



**Smart Energy
For Better Life**

**PRODUCT
CATALOG**



ABOUT RENAC

PROFESSIONAL

- 10+ years' experience on power 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

- 100+ international certifications
- 82+ intellectual property
- Cloud monitoring and diagnosis on system and products
- Strict material selection
- Standardized product development process

SYSTEM SOLUTIONS

- 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

Smart Energy For Better Life

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 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, and addressing any commercial and business challenge.



RENAC PRODUCTS MENU

On-grid Inverters

R1 Mini Series ----- 01

1.1 ~ 3.7kW, Single Phase

R1 Macro Series ----- 03

4 ~ 6kW, Single Phase

R1 Moto Series ----- 05

8 ~ 10.5kW, Single Phase

R3 Note Series ----- 07

4 ~ 15kW, Three Phase

R3 LV Series ----- 09

10 ~ 15kW, Three Phase

R3 Pre Series ----- 11

10 ~ 25kW, Three Phase

R3 Navo Series ----- 13

30 ~ 50kW, Three Phase

R3 Plus Series ----- 15

60 ~ 80kW, Three Phase

R3 Max Series ----- 17

120 ~ 150kW, Three Phase

Energy Storage System

N1 HV Series ----- 19

3 ~ 6kW, Single Phase

N3 HV Series ----- 21

5 ~ 10kW, Three Phase

N1 HL Series ----- 23

3 ~ 5kW, Single Phase

O1 HF Series ----- 25

3.6 ~ 5kW, Single Phase

A1 HV Series ----- 27

3 ~ 6kW, All-in-one ESS

Turbo H1 Series ----- 29

3.74 ~ 18.7kWh, High Voltage Battery

Turbo H3 Series ----- 31

7.1 ~ 9.5kWh, High Voltage Battery

Turbo L1 Series ----- 33

5.3kWh, Low Voltage Battery

Smart Energy Cloud ----- 35

Accessories ----- 37

Components Suppliers ----- 40

Global Service Network ----- 41

On-grid Inverters

R1 Mini Series

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



FEATURES



Natural cooling for mute operation



Compact design



Remote firmware upgrade



IP65 outdoor design



130% DC input oversizing



Built-in zero export function

Model	R1-1K1-SS	R1-1K6-SS	R1-2K2-SS	R1-2K7-SS	R1-3K3-SS	R1-3K7-SS
PV Input Data						
Recommended Max. PV Power [Wp]	1400	2400	2800	3500	4200	4800
Max. PV 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. PV Input Current per MPPT [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]	5	7.3	10	12.3	15	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)	< 3%					
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]	260 * 295 * 115					260 * 335 * 120
Weight [kg]	6.8	6.8	6.8	6.8	6.8	7.5
User Interface	LCD					
Communication	Wifi or GPRS or 4G (optional)					
Ambient Temperature Range [°C]	-25 ~ +60					
Relative Humidity	0 ~ 100%					
Operating Altitude [m]	≤ 2000					
Standby Self Consumption [W]	< 1					
Topology	Transformerless					
Cooling	Natural					
Enclosure	IP65					
Noise [dB]	< 25					
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					
Safety Regulation	IEC 62109-1, IEC 62109-2, IEC 61727, IEC 62116, IEC 60068, IEC 61683					
EMC	EN 61000-3-2, EN 61000-3-3, EN 61000-6-1, EN 61000-6-3					
Protection						
	• DC Insulation Monitoring		• AC Overvoltage Protection		• Anti-island Protection	
	• Residual Current Monitoring		• AC Overcurrent Protection		• Over-heat Protection	
	• Input Reverse Polarity Protection		• AC Short-circuit Protection		• DC / AC Surge Protection	

On-grid Inverters

R1 Macro Series

4kW / 5kW / 6kW

Single Phase, 2 MPPTs



FEATURES



Natural cooling for mute operation



130% DC input oversizing



Remote firmware upgrade



IP65 outdoor design



Up to 97.8% max. efficiency



Built-in zero export function

Model	NAC4K-DS		NAC5K-DS		NAC6K-DS	
PV Input Data						
Recommended Max. PV Power [Wp]	6000		7500		9000	
Max. PV Power for Single MPPT [Wp]	4000		4000		4000	
Max. PV 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. Input Current per MPPT [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		6000	
Max. AC Current [A]	20		25		27.3	
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)	< 3%					
Efficiency						
Max. Efficiency	97.80%		97.80%		97.80%	
Euro Efficiency	97.20%		97.20%		97.20%	
General Data						
Size (Width * Height * Depth) [mm]	330 * 395 * 185					
Weight [kg]	12					
User Interface	LCD					
Communication	RS485 or Wifi or 4G (optional)					
Ambient Temperature Range [C]	-25 ~ +60					
Relative Humidity	0 ~ 100%					
Operating Altitude [m]	≤ 2000					
Standby Self Consumption [W]	< 1					
Topology	Transformerless					
Cooling	Natural					
Enclosure	IP65					
Noise [dB]	< 25					
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		• AC Overvoltage Protection		• Anti-island Protection	
	• Residual Current Monitoring		• AC Overcurrent Protection		• Over-heat Protection	
	• Input Reverse Polarity Protection		• AC Short-circuit Protection		• DC / AC Surge Protection	

On-grid Inverters

R1 Moto Series

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



FEATURES



Wider MPPT voltage range (100 ~ 550V)



150% DC input oversizing



Remote firmware upgrade



IP65 outdoor design



Built-in zero export function



Up to 98.1% max. efficiency

Model	R1-8K-DS	R1-10K-DS	R1-10K5-DS
PV Input Data			
Recommended Max. PV Power [Wp]	12000	15000	16000
Max. PV Power for Single MPPT [Wp]	7500 / 6000	7500 / 7500	7500 / 7500
Max. PV 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. Input Current per MPPT [A]	26 / 20	26 / 26	26 / 26
Max. Short-circuit Current per MPPT [A]	33 / 25	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	43.8	43.8
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	98.10%	98.10%	98.10%
Euro Efficiency	97.50%	97.50%	97.50%
General Data			
Size (Width * Height * Depth) [mm]	395 * 330 * 185		
Weight [kg]	16		
User Interface	LCD		
Communication	RS485 or Wifi or 4G (optional)		
Ambient Temperature Range [°C]	-25 ~ +60		
Relative Humidity	0 ~ 100%		
Operating Altitude [m]	≤ 2000		
Standby Self Consumption [W]	< 1		
Topology	Transformerless		
Cooling	Natural	Fan	Fan
Enclosure	IP65		
Noise [dB]	< 25	< 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	• AC Overvoltage Protection	• Anti-island Protection
	• Residual Current Monitoring	• AC Overcurrent Protection	• Over-heat Protection
	• Input Reverse Polarity Protection	• AC Short-circuit Protection	• DC / AC Surge Protection

On-grid Inverters

R3 Note Series

4kW / 5kW / 6kW / 8kW / 10kW / 12kW / 15kW

Three Phase, 2 MPPTs



FEATURES



Natural cooling for mute operation



150% DC input oversizing



Remote firmware upgrade



IP65 outdoor design



Wider MPPT voltage range (140 ~ 950V)



Built-in zero export function

Model	R3-4K-DT	R3-5K-DT	R3-6K-DT	R3-8K-DT	R3-10K-DT	R3-12K-DT	R3-15K-DT
PV Input Data							
Recommended Max. PV Power [Wp]	6000	7500	9000	12000	15000	18000	22500
Max. PV Power for Single MPPT [Wp]	3000	3750	4500	6000	7500	9000	15000 / 7500
Max. PV 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. Input Current per MPPT	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	25 / 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	15000
Max. AC Current [A]	6.7	8.3	10	13.3	16.7	20	22.7
Rated AC Voltage / Range [V]	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 * 390 * 160			455 * 390 * 175			455 * 390 * 190
Weight [kg]	16.3			18.3			21.6
User Interface	LCD						
Communication	RS485 or Wifi or 4G (optional)						
Ambient Temperature Range [°C]	-25 ~ +60						
Relative Humidity	0 ~ 100%						
Operating Altitude [m]	≤ 2000						
Standby Self Consumption [W]	< 1						
Topology	Transformerless						
Cooling	Natural						
Enclosure	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			• AC Overvoltage Protection		• Anti-island Protection	
	• Residual Current Monitoring			• AC Overcurrent Protection		• Over-heat Protection	
	• Input Reverse Polarity Protection			• AC Short-circuit Protection		• DC / AC Surge Protection	

On-grid Inverters

R3 LV Series

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



FEATURES



Compatible with 500W+ PV modules



150% DC input oversizing



Remote firmware upgrade



IP65 outdoor design



Support LVRT and OVRT



Built-in zero export function

Model	R3-10K-LV		R3-12K-LV	R3-15K-LV
PV Input Data				
Recommended Max. PV Power [Wp]	15000		18000	22500
Max. PV Power for Single MPPT [Wp]	7500		9000	11250
Max. PV 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. Input Current Per MPPT [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@220 Vac 13000@240 Vac	14000@208 Vac 15000@220 Vac 16000@240 Vac	
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 * 386 * 185			
Weight [kg]	23			
User Interface	LCD			
Communication	RS485 or Wifi or 4G (optional)			
Ambient Temperature Range [°C]	-25 ~ +60			
Relative Humidity	0 ~ 100%			
Operating Altitude [m]	≤2000			
Standby Self Consumption [W]	< 1			
Topology	Transformerless			
Cooling	Fan			
Enclosure	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	• AC Overvoltage Protection	• Anti-island Protection	
	• Residual Current Monitoring	• AC Overcurrent Protection	• Over-heat Protection	
	• Input Reverse Polarity Protection	• AC Short-circuit Protection	• DC / AC Surge Protection	

On-grid Inverters

R3 Pre Series

10kW / 15kW / 17kW / 20kW / 25kW

Three Phase, 2 MPPTs



FEATURES



Compatible with 500W+ PV modules



Wider MPPT voltage range (150 ~ 1000V)



Remote firmware upgrade



150% DC input oversizing



Maximum DC input voltage 1100V



Built-in zero export function

Model	R3-10K-G5	R3-15K-G5	R3-17K-G5	R3-20K-G5	R3-25K-G5	R3-25K-G5-P
PV Input Data						
Recommended Max. PV Power [Wp]	15000	22500	25500	30000	37500	37500
Max. PV Power for Single MPPT [Wp]	7500	13500 / 9000	12750	15000	18750	18750
Max. PV 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. Input Current Per MPPT [A]	20 / 20	30 / 20	30 / 30	30 / 30	30 / 30	37.5 / 30
Max. Short-circuit Current per MPPT [A]	25 / 25	39 / 25	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 / 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 * 386 * 185					
Weight [kg]	23					
User Interface	LCD					
Communication	RS485 or Wifi or 4G (optional)					
Ambient Temperature Range [°C]	-25 ~ +60					
Relative Humidity	0 ~ 100%					
Operating Altitude [m]	≤ 2000					
Standby Self Consumption [W]	< 1					
Topology	Transformerless					
Cooling	Natural	Natural	Fan	Fan	Fan	Fan
Enclosure	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		• AC Overvoltage Protection		• Anti-island Protection	
	• Residual Current Monitoring		• AC Overcurrent Protection		• Over-heat Protection	
	• Input Reverse Polarity Protection		• AC Short-circuit Protection		• DC / AC Surge Protection	

On-grid Inverters

R3 Navo Series

30kW / 36kW / 40kW / 50kW

Three Phase, 3 / 4 MPPTs



FEATURES



Compatible with 600W+ PV modules



150% DC input oversizing & 110% AC overloading



Remote firmware upgrade



Optional AFCI & Smart PID recovery function



Low start-up voltage at 160V



Type II SPD for both DC and AC

Model	R3-30K	R3-36K	R3-40K	R3-50K
PV Input Data				
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	3	4	4
No. of Input Strings per Tracker	2 / 2 / 2	2 / 2 / 2	2 / 2 / 2 / 2	2 / 2 / 2 / 2
Max. Input Current Per MPPT [A]	40 / 40 / 40	40 / 40 / 40	40 / 40 / 40 / 40	40 / 40 / 40 / 40
Max. Short-circuit Current per MPPT [A]	50 / 50 / 50	50 / 50 / 50	50 / 50 / 50 / 50	50 / 50 / 50 / 50
AC Output Data				
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 / 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%
Euro Efficiency	98.50%	98.50%	98.50%	98.50%
Protection				
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 Data				
Size (Width * Height * Depth) [mm]	585 * 480 * 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]	< 1			
Topology	Transformerless			
Cooling	Fan			
Enclosure	IP65			
Noise [dB]	< 60			
Warranty [years]	5 / 7 / 10			
Certifications & Standards				
Grid Regulation	VDE-AR-N4105, EN 50549			
Safety Regulation	IEC 62109-1, IEC 62109-2			
EMC	IEC 61000-6-1, EN 61000-6-3			

On-grid Inverters

R3 Plus Series

60kW / 70kW / 75kW / 80kW

Three Phase, 3 / 4 MPPTs



FEATURES



150% DC input oversizing



IP65 outdoor design



String monitoring and shorter O&M time



110% AC overloading



Remote firmware upgrade



Remote active / reactive power limit control

Model	NAC60K	NAC70K	NAC75K	NAC80K
PV Input Data				
Recommended Max. PV Power [Wp]	90000	105000	112500	120000
Max. PV 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	4	4	4
No. of Input Strings per Tracker	4 / 4 / 4	3 / 3 / 3 / 3	4 / 4 / 3 / 3	4 / 4 / 3 / 3
Max. Input Current per MPPT [A]	44 / 44 / 44	35 / 35 / 35 / 35	44 / 44 / 35 / 35	44 / 44 / 35 / 35
Max. Short-circuit Current per MPPT [A]	60 / 60 / 60	46 / 46 / 46 / 46	60 / 60 / 46 / 46	60 / 60 / 46 / 46
DC Switch	Integrated			
AC Output Data				
Rated AC Power [W]	60000	70000	75000	80000
Max. Output Power [VA]	66000	77000	75000	88000
Max. AC Current [A]	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%
Euro Efficiency	98.37%	98.50%	98.50%	98.50%
General Data				
Size (Width * Height * Depth) [mm]	630 * 815 * 260	640 * 841 * 285		
Weight [kg]	63	76	79	79
User Interface	LCD			
Communication	RS485 or Wifi or 4G (optional)			
Ambient Temperature Range [°C]	-25 ~ +60			
Relative Humidity	0 ~ 100%			
Operating Altitude [m]	≤ 2000			
Standby Self Consumption [W]	< 1			
Topology	Transformerless			
Cooling	Fan			
Enclosure	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	• AC Overvoltage Protection	• Anti-island Protection	
	• Residual Current Monitoring	• AC Overcurrent Protection	• Over-heat Protection	
	• Input Reverse Polarity Protection	• AC Short-circuit Protection	• DC / AC Surge Protection	

On-grid Inverters

R3 Max Series

120kW / 150kW

Three Phase, 10 / 12 MPPTs



FEATURES



150% DC input oversizing



IP66 outdoor design



String monitoring and shorter O&M time



Up to 10 / 12 MPPTs



Remote firmware upgrade



Remote active / reactive power limit control

Model	R3-120K	R3-150K-HV	
PV Input Data			
Recommended Max. PV Power [Wp]	180000	225000	
Max. PV Input Voltage [V]	1100		
MPPT Voltage Range [V]	180 ~ 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. PV Input Current per MPPT [A]	30	30	
Max. Short-circuit Current per MPPT [A]	40	40	
DC Switch	Integrated		
AC Output Data			
Rated AC Power [kW]	120@25°C, 110@45°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]	3 / N / PE, 230 / 400Vac; 320 ~ 480V	3 / 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	99.00%	99.00%	
Euro Efficiency	98.50%	98.50%	
General Data			
Size (Width * Height * Depth) [mm]	1055 * 700 * 336		
Weight [kg]	93	110	
User Interface	LED		
Communication	RS485 or Wifi or 4G (optional)		
Ambient Temperature Range [°C]	-25 ~ +60		
Relative Humidity	0 ~ 100%		
Operating Altitude [m]	≤ 2000		
Standby Self Consumption [W]	< 15		
Topology	Transformerless		
Cooling	Fan		
Enclosure	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	• AC Overvoltage Protection	• Anti-island Protection
	• Residual Current Monitoring	• AC Overcurrent Protection	• Over-heat Protection
	• Input Reverse Polarity Protection	• AC Short-circuit Protection	• DC / AC Surge Protection

Energy Storage Products N1 HV Series

3kW / 3.68kW / 5kW / 6kW
Single Phase, 2 MPPTs
High Voltage Hybrid Inverter



FEATURES



150% DC input oversizing



Charging / discharging efficiency >97%



Support VPP / FFR function



Up to 6000W charging / discharging rate



Remote firmware upgrade & work mode setting



EU standard certified by TÜV Rheinland

Model	N1-HV-3.0	N1-HV-3.68	N1-HV-5.0	N1-HV-6.0
PV Input Data				
Recommended Max. PV Power [Wp]	4500	5500	7500	9000
Max. PV Input Voltage [V]	600			
MPPT Voltage Range [V]	120 ~ 550			
Rated PV Input Voltage [V]	360			
Start-up Voltage [V]	150			
No. of MPP Trackers	2			
No. of Input Strings per Tracker	1			
Max. Input Current per MPPT [A]	13.5 / 13.5			
Max. Short-circuit Current per MPPT [A]	17 / 17			
DC Switch	Integrated			
AC Input / 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; 160 ~ 290			
Grid Frequency / Range [Hz]	50 / 60; ±5			
Adjustable Power Factor [cosφ]	0.8 leading ~ 0.8 lagging			
Output THDi (@Rated Output)	< 2%			
Battery Data				
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 Data (With Battery)				
EPS Rated Power [W]	3000	3680	5000	6000
EPS Rated Voltage [V]	220 / 230			
EPS Rated Frequency [Hz]	50 / 60			
EPS Rated Current [A]	13	16	21.7	26.1
Output THDi (@Rated Output)	< 3%			
Automatic Switch Time [s]	< 0.5			
Peak Apparent Power, Duration [VA, s]	3600, 600	4416, 600	6000, 600	7200, 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	Integrated			
Input Reverse Polarity Protection	Integrated			
Anti-island Protection	Integrated			
Residual Current Monitoring	Integrated			
Over-heat Protection	Integrated			
AC Overcurrent Protection	Integrated			
AC Short-circuit Protection	Integrated			
AC Overvoltage Protection	Integrated			
DC Surge Protection	Integrated			
AC Surge Protection	Integrated			
General Data				
Size (Width * Height * Depth) [mm]	506 * 386 * 170			
Weight [kg]	20			
User Interface	LED + OLED			
Communication	RS485 and USB or Wifi or 4G (Optional)			
Ambient Temperature Range [°C]	-30 ~ +60			
Relative Humidity	0 ~ 100%			
Operating Altitude [m]	≤ 2000			
Standby Self Consumption [W]	< 15			
Topology	Transformerless			
Cooling	Natural			
Enclosure	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, 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 Products

N3 HV Series

5kW / 6kW / 8kW / 10kW
Three Phase, 2 MPPTs
High Voltage Hybrid Inverter



FEATURES



Compatible with high power PV modules with 18A



Support 100% unbalanced loads



< 10ms UPS-level switching



Support up to 10 units parallel connections



Remote firmware upgrade & work mode setting



Support VPP / FFR function

Model	N3-HV-5.0	N3-HV-6.0	N3-HV-8.0	N3-HV-10.0
PV Input Data				
Recommended Max. PV Power [Wp]	7500	9000	12000	15000
Max. PV Input Voltage [V]		1000		
MPPT Voltage Range [V]		160 ~ 950		
Rated PV Input voltage [V]		600		
Start-up Voltage [V]		180		
No. of MPP Trackers		2		
No. of Input Strings per Tracker		1		
Max. Input Current per MPPT [A]		18 / 18		
Max. Short-circuit Current per MPPT [A]		23 / 23		
DC Switch		Integrated		
AC Output Data				
Rated AC Power [W]	5000	6000	8000	10000
Rated AC Current [A]	7.6	9.1	12.2	15.2
Rated AC Voltage / Range [V]		3 / N / PE, 220 / 380, 230 / 400; ± 20%		
Grid Frequency / Range [Hz]		50 / 60; ± 5		
Adjustable Power Factor [cosφ]		0.8 leading ~ 0.8 lagging		
Output THDi (@Rated Output)		< 3%		
AC Input Data				
Max. apparent AC Power [VA]	10000	12000	16000	20000
Max. AC Current [A]	15.2	18.2	24.4	30.4
Rated AC Voltage / Range [V]		3 / N / PE, 220 / 380, 230 / 400; ± 20%		
Grid Frequency / Range [Hz]		50 / 60; ± 5		
Battery Data				
Battery Type		Lithium		
Battery Voltage Range [V]		160 ~ 700		
Max. Charging / Discharging Current [A]		30 / 30		
Communication Interface		CAN		
EPS Output Data (With Battery)				
EPS Rated Power [W]	5000	6000	8000	10000
EPS Rated Voltage [V]		3 / N / PE, 220 / 380, 230 / 400		
EPS Rated Frequency [Hz]		50 / 60		
EPS Rated Current [A]	7.6	9.1	12.2	15.2
Output THDi (@Rated Output)		< 3%		
Automatic Switch Time [ms]		< 10		
Peak Apparent Power, Duration [VA, s]	7500, 60	9000, 60	12000, 60	15000, 60
Efficiency				
Max. Efficiency	98.00%	98.00%	98.00%	98.00%
Euro Efficiency	97.70%	97.70%	97.70%	97.70%
Max. Battery Charge / Discharge Efficiency	97.60%	97.60%	97.60%	97.60%
Protection				
DC Insulation Monitoring		Integrated		
Input Reverse Polarity Protection		Integrated		
Anti-island Protection		Integrated		
Residual Current Monitoring		Integrated		
Over-heat Protection		Integrated		
AC Overcurrent Protection		Integrated		
AC Short-circuit Protection		Integrated		
AC Overvoltage Protection		Integrated		
DC Surge Protection		Integrated (Type II)		
AC Surge Protection		Integrated (Type II)		
General Data				
Size (Width * Height * Depth) [mm]		520 * 412 * 186		
Weight [kg]		27		
User Interface		LED + OLED		
Communication		RS485 and USB or Wifi or 4G (Optional)		
Operating Temperature Range [°C]		-25 ~ +60		
Relative Humidity		0 ~ 100%		
Operating Altitude [m]		≤ 2000		
Standby Self Consumption [W]		< 15		
Topology		Transformerless		
Cooling		Natural		
Enclosure		IP65		
Noise [dB]		< 35		
Warranty [years]		5		
Certifications & Standards				
Grid Regulation	VDE-AR-N 4105, EN 50549-1, VDE 0126, CEI 0-21, EN 50549-PL, ÖVE/ÖNORM E 8001-4-712, EN50549-CZ			
Safety Regulation	IEC 62109-1, IEC 62109-2			
EMC	IEC 61000-6-1, IEC 61000-6-3			

Energy Storage Products

N1 HL Series

3kW / 3.68kW / 5kW

Single Phase, 2 MPPTs

Low Voltage Hybrid Inverter



FEATURES



Compatible with lithium & lead-acid battery (48V)



Emergency power supply



Remote work mode setting



IP65 outdoor design



EMS integrated



Support VPP / FFR function

Model	ESC3000-DS	ESC3680-DS	ESC5000-DS
PV Input Data			
Recommended Max. PV Power [Wp]	6600	6600	8000
Max. PV Input Voltage [V]		580	
MPPT Voltage Range [V]		100 ~ 550	
Start-up Voltage [V]		110	
No. of MPP Trackers		2	
No. of Input Strings per Tracker		1	
Max. Input Current per MPPT [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		Lithium / Lead-acid	
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 Data (With Battery)			
EPS Rated Power [W]		3000	
EPS Rated Voltage [V]		220 / 230	
EPS Rated Frequency [Hz]		50 / 60	
EPS Rated Current [A]		13	
Output THDi (@Rated Output)		< 3%	
Automatic Switch Time [s]		< 5	
PeakPower, Duration [VA.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]		528 * 526 * 193	
Weight [kg]		29.5	
User Interface		LCD	
Communication		RS485 or Wifi or 4G (optional)	
Ambient Temperature Range [°C]		-25 ~ +60	
Relative Humidity		0 ~ 100%	
Operating Altitude [m]		≤ 4000	
Standby Self Consumption [W]		< 1	
Topology		Transformerless	
Cooling		Natural	
Enclosure		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, C10 / 11		
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	• AC Overvoltage Protection	• Anti-island Protection
	• Residual Current Monitoring	• AC Overcurrent Protection	• Over-heat Protection
	• Input Reverse Polarity Protection	• AC Short-circuit Protection	• DC / AC Surge Protection

Energy Storage Products

01 HF Series

3.6kW / 5kW
Single Phase, 1 MPPT
Off-grid Inverter



FEATURES



Compatible with lithium & lead-acid batteries (48V)



Support up to 6 units parallel connections



Work with or without batteries



MPPT charge controller and AC charger integrated



Double rating of surge power suitable for motor loads



UPS-level switching

Model	01-HF-3.6		01-HF-5.0	
Battery				
Nominal Battery Voltage [V]			48	
Battery Voltage Range [V]			40 ~ 60	
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			1 / 1	
Max Charging Current [A]	80			100
Max. Efficiency	93%			93%
AC Charger				
Nominal AC Input Voltage [V]			220 / 230 / 240	
Max. AC Charge Current [A]	60			80
AC Voltage Range [V]			180 ~ 275	
Frequency Range [Hz]			50 / 60; ±5	
Inverter Output				
Rated Output Power [W / VA]	3600 / 3600			5000 / 5000
Parallel Capacity	NA			Up to 6
Nominal Output Voltage [V]			220 / 230 / 240	
Nominal Output Frequency [Hz]			50 / 60	
Surge Power [W]	7200			10000
Max. Efficiency			93%	
THDi			< 5%	
Automatic Switch Time			10ms (For Personal Computers); 20ms (For Home Appliances)	
General Parameters				
Protection Degree			IP20	
Size (Width * Height * Depth) [mm]			330 * 485 * 135	
Weight [kg]	11.5			12
Ambient Temperature Range [°C]			0 ~ +50	
Storage Temperature Range [°C]			-15 ~ +60	
Communication			Wifi or 4G (optional)	

Energy Storage Products

A1 HV Series

3kW / 3.68kW / 5kW / 6kW

All-in-one Energy Storage System



FEATURES



'Plug & Play' design



Up to 6000W charging / discharging rate



Remote firmware upgrade & work mode setting



IP65 outdoor design



Charging / discharging efficiency >97%



Support VPP / FFR function

Model	A1-HV-3.0	A1-HV-3.68	A1-HV-5.0	A1-HV-6.0
PV Input Data				
Recommended Max. PV Power [Wp]	4500	5500	7500	9000
Max. PV 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. Input Current per MPPT [A]	13.5 / 13.5			
Max. Short-circuit Current per MPPT [A]	17 / 17			
DC Switch	Integrated			
Battery Data				
Battery Type	LiFePO ₄			
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 Input Data / AC Output Data				
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			
Adjustable Power Factor [cosφ]	0.8 leading ~ 0.8 lagging			
Output THDi (@Rated Output)	< 2%			
EPS Output Data (With Battery)				
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)	< 3%			
Automatic Switch Time [s]	< 0.5			
Peak Apparent Power, Duration [VA,s]	3600, 600	4416, 600	6000, 600	7200, 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 * (855 + N * 325) * 237 (N ^[1] = 1 ~ 4)			
Weight [kg]	33 + N * 38.7 (N = 1 ~ 4)			
User Interface	LED + OLED			
Communication	RS485 and USB or Wifi or 4G (optional)			
Ambient Temperature Range ^[2] [°C]	-10 ~ +50			
Relative Humidity	0 ~ 100%			
Operating Altitude [m]	≤ 2000			
Standby Self Consumption [W]	< 15			
Topology	Transformerless			
Cooling	Natural			
Enclosure	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	• AC Overvoltage Protection	• Anti-island Protection	
	• Residual Current Monitoring	• AC Overcurrent Protection	• Over-heat Protection	
	• Input Reverse Polarity Protection	• AC Short-circuit Protection	• DC / AC Surge Protection	

[1] Number of battery modules.

[2] Operating temperature range: charging (0 ~ +40°C), discharging (-10 ~ +50°C)

Batteries

Turbo H1 Series

3.74kWh / 7.48kWh / 11.23kWh / 14.97kWh / 18.7kWh

High Voltage Battery



FEATURES



Modular & 'Plug & Play' design



Safety upgrade with world class LiFePO₄ battery technology



Remote firmware upgrade and online diagnosis



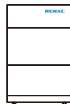
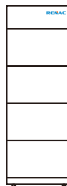
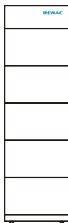
IP65 outdoor design



Support up to 5 battery sets parallel connection



EU standard certified by TÜV Rheinland

Model	TB-H1-3.74	TB-H1-7.48	TB-H1-11.23	TB-H1-14.97	TB-H1-18.7
Electrical Parameters					
System Demo					
Number of Modules	1	2	3	4	5
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 ^[2] [A]	30 / 30				
Depth of Discharge	90%				
Cooling	Natural				
General					
Battery Technology	LiFePO ₄				
Size (Width * Height * Depth) [mm]	561 * 576 * 217	561 * 902 * 217	561 * 1228 * 217	561 * 1554 * 217	561 * 1880 * 217
Weight [kg]	49.5	86.8	124.1	161.4	198.7
Number of Battery Units	1	2	3	4	5
Enclosure	IP65 (Indoor or Outdoor)				
Installation Type	Floor Stand				
Operating Temperature Range ^[3] [°C]	-10 ~ +50				
Communication	CAN, RS485				
Cycle Life	6000 @ 80% DOD / 25°C / 0.2C / 60% EOL				
Warranty ^[4] [years]	10				
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: 100% DOD, 0.2C charge & discharge at +25°C (test conditions).

[2] The recommended charging and discharging current is 25 / 30A.

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

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

Batteries

Turbo H3 Series

7.1kWh / 9.5kWh
High Voltage Battery



FEATURES



Powered by **CATL** LiFePO₄ battery cells



The Lowest charging temperature (-20°C) in the market



Support up to 6 units parallel connections



IP65 outdoor design



Module auto recognition



Remote firmware upgrade and online diagnosis

Turbo H3 Series

Model	TB-H3-7.1			TB-H3-9.5		
Electrical Parameters						
Nominal Voltage [V]	307.2			409.6		
Nominal Capacity [Ah]	23			23		
Nominal Energy [kWh] ^[1]	7.1			9.5		
Usable Energy (90%DOD) [kWh]	6.4			8.5		
Voltage Range [V]	259.2 ~ 345.6			345.6 ~ 460.8		
Max. Continuous Charging / Discharging Current [A]	18.4					
Peak Current [A]	23					
Peak Power	7.5kW			10kW		
General						
Battery Type	LiFePO ₄					
Size (Width * Height * Depth) [mm]	530 * 886 * 245			530 * 1000 * 245		
Net Weight [kg]	95			125		
Scalable	1	2	3	1	2	3
	7.1kWh	14.2kWh	21.3kWh	9.5kWh	19kWh	28.5kWh
	4	5	6	4	5	6
	28.4kWh	35.5kWh	42.6kWh	38kWh	47.5kWh	57kWh
Enclosure	IP65 (Indoor or Outdoor)					
Installation Type	Wall - mounted / Floor - mounted					
Cooling Type	Natural					
Communication Port	CAN, RS485					
Ambient Temperature Range [°C] ^[2]	-20 ~ +55					
Operation Humidity	5 ~ 95%					
Altitude [m]	≤2000					
Warranty ^[3] [years]	10					
Cycle Life	6000 @ 85% DOD / 25°C / 0.33C / 60% EOL					
Certification						
Certificates	IEC 62619, IEC 62040-1, IEC 62477-1, IEC 61000-6-1 / 3, UN 38.3					

[1] Nominal Energy: 100% DOD, 0.33C charge & discharge at +25°C (test conditions).

[2] Ambient temperature: charging (-17 ~ +53°C). discharge (-17 ~ +53°C).

[3] Condition apply: refer to Renac Power Battery Warranty Policy.

Batteries

Turbo L1 Series

5.3 kWh

Low Voltage Battery



FEATURES



'Plug & Play' design



Wall-mounted or floor-mounted installation



Support up to 6 units parallel connections



IP65 outdoor design



Higher charge / discharge power



Remote diagnosis and real-time data monitoring

Turbo L1 Series

Model	TB-L1-5.3					
Electrical Parameters						
Nominal Voltage [V]	51.2					
Nominal Capacity [Ah]	105					
Nominal Energy [kWh] ^[1]	5.3					
Usable Energy (90%DOD) [kWh]	4.8					
Voltage Range [V]	43.2 ~ 57.6					
Max. Continuous Charging Current [A]	50					
Max. Continuous Discharging Current [A]	60					
General						
Battery Type	LiFePO ₄					
Size (Width * Height * Depth) [mm]	360 * 652 * 198.5					
Net Weight [kg]	57					
Scalable	1	2	3	4	5	6
	5.3kWh	10.6kWh	15.9kWh	21.2kWh	26.5kWh	31.8kWh
Enclosure	IP65 (Indoor or Outdoor)					
Installation Type	Wall - mounted / Floor - mounted					
Cooling	Natural					
Communication Port	CAN, RS485					
Operation Temperature Range [°C] ^[2]	-10 ~ +55					
Operation Humidity	5 ~ 95%					
Altitude [m]	≤ 2000					
Warranty ^[3] [years]	10					
Cycle Life	6000 @ 80% DOD / 25°C / 0.33C / 60% EOL					
Certification						
Certificates	IEC 61000-6-1 / 3, IEC 62619, UN 38.3					

[1] Nominal Energy: 100% DOD 0.33C charge & discharge at +25°C (test conditions).

[2] Ambient temperature: charging (0 ~ +50°C), discharge (-10 ~ +55°C).

[3] Condition apply: refer to Renac Power Battery Warranty Policy.

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.

01

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.

02

Intelligent O&M

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

03

Data Connection Compatibility

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

04

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.

SMART ENERGY CLOUD



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.

01

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.

02

Intelligent Operation and Maintenance

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

03

Customized Function

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

ACCESSORIES



ST-WIFI-G2

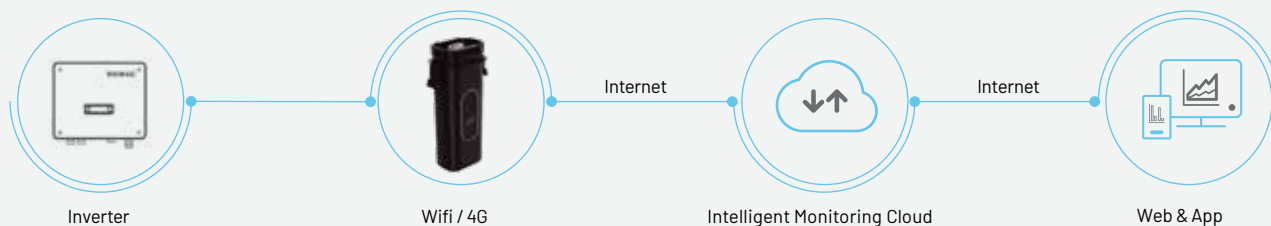
- Supporting breakpoints retransmission.
- Easy & Quick setup via bluetooth.
- Wide coverage.



ST-4G-G1

- Supporting both Wifi and 4G.
- Supporting breakpoints retransmission.
- Easy & Quick setup via bluebooth.

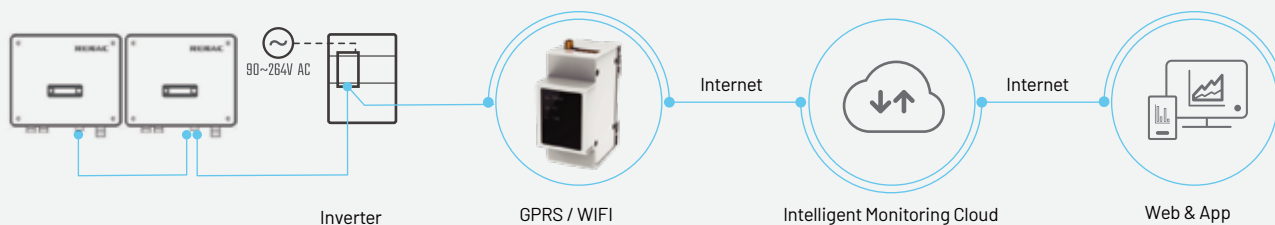
Application System Schematic Diagram



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

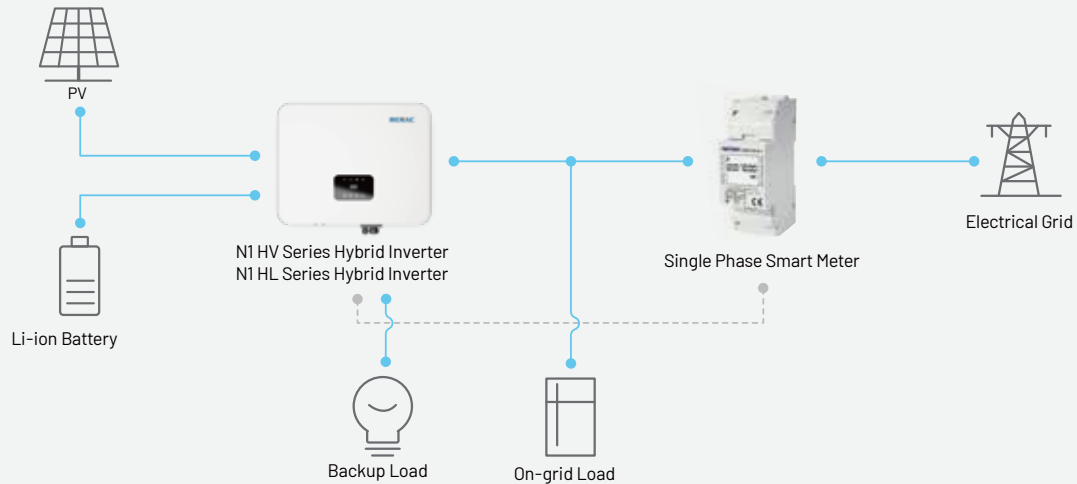




SINGLE PHASE SMART METER

- RENAC single phase smart Meter is designed with high-precision and small-scale dimensions, convenient operation and installation.
- Available for N1 series Hybrid inverter connection to measures kWh, Kvarh, kW, Kvar, KVA, PF, Hz, dnd, V, A, etc, it could make system zero export or limit export power to a certain set value.

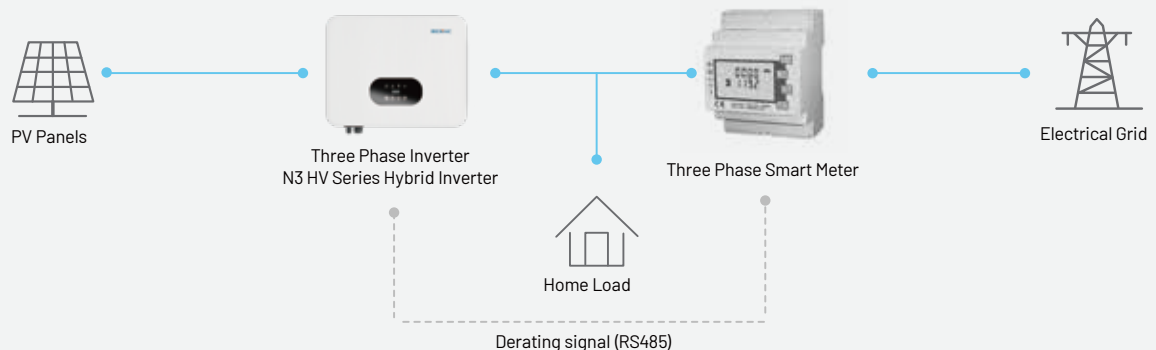
Application System Schematic Diagram



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 50kW and N3 HV Series hybrid inverter.
- With RS485 communication and direct connection to inverter, it is easy for installation and cost effective.

Application System Schematic Diagram

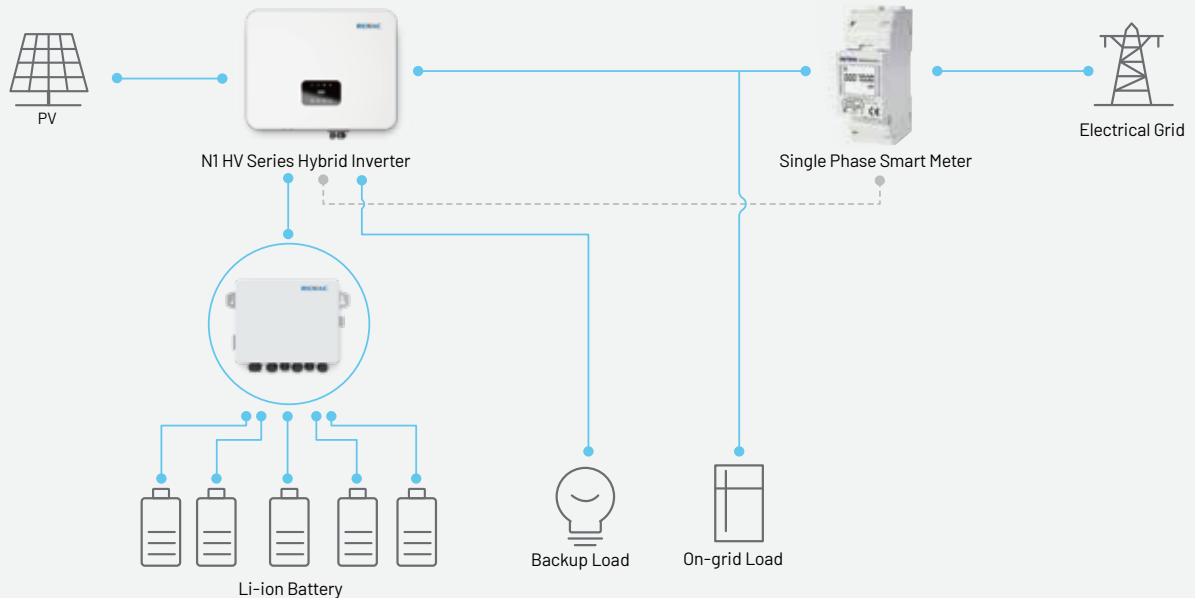




Combiner box

- RENAC Combiner box is an accessory to supports up to 5 Turbo H1 battery sets connected in parallel.
- It integrates one contactor which is 5-in and 1-out wiring, providing simple connection for customers. Meanwhile, the Combiner box simplifies operation and improves system security.

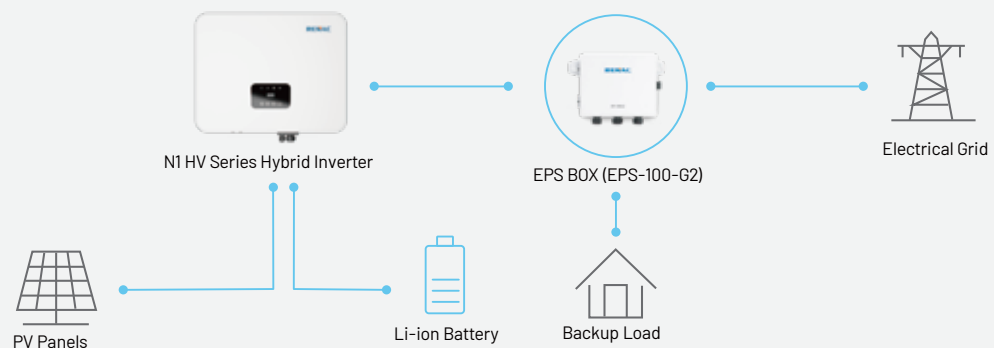
Application System Schematic Diagram



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 customers by connecting 9 wires between inverter and EPS box. Meanwhile, the EPS simplifies operation and improves system security.

Application System Schematic Diagram



WORLD-CLASS COMPONENTS SUPPLIERS

Main CPU

America



IGBT

Germany / America



ON Semiconductor®



DC Switch

Netherlands



Capactor

Japan



MOV

Japan



Mosfet

Germany / America



Cooling Fan

Japan



Relay

Japan / Germany



DC Connector

Switzerland / America

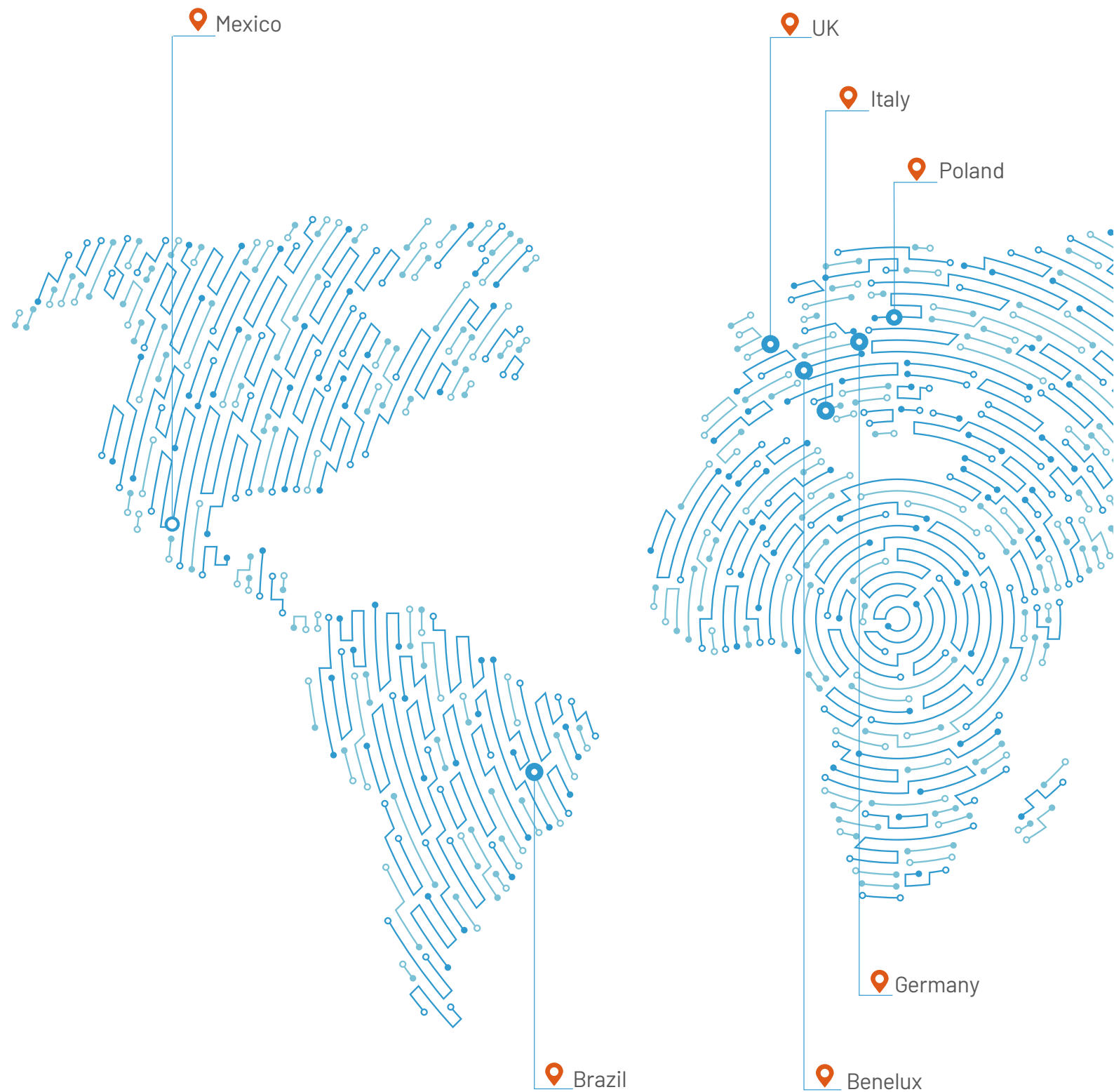


Current Sensor

Germany / Switzerland



GLOBAL SERVICE NETWORK





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