreements of more than 40 inverter brands globally.

Group and Fleet Management

It can realize the fleet O&M management for the solar plants around the world, and is also suitable for residential solar projects after sales service. It can dispatch the service orders to the service team nearby the fault site.

Renac Energy Management Cloud

Based on technology of Internet, cloud service and big data, RENAC energy management cloud provides systematic power station monitoring, data analysis and O&M for different energy systems to realize the maximum ROI.

Systematic Solutions

RENAC energy cloud realizes comprehensive data collection, data monitoring on solar plant, energy storage system, gas power station, EV chargers and wind projects as well as data analysis and fault diagnosis. For industrial parks, it provides analysis on energy consumption, energy distribution, energy flow and system income analysis.

Intelligent Operation and Maintenance

This platform realizes centralized O&M, fault intelligent diagnosis, fault automatic positioning and close-cycle. O&M, etc.

Customized Function

We could provide customized function development according to specific projects and maximize benefits on various energy management.

Accessories

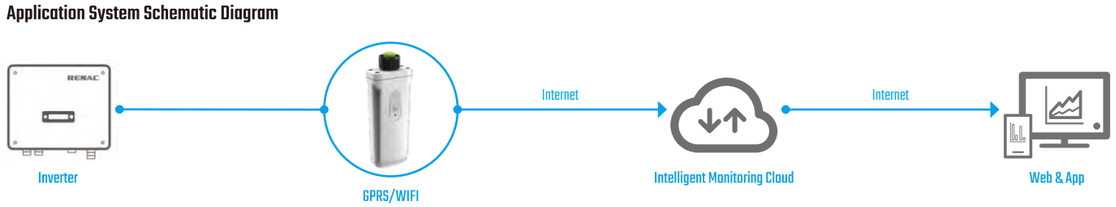
ST-Wifi-G2

- Supporting Breakpoint Retransmission
- Easy & Quick Setup Via Bluetooth
- Wide Coverage

ST-GPRS / ST-WIFI

- Remote monitoring via cloud platform.
- Real-time monitoring device status, between -30°C ~85°C.
- Support multiple communication protocols (standard/nonstandard).
- Strong reliability and stable operation.

Application System Schematic Diagram



RT-GPRS / RT-WIFI

- Input voltage : AC 90-264V.
- Inverter communication: RS485.
- Communication parameters: 9600/N/8/1.
- Remote communication : GPRS/Wifi.
- Able to connect up to 8 inverters.
- Support remote firmware upgrade.
- Support 850/900/1800/1900MHz SIM card.
- Operating temperature range: -20 °C ~70°C .

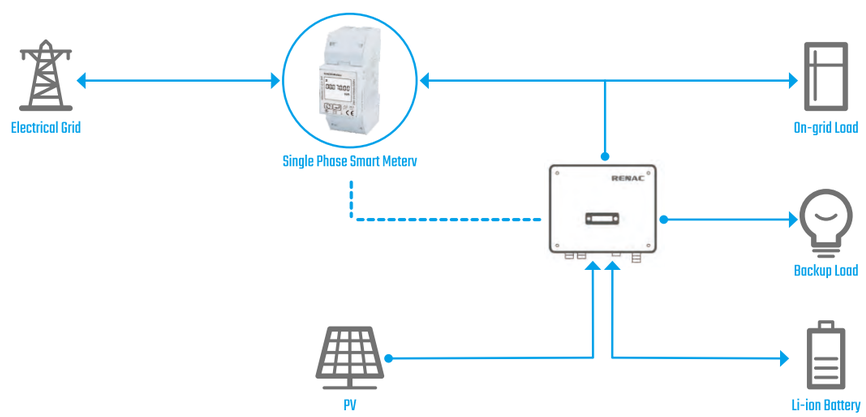
Application System Schematic Diagram

Single Phase Smart Meter

RENAC single phase smart Meter is designed with high-precision small-scale dimensions, and convenient operation and installation.

Available for N1 series Hybrid inverter connection to measures kWh, Kvarh, KW, Kvar, KVA, PF, Hz, dmd, V, A, etc, it could make system zero export or limit export power to a certain set value .

Application System Schematic Diagram



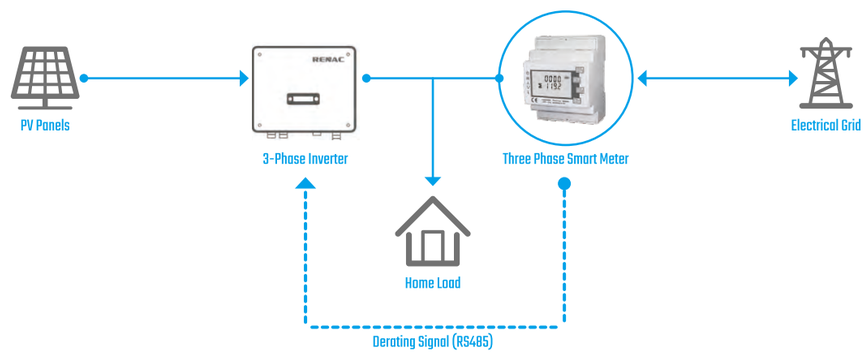
Three Phase Smart Meter

RENAC Smart Meter is one-on-one solution for grid export limitation.

Compatible with RENAC three phase string inverters from 4kW to 33kW.

With RS485 communication and direct connection to inverter, it is easy for installation and cost effective.

Application System Schematic Diagram



UDL-100

Built-in communication server and Web monitoring site.

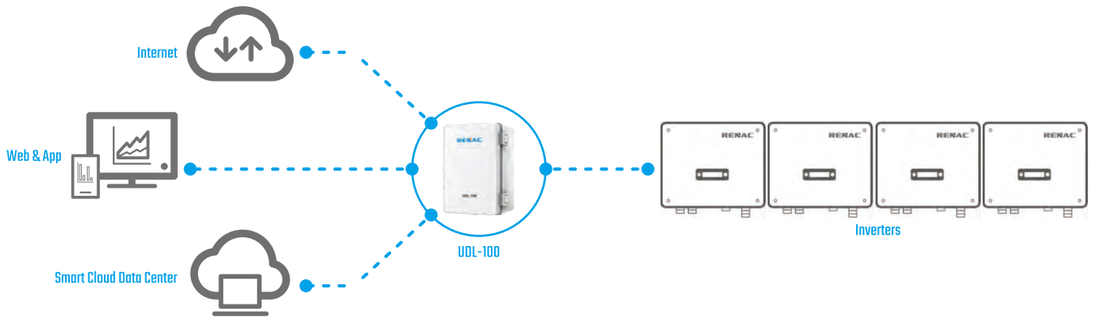
Able to send info to remote server (RJ45 / GPRS / WiFi).

Can be connected to a variety of devices including inverters, modules, combiner boxes, controllers and sensors, etc., to satisfy various demands.

Support up to 4 strings of RS485, and each string can connect up to 18 devices.

Compatible with 104 communication protocols.

Application System Schematic Diagram

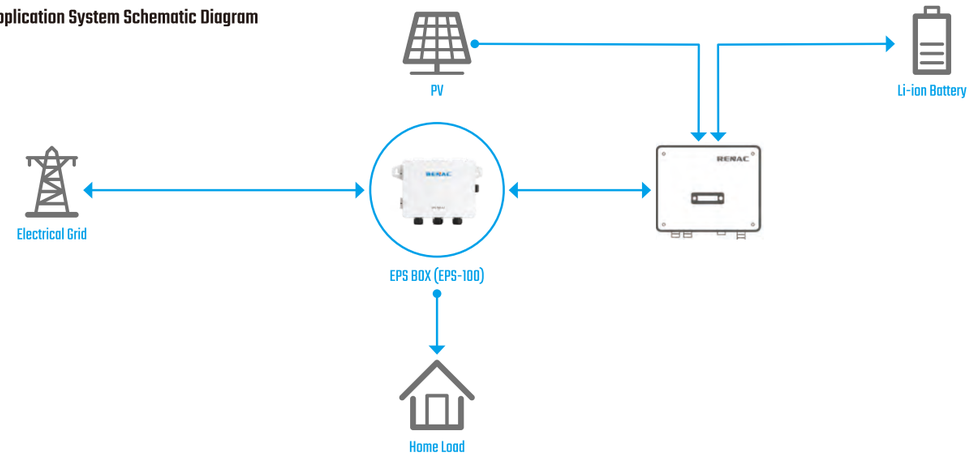


EPS BOX (EPS-100-G2)

RENAC EPS box is an accessory to manage EPS output of hybrid inverters.

It integrates one contactor and provides simple connection for end users by connecting 9 wires between inverter and EPS box. Meanwhile, the EPS simplifies operation and improves system security.

Application System Schematic Diagram



Project Reference

Residential PV Plants

16kW Residential Project in Brazil

Two units single phase inverters NAC8K-DS

5kW Residential Roof Project in Gujarat, India

One unit on-grid inverter NAC5K-DS

3kW Residential Roof Project in Italy

One unit on-grid inverter R1-3K3-SS

5kW Residential Roof Project in Tunisia

Two units on-grid inverter R1-2K7-SS

16kW Farmhouse Roof Project in Brazil

Two 8kW single phase inverters NAC8k-DS were deployed to power farmhouse in Diego Brazil

12kW Solar Project in Vietnam

One unit on-grid three phase inverter R3-12K-DT

Industrial PV Plants

39kW Solar Plant in Curitiba Brazil

100 piece solar panels have been installed on the roof of a factory in Curitiba Brazil. Two NAC20K-DT inverters were deployed to power the facility

1.2MW Rooftop Solar Plant in Jiangsu, China

1.2 MW project case in Jiangsu province of China with NAC60K

30kW Solar Plant in Italy

A warehouse roof power station project with 2 units three phase on-gird inverters R3-15K-DT

60kW Mexico PV Power Station

This is a 60kW PV power station in Mexico, with 2 units

Energy Storage System

2MW Solar Project in Shandong Province China

2MW PV power station in Shandong Province, China with 40 units NAC50K

165kW Solar Plant in Vietnam

5 units NAC33K-DT in Vietnam

Residential Storage in Sri Lanka

Solar+Storage, backup power, 20 units 5KW hybrid inverters ESC5000-DS

Residential Storage in Chelmsford UK

10 x 3.6kW/7.2kWh ESS for Firm frequency response, VPP, with hybrid inverter ESC3680-DS

Residential Storage in Sydney Australia

PV Self-consumption, 5kW hybrid inverter ESC5000-DS and 7.2kWh LPF battery

World-Class Components Suppliers

Main CPU
America

Texas Instruments

IGBT
Germany / America

Infineon

ON Semiconductor

DC Switch
Netherlands

santon
superior switch solutions

Capacitor
Japan

NIPPON CHEMI-CON

TDK

Relay
Japan / Germany

Panasonic

ZETTLER

MOSFET
Germany / America

Infineon

CREE

Cooling Fan
Japan

MinebeaMitsumi
Passion to Create Value through Difference

DC Connector
Swizerland / America

Multi-Contact

MC
STAUBLI GROUP

MOV
Japan

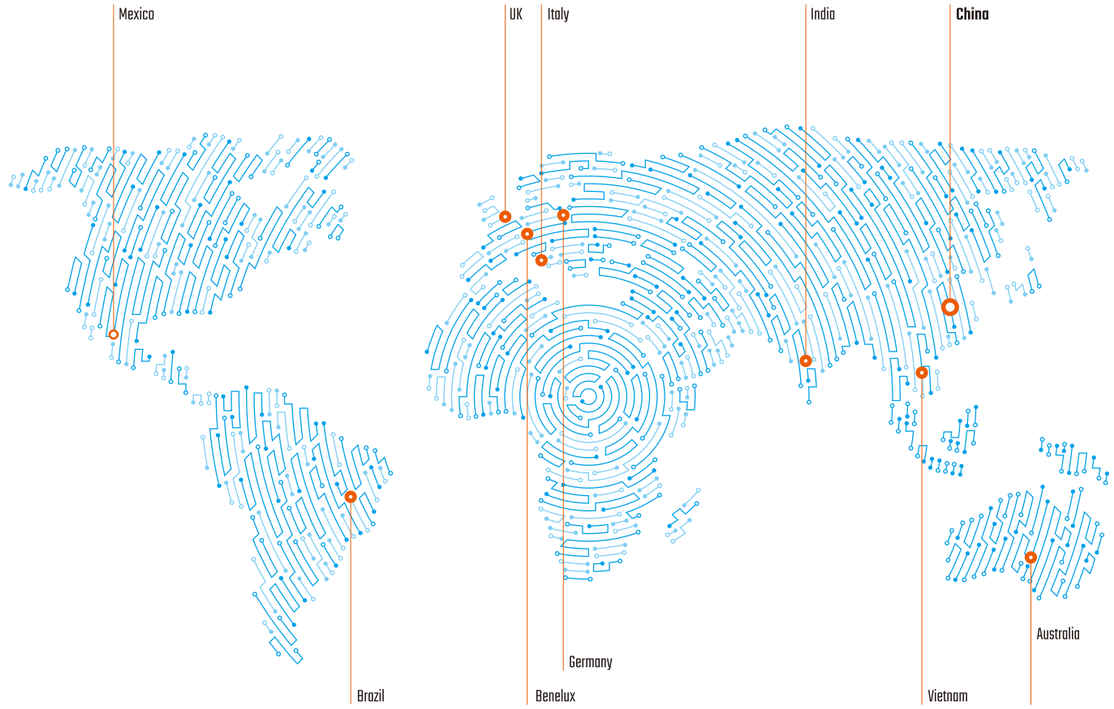
TDK

Current Sensor
Germany / Swizerland

VAC
VACUUMSCHMELZE

LEM

Global Service Network



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