



Inverters | Lithium Batteries

PRODUCTS CATALOGUE

- ROCKS SERIES
- PHOTON PRO SERIES
- PHOTON ULTRA
- NEXUS SERIES (LITHIUM BATTERIES)

1ON is providing solar energy solution with an innovative range of solar inverters and lithium batteries designed for a greener today and tomorrow



Inverters | Lithium Batteries





MISSION VISION



OUR MISSION

Deliver smart, reliable and affordable technology that empowers people and communities with clean and sustainable energy. We provide high quality solar inverters and complete energy solutions that help reduce costs, lower carbon emissions and create true energy independence. By directly importing trusted products and ensuring their quality before distributing them to our dealers, we guarantee accessibility and long-term value in every market we serve. With innovation, transparency and exceptional services we are committed to building strong partnerships that drive progress, support a greener planet and create lasting impact for businesses and individuals alike.

OUR VISION

Make clean, reliable and affordable energy solutions accessible to everyone. We are also dedicated to reducing costs, lowering carbon footprints and empowering communities and businesses with energy independence through high quality solar inverters and lithium batteries and upcoming products. With innovation, trust and responsibility at the core of our work, we continue to evolve by introducing new solutions that bring greater value to our customers and partners. Together, we aim to build a cleaner, brighter and more sustainable future, while strengthening our dealer network and creating long term growth opportunities for all the stakeholders.

COMPANY PROFILE

Founded in 2009, MD Electrical and Solar is a leading solar energy provider in Pakistan and the World. We specialize in the trading and distribution of high-quality solar products, backed by a nationwide dealer network and exceptional after-sales support.

- ▶ Industry: Renewable Energy / Solar Power
- ▶ Legal Status: International Company
- ▶ Core Business: Inverters lithium batteries and related accessories
- ▶ Market Presence: Dealers across all major cities in Pakistan and the World

Worldwide Employees

400+

Service Centers

30+

Successful Setups

100000+

Message FROM CEO

At ION Inverters, we presume energy is more than just power – it is the foundation for a brighter and sustainable future. Since our beginning, our mission has been to deliver reliable, efficient and innovative solar solutions that empower homes, businesses and communities to espouse clean energy with confidence. Every product we design manifest our commitment to quality, durability and customer satisfaction. But beyond technology, our true focus is people – helping families reduce electricity costs, subsidize businesses with uninterrupted power and contributing to a greener planet for the next generation. We are proud of how far we have come, yet we know the journey of renewable energy is just beginning. With every inverter, battery and other product we provide, we always move one step closer to a cleaner tomorrow. Thank you for trusting ION as your partner in energy independence. Together, let's lead the way toward a sustainable future.

Abdul Wahid Khan
Chief Executive Officer
MD Electrical & Solar (SMC) Limited
(ION)

LIVE LIFE CLEANER BY MAKING EARTH GREENER!

ENJOY BETTER LIFE



HYBRID INVERTER

ROCKS
PHOTON PRO
PHOTON ULTRA



ON-GRID INVERTER

ROCKS



OFF-GRID INVERTER

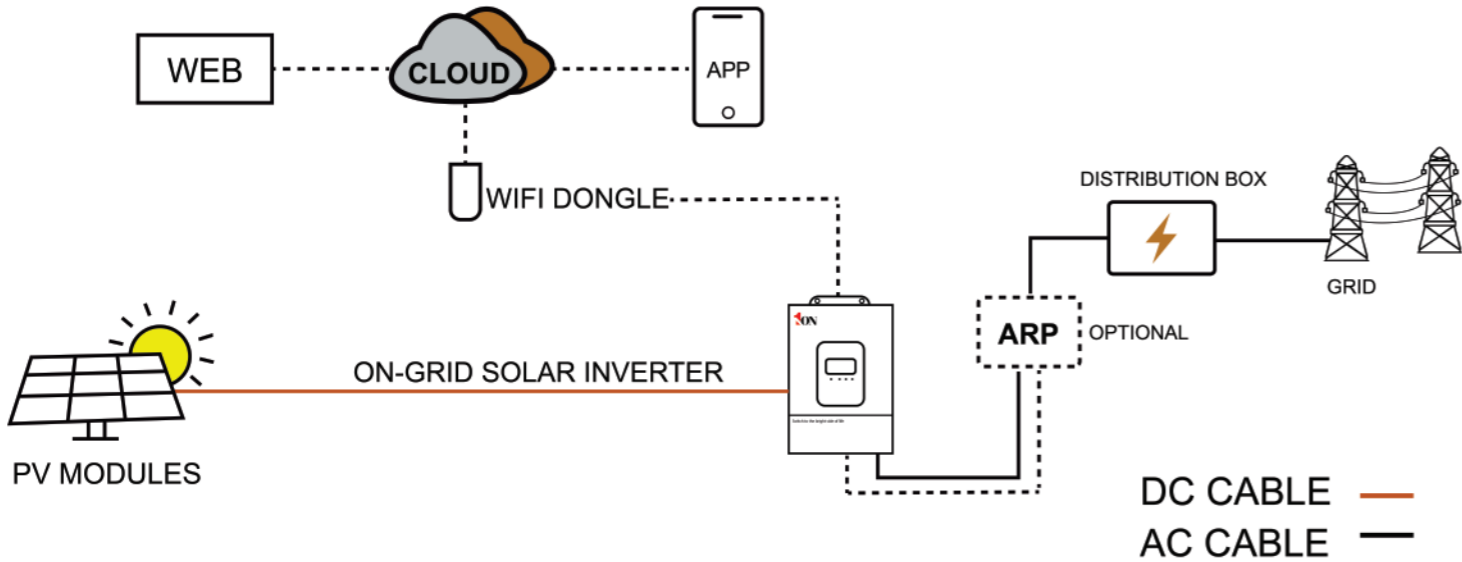
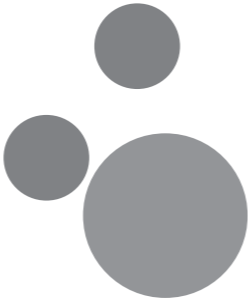
PHOTON



BATTERIES

NEXUS

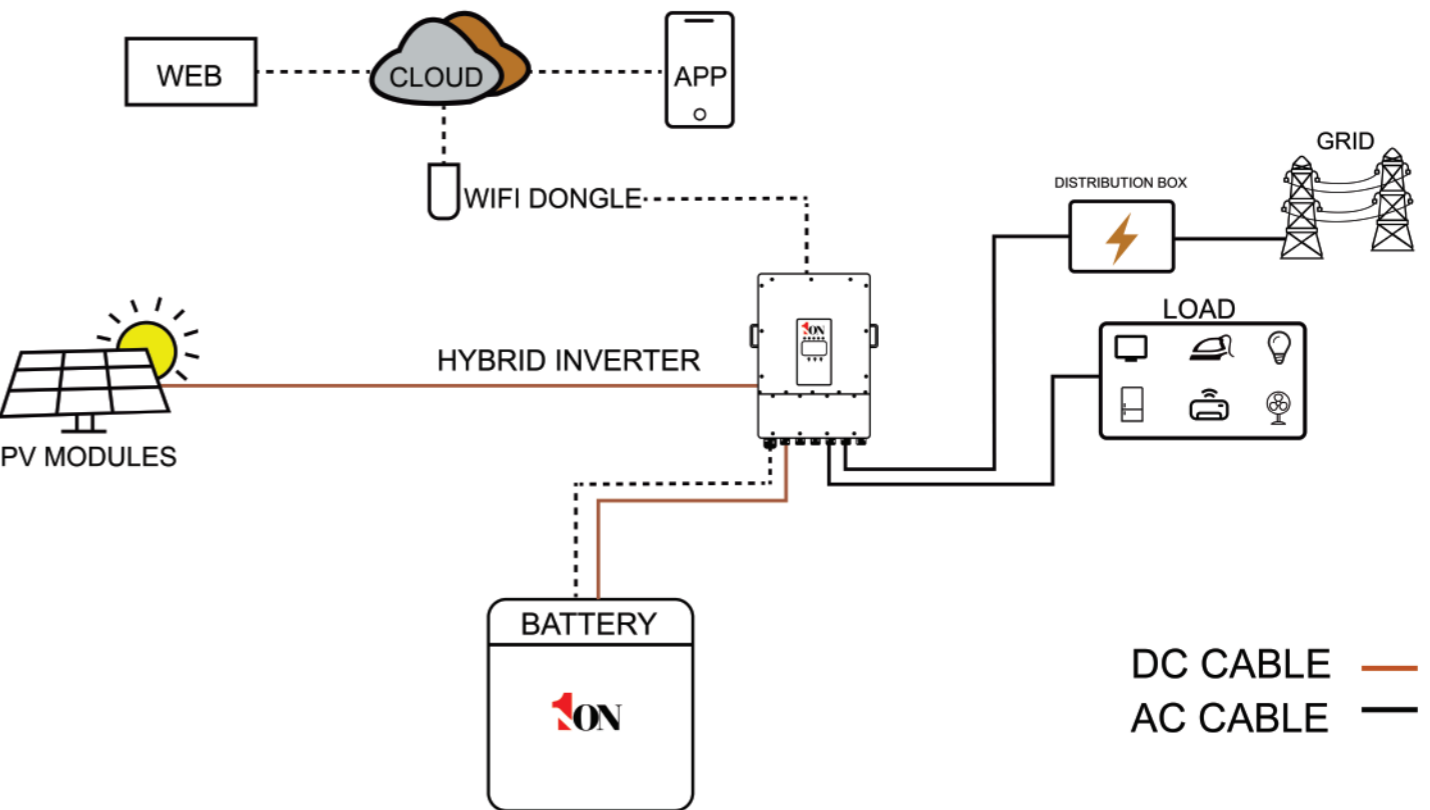
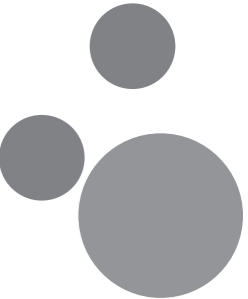
PV ON-GRID SOLUTION



Our PV On-Grid Solution leverages state of the art inverter technology to live up efficient power generation and seamless grid integration. Equipped with intelligent monitoring and remote management features, it ensures reliable and round-the-clock performance. Designed for both residential and utility-scale applications, this versatile solution keep up a smooth transition toward a sustainable and green energy future.



ENERGY STORAGE SYSTEM



Our Energy Storage System Solution provides a comprehensive approach to modern energy management, ensuring stability, efficiency and reliability. Utilizing advanced storage technology with customizable configurations and intelligent dispatch capabilities, it optimizes peak load management, strengthens backup power supply and maximizes self-consumption efficiency. By integrating our storage solution you secure acquire a more resilient and future ready energy infrastructure.



ROCKS SERIES

ROCKS 6KW

ROCKS 8KW

ROCK 10KW

ROCK 12KW (HYBRID/OFF GRID)



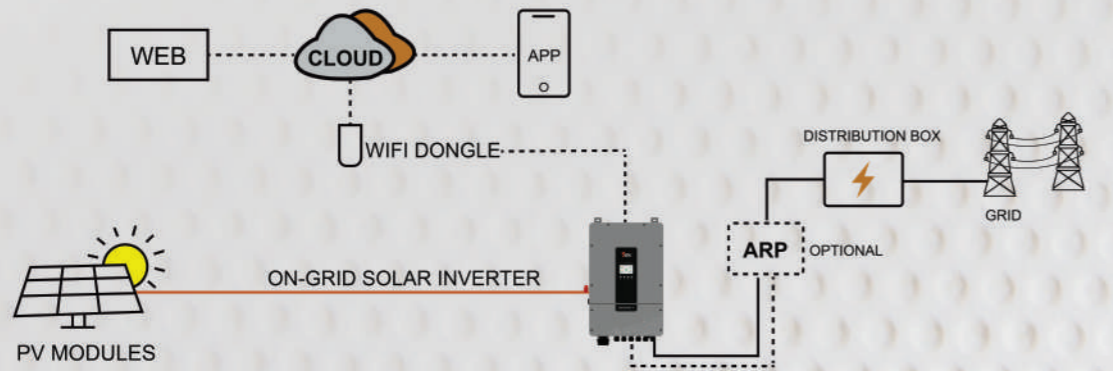
10KW 48V PV20000



8KW 48V PV16000



6KW 48V PV12000



PRODUCT ADVANTAGES

- PV Access Power 200%
- 2MPPT Design
- MPPT Rated Current 2/28 A
- Short Circuit Current 2/42 A
- 10% Increased(s) Apparent Power
- Type II SPD On AC/DC Side
- Parallel Capability Upto 10 Units
- Smart Load Output
- Works On Single Source
- Grid Feeding Option
- Optional AFCI Protection
- BMS

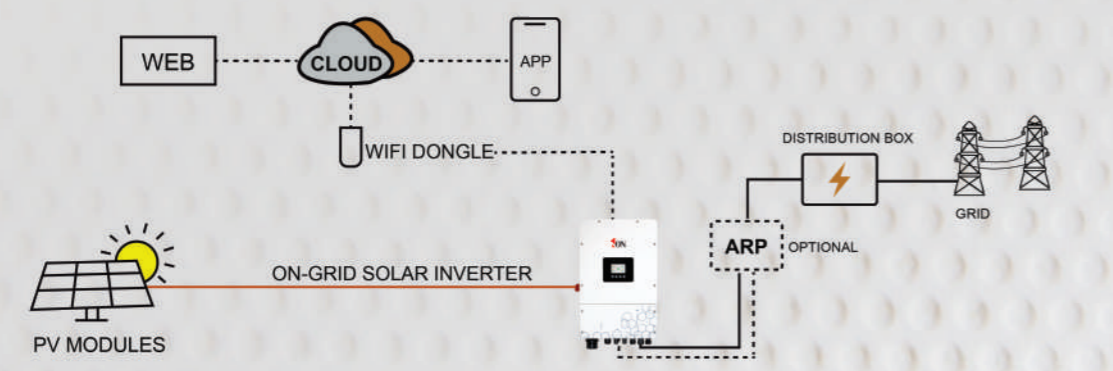
TECHNICAL SPECIFICATION

MODEL	ROCKS-10K-LV	ROCKS-8K-LV	ROCKS-6K-LV
PV STRING INPUT			
Max. PV Access Power (W)	20000	16000	12000
Max. PV Input Power (W)	16000	12800	9600
Max. PV Input Voltage (V)	510		
Start-up Voltage (V)	80		
MPPT Voltage Range (V)	90 – 425		
Rated PV Input Voltage (V)	360		
Max. Input Current per MPPT (A)	28 + 28		
Max. Short Circuit Current per MPPT (A)	42 + 42		
No. of MPPT Trackers / No. of Strings per MPPT Tracker	2 / 2 + 2		
AC INPUT/OUTPUT			
Rated AC Input/Output Active Power (W)	10000	8000	6000
Max AC Input/Output Apparent Power (VA)	11000	8800	6600
Rated AC Input Current (A)	45.5	36.4	27.3
Rated AC Output Current (A)	43.5	34.8	26.1
Max. AC Input Current (A)	50	40	30
Max. AC Output Current (A)	47.9	38.3	28.7
Max. Continuous AC Passthrough (grid to load) (A)	80	80	60
Peak Power (grid+inverter) (W)	200% rated power @60sec		
Power Factor Adjustment Range	0.8 leading to 0.8 lagging		
Rated Input/Output Voltage/Range (V)	220/230, 0.85Un~1.1Un		
Rated Input/Output Grid Frequency/Range (Hz)	50/45~55, 60/55~65		
Grid Connection Form	L+N+PE		
THDi	< 3%		
BATTERY INPUT			
Battery Type	Lead-acid or Lithium-ion		
Battery Voltage Range (V)	40 – 60		
Max. Charging Current (A)	210	190	135
Max. Discharging Current (A)	210	190	135
Charging Strategy for Lead-Acid battery	3 stages curve		
Charging Strategy for Li-ion Battery	Self-adaption to BMS		
Number of Battery Input	1		
Communication	CAN / RS485		
EFFICIENCY			
Max. Efficiency	97.6%		
Euro Efficiency	96.5%		
MPPT Efficiency	>99%		
Equipment Protection	S		
Surge Protection Level	TYPE II (DC), TYPE I (AC)		
INTERFACE			
Communication Interface	RS485 / CAN / Temperature		
Monitor Mode	WiFi / 4G+LAN (optional)		
GENERAL			
Operating Temperature Range (°C)	-25 to +60°C, >45°C Derating		
Permissible Ambient Humidity	5 to 95% (condensing)		
Permissible Altitude	< 3000m		
Ingress Protection	IP65		
Noise (dB)	< 45		
Inverter Topology	Transformerless for PV side / HF for battery side		
Over Voltage Category	OVC I (DC), OVC II (AC)		
Cabinet Size (W*H*D mm)	411*631*236	411*631*236	411*331*236
Weight (kg)	28.5		
Cooling Method	Smart Fan Cooling		
Warranty (Years)	5		
Standards	S		
Safety	IEC / EN 62109-1/-2		
Grid Monitoring	IEC61727, IEC62116, EN50549		
EMC Standard	IEC / EN 61000-6-1, IEC / EN 61000-6-3		



12KW 48V PV24000 OFF GRID

12KW 48V PV24000 HYBRID



PRODUCT ADVANTAGES

- PV Access Power 200%
- 2MPPT Design
- MPPT Rated Current 2/28 A
- Short Circuit Current 2/42 A
- 10% Increased(s) Apparent Power
- Type II SPD On AC/DC Side
- Parallel Capability Upto 10 Units
- Smart Load Output
- Works On Single Source
- Grid Feeding Option (only in hybrid)
- Optional AFCI Protection
- BMS

TECHNICAL SPECIFICATION

ROCKS-12K	
PV STRING INPUT	
Max. PV Access Power (W)	24000
Max. PV Input Power (W)	19200
Max. PV Input Voltage (V)	510
Start-up Voltage (V)	80
MPPT Voltage Range (V)	90 – 425
Rated PV Input Voltage (V)	360
Max. Input Current per MPPT (A)	28 / 28
Max. Short Circuit Current per MPPT (A)	42 / 42
No. of MPPT Trackers / No. of Strings per MPPT Tracker	2 / 2 + 2
AC INPUT/OUTPUT	
Rated AC Input/Output Active Power (W)	12000
Max AC Input/Output Apparent Power (VA)	13200
Rated AC Input Current (A)	36.4
Rated AC Output Current (A)	34.8
Max. AC Input Current (A)	54.6
Max. AC Output Current (A)	52.2
Max. Continuous AC Passthrough (grid to load) (A)	80
Peak Power (grid+inverter) (W)	200% rated power @60sec
Power Factor Adjustment Range	0.8 leading to 0.8 lagging
Rated Input/Output Voltage/Range (V)	220/230, 0.85Un~1.1Un
Rated Input/Output Grid Frequency/Range (Hz)	50/45~55, 60/55~65
Grid Connection Form	L+N+PE
THDi	< 3%
BATTERY INPUT	
Battery Type	Lead-acid or Lithium-ion
Battery Voltage Range (V)	40 – 60
Max. Charging Current (A)	190
Max. Discharging Current (A)	190
Charging Strategy for Lead-Acid battery	3 stages curve
Charging Strategy for Li-ion Battery	Self-adaption to BMS
Number of Battery Input	1
Communication Interface	LED + LCD / CAN, Rs485, CT, NTC, WIFI
EFFICIENCY	
Max. Efficiency	97.6%
Euro Efficiency	96.5%
MPPT Efficiency	>99%
Equipment Protection	S
Surge Protection Level	TYPE II (DC), TYPE I (AC)
INTERFACE	
Communication Interface	RS485 / CAN / Temperature
Monitor Mode	WiFi / 4G+LAN (Optional)
GENERAL	
Operating Temperature Range (°C)	-25°C to +60°C (>45°C Derating)
Permissible Ambient Humidity	5 to 95% (Condensing)
Permissible Altitude	< 3000m
Ingress Protection	IP65
Noise (dB)	< 45
Inverter Topology	Transformerless for PV side / HF for battery side
Over Voltage Category	OVC I (DC), OVC II (AC)
Cabinet Size (W×H×D mm)	411×631×238
Weight (kg)	30
Cooling Method	Intelligent Air Cooling
Warranty (Years)	5
Standards	S
Safety	IEC / EN 62109-1/-2
Grid Monitoring	IEC61727, IEC62116, EN50549
EMC Standard	IEC / EN 61000-6-1, IEC / EN 61000-6-3

PHOTON PRO SERIES

PHOTON PRO 5KW

PHOTON PRO 6KW

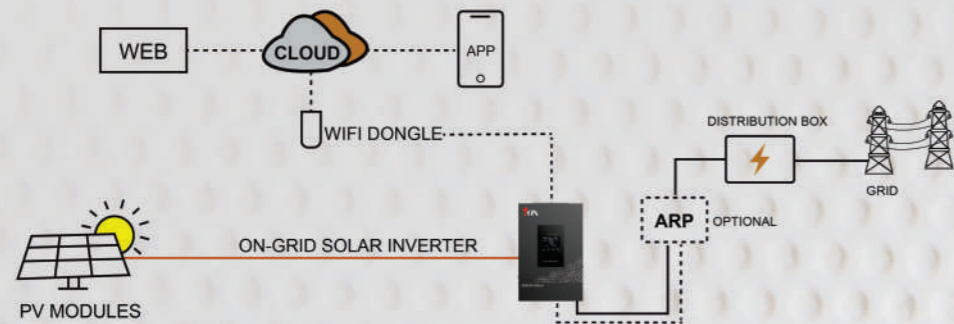
PHOTON PRO 6.5KW



6.5KW 48V PV9500

6KW 24V PV9000

5KW 24V PV9000



PRODUCT ADVANTAGES

- Supports 300% Surge Power
- 46% Increased MPPT Rated Power
- 25% increased Apparent power (S)
- 120A DC Maximum Charging current
- Enhanced safety with built in transformer
- Admissible power factor -0.8 ~ +0.8
- Built in BMS (Battery Management System)
- Online monitoring through WIFI
- Dual outputs for Smart load Management
- Colored LCD Design
- Soft start function
- Grid Feeding Option

TECHNICAL SPECIFICATION

MODEL	PHOTON PRO PV9500-48	PHOTON PRO PV9000-24	PHOTON PRO PV9000-24
Rated Capacity	8120 VA / 6500 W	6250 VA / 6000 W	6250 VA / 5000 W
PV INPUT			
PV Maximum Input Power	9500 W	9000 W	9000 W
Max. PV Open Circuit Voltage	500 VDC		
MPPT Range Operating Voltage	60 – 450 VDC		
Max. Solar Input Current	28 A		
BATTERY SPECIFICATION			
Battery Type	Lithium and Lead-acid		
Nominal Battery Voltage	48 V (4*12 V)	24 V (4*6 V)	24 V (4*6 V)
AC OUTPUT			
Nominal Voltage (AC Input)	208 / 220 / 230 / 240 V; L + N + PE		
Voltage Range (AC Input)	90 – 280 ±3 (normal mode); 170 – 280 ±3 (UPS mode)		
Frequency (AC Input)	50 / 60 Hz (Auto Adaptive)		
AC OUTPUT			
Rated Capacity (AC Output)	8120 VA / 6500 W	6250 VA / 6000 W	6250 VA / 5000 W
Second Output Capacity	4150 VA / 4150 W		
Surge Power	16500 VA	15000 VA	15000 VA
Waveform	Pure Sine Wave		
Nominal Voltage (AC Output)	208 / 220 / 230 / 240 VAC		
Feed-in Grid Frequency Range	195-253VAC		
Nominal Frequency	50 / 60 Hz		
Feed-in Grid Frequency Range	49 ~ 51 Hz ±0.7%; 59 ~ 61 ±0.1%		
Transfer Time	10 ms UPS mode / 10 ms Appliance mode		
Peak Efficiency (PV to INV)	97.00%		
Peak Efficiency (Battery to INV)	94.50%		
Overload Protection	10min@102%<Load<120% 1min@120%<Load<150% 10s@150%<Load<200%		
Admissible Power Factor	-0.8~+0.8		
CHARGER SPECIFICATION (SOLAR CHARGER & AC CHARGER)			
Charging Voltage	PV MODE: 54 V, settable: 52~56.5 V; CV MODE: 56.4 V, settable: 56~58 V		
Battery Over Voltage	61 V		
Charging Current	2 ~ 120 A		
Max. AC Charge Current	120 A		
Max. PV Charge Current	120 A		
Max. Charge Current (PV+AC)	120 A		
PHYSICAL			
Built-in Transfer	Yes		
Built-in Power Booster	Yes		
Dimensions (D × W × H mm)	119 × 338 × 539.1		
Net Weight (kg)	13.56		
Communication Interface	RS485 / RS232 / USB / Dry Contact		
ENVIRONMENT			
Ingress Protection	IP21		
Operating Temperature Range	-10 °C ~ 50 °C		
Storage Temperature	-15 °C ~ 60 °C		
Humidity	5% ~ 95% (Non-condensing)		

PHOTON ULTRA SERIES

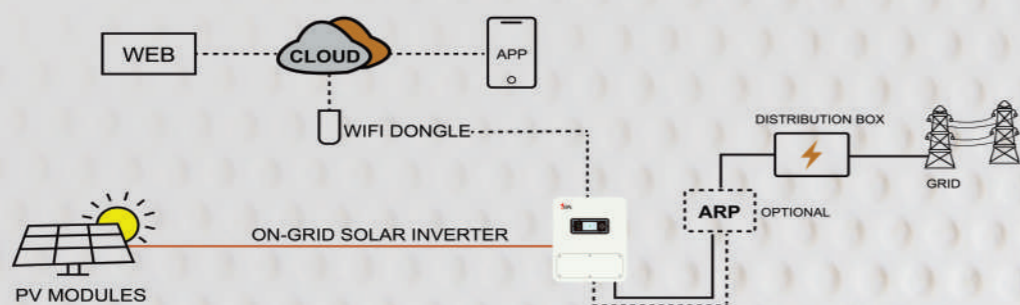
PHOTON ULTRA 5KW

PHOTON ULTRA 6.5KW



6.5KW 48V PV9000

5KW 24V PV9000



PRODUCT ADVANTAGES

- System Voltage 24V DC
- 80% increased MPPT rated Power
- 25% increased Apparent power (S)
- 160A DC Maximum Charging current
- Enhanced safety with built in transformer
- Admissible power factor -0.8 ~ +0.8
- Built in BMS (Battery Management System)
- Online monitoring through WIFI
- Dual outputs for Smart load Management
- Colored LCD Design
- Grid feeding option
- Soft start function

TECHNICAL SPECIFICATION

MODEL	6.5KW 48V PV9000	5KW 48V PV9000
Rated Power	9000VA / 9000W	
INPUT		
Voltage	230 VAC	
Selectable Voltage Range	170-280 VAC (For Personal Computers) 90-280 VAC (For Home Appliances)	
Frequency Range	50 Hz / 60 Hz (Auto sensing)	
OUTPUT		
AC Voltage Regulation (Batt. Mode)	230 VAC ±5%	
Surge Power	16500VA	15000VA
Efficiency (Peak)	90% ~ 93%	
Transfer Time	10 ms (For Personal Computers) 20 ms (For Home Appliances)	
Waveform	Pure sine wave	
No Load Power Consumption	< 70W	
BATTERY		
Battery Voltage	24 VDC	
Floating Charge Voltage	27 VDC	
Overcharge Protection	33 VDC	
SOLAR CHARGER & AC CHARGER		
Solar Charger Type	MPPT	
Max. PV Array Open Circuit Voltage	500 VDC	
MPP Range @ Operating Voltage	60 ~ 450 VDC	40 ~ 450 VDC
Max. PV Array Power	6500W	5000w
Max. Solar Charge Current	120A	
Max. AC Charge Current	160A	120A
Max. Charge Current	160A	120A
PHYSICAL		
Dimension (D*W*H) (mm)	388*513*120	
Net Weight (Kgs)	13	
Communication Interface	RS232 / RS485	
ENVIRONMENT		
Humidity	5% to 95% Relative Humidity (Non-condensing)	
Operating Temperature	-10°C to 55°C	
Max. Operating Altitude	2000 m	

DAY TIME INVERTER

10N REVOLT

TECHNICAL SPECIFICATION

MODEL	1ON REVOLT PV11000
Product Type	Off Grid
Color	White
Operating Temperature Range	-20~70 C°
Protection Level	Class I
PV INPUT POWER	
Max.PV Input Voltage	750VDC
MPPT Input Range	160V ---- 750VDC.
Max.PV Input Current	20Amp
Max.PV Input Power	11000(W)
AC INPUT DATA	
AC Input Voltage	170V~280VAC
AC Input Frequency	50Hz
AC Input Rated Current	26Amp
PHYSICAL	
Dimension (D*W*H) (mm)	300*380*110
Net Weight (Kgs)	5
AC OUTPUT DATA	
AC Output Voltage	220V~230VAC.
AC Output Frequency	50Hz
AC Output Rated Current	26Amp
AC Power Factor	1.0



1ON Revolt PV11000



PRODUCT ADVANTAGES

- Built for true off-grid freedom
- Wide MPPT range (160–750VDC) for maximum solar capture
- Up to 750VDC PV input for powerful performance
- Handles up to 11,000W solar input with ease
- Stable output with 26A current capacity Touch Panel
- Pure energy delivery with Power Factor 1.0
- Reliable even in extreme conditions (-20°C to 70°C)
- Supports unstable grids with wide AC input range
- Designed for consistent, worry-free power
- Pure Sine wave



- Disconnect both AC and DC supplies completely and allow a minimum of 5 minutes for internal discharge before performing any service.
- Installation, inspection, and maintenance must be carried out only by qualified and authorized personnel.
- Do not open or tamper with the inverter enclosure; no user-serviceable parts are inside.
- The inverter surface may reach high temperatures during operation; avoid direct contact to prevent injury.
- Ensure proper grounding (earthing) of all DC input terminals in accordance with local electrical standards
- Verify all wiring and connections before energizing the system.
- Operate the unit strictly within specified voltage, current, and environmental limits.
- Keep the inverter away from moisture, flammable materials and poorly ventilated areas.
- Always refer to the official user manual and safety instructions prior to installation and use
- Dispose of this product through certified e-waste recycling facilities; do not discard with general waste.

LITHIUM BATTERIES

NEXUS 2.56KW

NEXUX 5.12KW

NEXUX 15.36KW

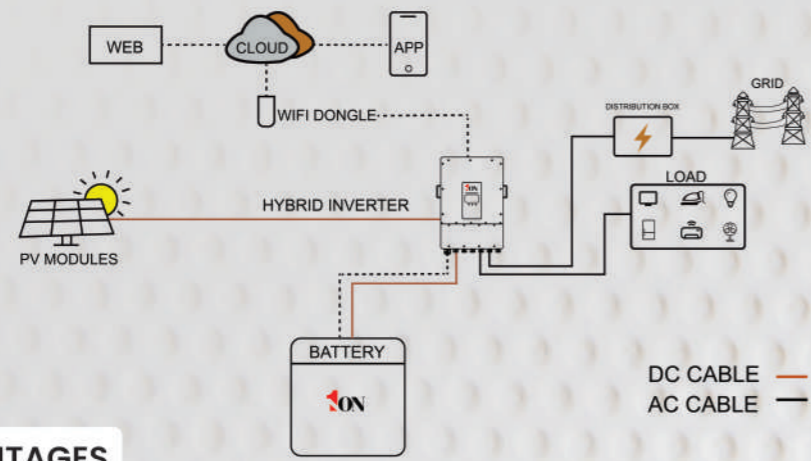


NEXUS PRO 51.2V 300Ah

NEXUS PRO 51.2V 200Ah

NEXUS PRO 51.2V 100Ah

NEXUS PRO 51.2V 100Ah



PRODUCT ADVANTAGES

- Class A LiFePo4 Battery
- Life Cycle 8000+ (80% DOD, 25C)
- BMS Communication
- RS485, RS232, CAN, WIFI & Dry Control
- Colored LCD
- Touch Panel
- High Charging/Discharging Efficiency > 95%
- Compatible with Almost All brands (Upto 16 in Parallel)
- Built in 5A Active Balancer
- Soft start function
- Enhanced Safety Factors Using Advanced Hardware & Software Protection

TECHNICAL SPECIFICATION

MODEL	NEXUS PRO 51.2V 100Ah	NEXUS PRO 51.2V 200Ah	NEXUS PRO 51.2V 300Ah
Product Pack	LiFePO ₄		
Installation Mode	Wall Mounted / Floor Standing		
Rated Voltage	51.2V		
Rated Capacity	100 Ah	200 Ah	300 Ah
Energy	5.12 kWh	10.24 kWh	15.36 kWh
Cell Brand	Great Power 100Ah	Great Power 200Ah	Great Power 300Ah
Cell Unit	3.2V/100Ah	3.2V/200Ah	3.2V/300Ah
BMS Brand	JBD		
BMS Communication	RS485, RS232, CAN, WIFI		
Configuration	8S1P		
Charge cutoff voltage	58.4V		
Discharge cutoff voltage	44.8V		
Life time (25°C)	15 years		
Life cycles (80% DOD, 25°C)	8000 cycles		
Nominal Charge/ Discharge Current	50A	100A	100A
Maximum Continuous Charge/Discharge Current	100A	150A	200A
Charging efficiency	>95%		
Electricity charged in the shipped	30%~50% SOC		
Operating temperature	Charging: 0~55°C / Discharge: -10~55°C		
Storage temperature	-20~45°C		
Working humidity	10~85%		
Storage humidity	10~85%		
Dimensions (L x W x H)	630*450*181.3MM	700*480*263.8MM	850*480*281.4MM
Weight	About 48kg	About 92kg	About 120kg
Modules Connection	Maximum 15 in Parallel		
Ingress Protection	IP 20		

GLOBAL PRESENCE

- **PAKISTAN**
(KPK)
- **CHINA**
(Guangzhou)
- **AFGHANISTAN**
(Jalalabad)
- **SAUDI ARABIA**
(Riyadh)

THANKS

**ONE COMPANY, MANY
CORNERS OF THE WORLD**