

InfiniSolar V 4

ON-GRID INVERTER WITH ENERGY STORAGE



- Customizable status LED ring with RGB lights
- Touchable button with 4.3" colored LCD
- Supports USB On-the-Go function
- Data log events stored in the inverter
- Self-consumption and Feed-in to the grid
- Programmable supply priority for PV, Battery or Grid
- User-adjustable charging current and voltage
- Programmable multiple operation modes: Grid-tie, off-grid and grid-tie with backup
- Built-in Wi-Fi for mobile monitoring (App is available)
- Reserved communication port for BMS
- Parallel operation up to 9 units

InfiniSolar V 4 On-Grid Inverter with Energy Storage Selection Guide

MODEL	InfiniSolar V 4 3.6KW	InfiniSolar V 4 5.6KW	InfiniSolar V 4 6KW
PHASE	1-phase in / 1-phase out		
MAXIMUM PV INPUT POWER	5000W	6000W	6000W
RATED OUTPUT POWER	3600W	5600W	6000W
MAXIMUM CHARGING POWER	5000W	6000W	6000W
GRID-TIE OPERATION			
PV INPUT (DC)			
Nominal DC Voltage / Maximum DC Voltage	360 VDC / 500 VDC	360 VDC / 450 VDC	360 VDC / 500 VDC
Start-up Voltage / Initial Feeding Voltage	110VDC / 120 VDC	110VDC / 120 VDC	120VDC / 150 VDC
MPP Voltage Range	120 VDC ~ 430 VDC	120 VDC ~ 430 VDC	120 VDC ~ 430 VDC
Number of MPP Trackers / Maximum Input Current	1 / 18 A	1 / 27 A	1 / 27A
GRID OUTPUT (AC)			
Nominal Output Voltage	220/230/240 VAC		
Output Voltage Range	184 - 264.5 VAC or 195.5 - 253 VAC (Selectable)		
Nominal Output Current	15.6A	24.3A	26.1A
Power Factor	> 0.9		
EFFICIENCY			
Maximum Conversion Efficiency (DC/AC)	96%	96%	95%
OFF-GRID OPERATION			
AC INPUT			
AC Start-up Voltage / Auto Restart Voltage	120 - 140 VAC / 180 VAC		
Acceptable Input Voltage Range	90 - 280 VAC or 170 - 280 VAC		
Maximum AC Input Current	40 A	40 A	40 A
PV INPUT (DC)			
Maximum DC Voltage	500 VDC	450 VDC	500 VDC
MPP Voltage Range	120 VDC ~ 430 VDC	120 VDC ~ 430 VDC	120 VDC ~ 430 VDC
Number of MPP Trackers / Maximum Input Current	1 / 18 A	1 / 27 A	1 / 27 A
BATTERY MODE OUTPUT (AC)			
Nominal Output Voltage	220/230/240 VAC		
Output Waveform	Pure sinewave		
Efficiency (DC to AC)	93%	93%	93%
HYBRID OPERATION			
PV INPUT (DC)			
Nominal DC Voltage / Maximum DC Voltage	360 VDC / 500 VDC	360 VDC / 450 VDC	360 VDC / 500 VDC
Start-up Voltage / Initial Feeding Voltage	110VDC / 120 VDC	110VDC / 120 VDC	120VDC / 150 VDC
MPP Voltage Range	120 VDC ~ 430 VDC	120 VDC ~ 430 VDC	120 VDC ~ 430 VDC
Number of MPP Trackers / Maximum Input Current	1 / 18 A	1 / 27 A	1 / 27A
GRID OUTPUT (AC)			
Nominal Output Voltage	220/230/240 VAC		
Output Voltage Range	184 - 264.5 VAC or 195.5 - 253 VAC (Selectable)		
Nominal Output Current	15.6A	24.3A	26.1A
AC INPUT			
AC Start-up Voltage / Auto Restart Voltage	120 - 140 VAC / 180 VAC		
Acceptable Input Voltage Range	90 - 280 VAC or 170 - 280 VAC		
Maximum AC Input Current	40A	40A	40A
BATTERY MODE OUTPUT (AC)			
Nominal Output Voltage	220/230/240 VAC		
Efficiency (DC to AC)	93%	93%	93%
BATTERY & CHARGER			
Nominal DC Voltage	48 VDC	48 VDC	48 VDC
Maximum Solar Charging Current	100A	120A	120A
Maximum AC Charging Current	100A	120A	120A
Maximum Charging Current	100A	120A	120A
GENERAL			
PHYSICAL			
Dimension, D x W x H (mm)	140 x 295 x 468		
Net Weight (kgs)	11	12	12
INTERFACE			
Parallel Function	Yes, 9 units		
Communication Port	USB/RS232/RS485/Wifi/Dry-contact		
ENVIRONMENT			
Humidity	0 ~ 90% RH (Non-condensing)		
Operating Temperature	-10 to 50°C		

Product specifications are subject to change without further notice.

SPECIFICATIONS

Cells per Unit	6
Voltage per Unit	12
Capacity	200Ah@20hr-rate to 1.75V per cell@25°C
Weight	Approx. 54.0 Kg(Tolerance ± 3%)
Internal Resistance	Approx. ≤4.2 mΩ
Terminal	F12/M8
Max. Discharge Current	1800A (5sec)
Design Life	12 years(floating charge)
Max. Charging Current	54A
Reference Capacity	C3 145.6AH C5 173.0AH C10 189.4AH C20 200.0AH
Float Charging Voltage	13.6V≈13.8V @25°C Temperature Compensation: -3mV/°C/Cell
Cycle Use Voltage	14.6V≈14.8V @25°C Temperature Compensation: -4mV/°C/Cell
Operating Temperature Range	Discharge: -20°C ≈ 60°C Charge: 0°C ≈ 50°C Storage: -20°C ≈ 60°C
Normal Operating Temperature Range	25°C ± 5°C
Self Discharge	Valve Regulated Lead Acid (VRLA) batteries can be stored for up to 6 months at 25°C and then recharging is recommended. Monthly Self - discharge ratio is less than 3% at 25°C. Please charge batteries before using
Container Material	A.B.S. UL94-HB, UL94-V0 Optional

LDC Lead Deep Cycle
AGM DEEP CYCLE SERIES



LDC series is specially designed for frequent discharge deep cycle application. By using the specially designed active material, strong grids and thick plate construction, the LDC series battery offers reliable performance in high load situations and could provide competitive cycle performance. It is suitable for Electric Vehicles and Golf Carts, Floor Machines, Forklifts, Aerial lifts, Robotics, Marine, RV, Mobility and Medical Equipment, and most outdoor application.

DIMENSIONS

Length	530mm
Width	209mm
Height	214mm
Total Height	231mm
Terminal	Value
M5	6-7 N°m
M6	8-10 N°m
M8	10-12 N°m

F12 TERMINAL

CONSTANT CURRENT DISCHARGE CHARACTERISTICS A(25°C)

F.V/Time	15Min	30Min	1Hr	2Hr	3Hr	4Hr	5Hr	8Hr	10Hr	20Hr
1.60V	315.6	194.1	109.3	65.11	50.71	39.78	33.84	21.7	18.0	9.33
1.65V	295.1	183.8	105.6	62.92	49.15	38.59	32.77	21.53	17.83	9.28
1.70V	277.6	174.3	102.2	61.25	47.08	37.4	31.89	21.19	17.49	9.16
1.75V	260.0	167.4	99.0	58.9	45.87	36.38	31.0	20.85	17.31	9.0
1.80V	238.1	161.2	94.6	56.88	45.0	35.53	30.6	20.51	17.14	8.91
1.85V	197.0	136.7	84.45	52.02	41.88	33.32	28.17	19.31	16.11	8.83

CONSTANT POWER DISCHARGE CHARACTERISTICS WPC(25°C)

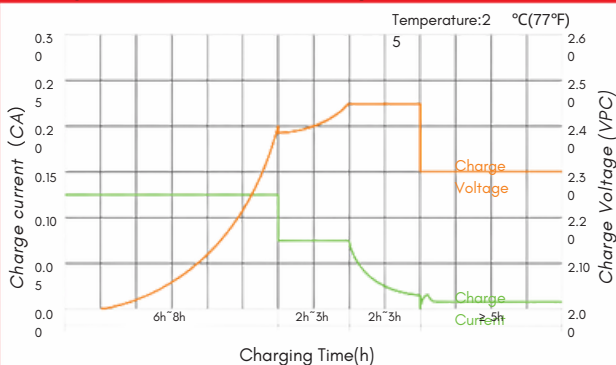
F.V/Time	15Min	30Min	1Hr	2Hr	3Hr	4Hr	5Hr	8Hr	10Hr	20Hr
1.60V	550.5	352.6	205.2	123.1	96.3	76.67	64.05	42.3	35.3	18.62
1.65V	535.3	344.4	201.7	119.8	93.9	74.8	62.32	41.96	34.96	18.46
1.70V	506.7	327.8	195.8	116.8	90.3	72.42	60.76	41.45	34.28	18.29
1.75V	478.2	316.3	190.4	112.6	88.07	70.72	59.38	40.77	33.94	17.96
1.80V	442.1	306.1	182.6	110.1	87.58	69.36	58.58	40.1	33.6	17.79
1.85V	371.4	262.5	164.0	101.3	81.69	65.28	54.18	37.9	31.74	17.63

(Note)The above characteristics data are average values obtained within three charge/discharge cycle not the minimum values. The battery must be fully charged before the capacity test. The C20 should reach 95% after the first cycle and 100% after the third cycle.

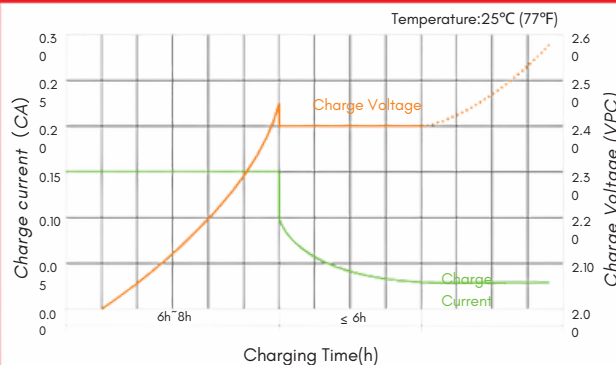




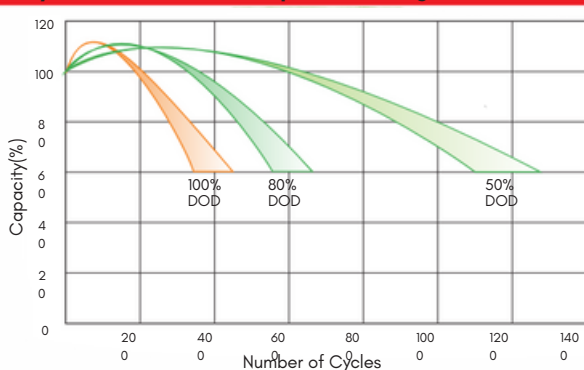
Charge Characteristic Curve for Cycle Use(IIUU)



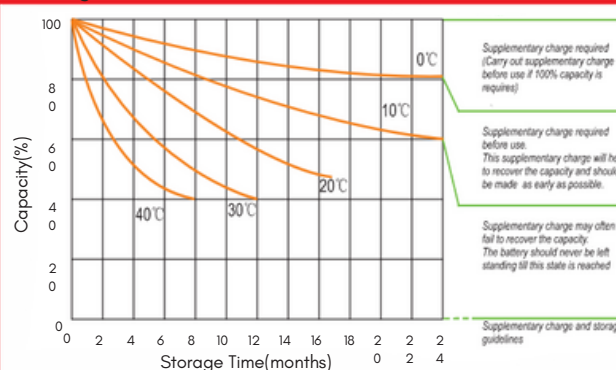
Charge Characteristic Curve For Cycle Use(IUI)



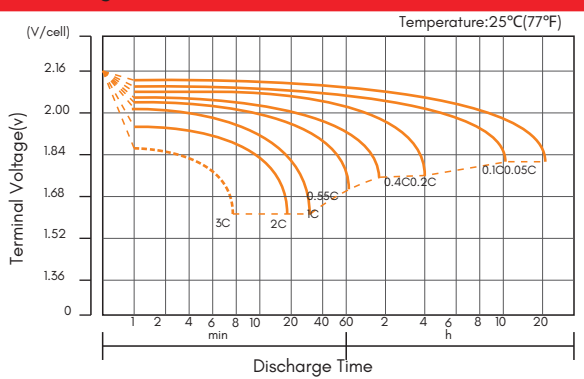
Cycle Life in Relation to Depth of Discharge



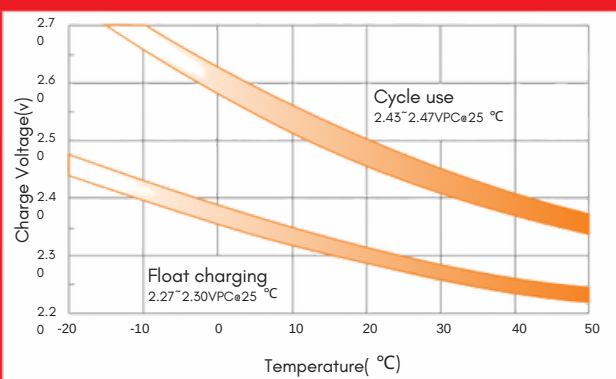
Storage Characteristics



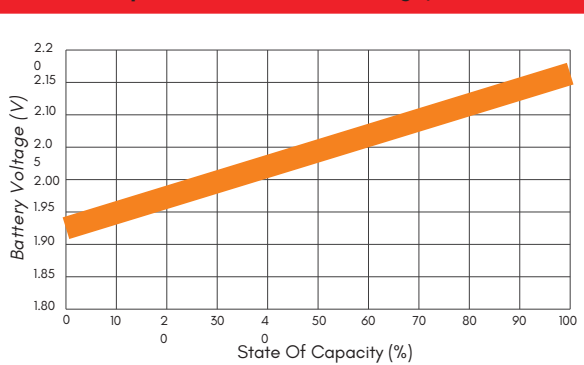
Discharge Characteristics Curve



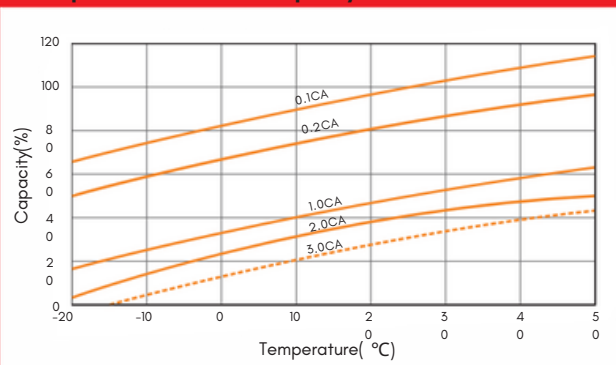
Relationship Between charging Voltage and Temperature



Relationship of OCV And State of Charge(20 °C)



Temperature Effects on Capacity



(Note) All of the above information could be changed without prior notice. IBS Italia reserves the right to explain and update the latest information.

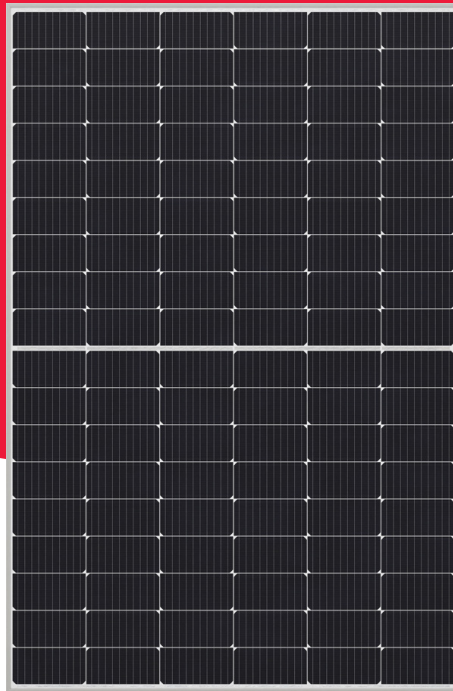


NU-JC Series

NU-JC415


415 W

The High Performer





Powerful product features


+% Guaranteed positive power tolerance (0/+5 %)

 High module efficiency 21.25 %
PERC monocrystalline silicon photovoltaic modules

MBB MBB busbar technology
Improved reliability
Higher efficiency
Reduced series resistance

 Half-cut cell
Improved shading performance
Lower internal losses

 Tested and certified
VDE, IEC/EN61215, IEC/EN61730
CE Safety class II, CE
UKCA Fire rating class C

 Robust product design
PID resistance test passed
Salt mist test passed (IEC61701)
Ammonia test passed (IEC62716)
Dust and sand test passed (IEC60068)

Your solar partner for life

60 60 years of solar expertise
YEARS

 Local support team in Europe

25 Linear power output guarantee
YEARS

50 50 million PV modules installed
MIL

10* Product guarantee
YEARS

1 Tier 1 - BloombergNEF
TIER



Energy Solutions

SHARP
Be Original.

* Applicable for modules installed in countries as shown in the guarantee conditions.

Electrical data (STC)

NU-JC415			
Maximum power	P_{max}	415	W_p
Open-circuit voltage	V_{oc}	38.08	V
Short-circuit current	I_{sc}	13.87	A
Voltage at point of maximum power	V_{mpp}	31.49	V
Current at point of maximum power	I_{mpp}	13.18	A
Module efficiency	η_m	21.25	%

STC = Standard Test Conditions: irradiance 1,000 W/m², AM 1.5, cell temperature 25 °C.
 Rated electrical characteristics are within ±10 % of the indicated values of I_{sc} , V_{oc} and 0 to +5 % of P_{max} .
 Reduction of efficiency from an irradiance change of 1,000 W/m² to 200 W/m² ($T_{module} = 25$ °C) is less than 3 %.

Electrical data (NMOT)

NU-JC415			
Maximum power	P_{max}	311.11	W_p
Open-circuit voltage	V_{oc}	36.09	V
Short-circuit current	I_{sc}	11.25	A
Voltage at point of maximum power	V_{mpp}	29.35	V
Current at point of maximum power	I_{mpp}	10.6	A

NMOT = Nominal Module Operating Temperature: 42.5 °C, irradiance 800 W/m², air temperature of 20 °C, wind speed of 1 m/s.

Mechanical data

Length	1,722 mm
Width	1,134 mm
Depth	30 mm
Weight	20.7 kg

Temperature coefficient

P_{max}	-0.341 %/°C
V_{oc}	-0.262 %/°C
I_{sc}	0.054 %/°C

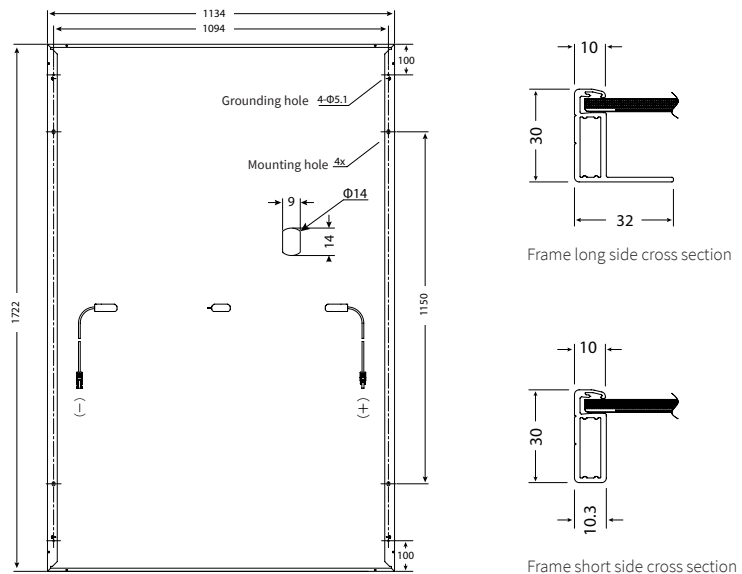
Limit values

Maximum system voltage	1,000 V DC
Over-current protection	25 A
Temperature range	-40 to 85 °C
Max. mechanical load (snow/wind)	2,400 Pa
Tested snow load (IEC61215 test pass*)	5,400 Pa

Packaging data

Modules per pallet	36 pcs
Pallet size (L × W × H)	1.75 m × 1.13 m × 1.25 m
Pallet weight	Approx. 780 kg

Dimensions (mm)



*Please refer to SHARP's installation manual for details.

General data

Cells	Half-cut cell mono, 182 mm x 91 mm, MBB, 2 strings of 54 cells in series
Front glass	Anti-reflective high transmissive low iron tempered glass, 3.2 mm
Frame	Anodized aluminium alloy, silver
Backsheet	White
Cable	∅ 4.0 mm ² , length 1,250 mm
Connection box	IP68 rating, 3 bypass diodes
Connector	MC4 (Multi Contact, Stäubli), IP68

Note: Technical data is subject to change without prior notice. Before using SHARP products, please request the latest data sheets from SHARP. SHARP accepts no responsibility for damage to devices which have been equipped with SHARP products on the basis of unverified information. The specifications may deviate slightly and are not guaranteed. Installation and operating instructions are to be found in the corresponding handbooks, or can be downloaded from www.sharp.eu. This module should not be directly connected to a load.