

Sun⁺



An U.S. Branded Module

CELLS

132

MAXIMUM EFFICIENCY %

24.1

POSITIVE POWER TOLERANCE WP

0~+5.00

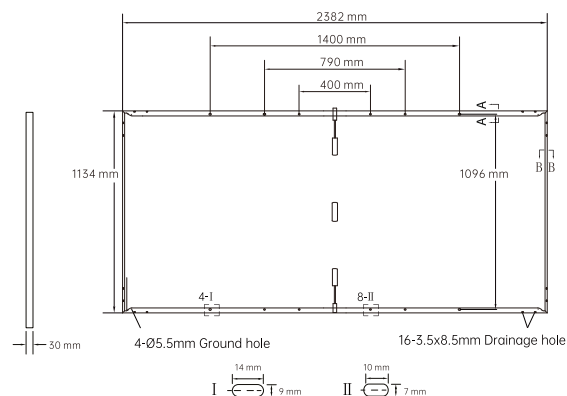
WATTAGE RANGE WP

630-650



■ Mechanical Specification

Dimension	2382x1134x30mm (93.77x44.64x1.18 in)
Weight	31.9kg
Front Cover	2.0 mm (0.08 in) tempered glass , Anti-Reflection Coated
Back Cover	2.0 mm (0.08 in), Heat Strengthened Glass
Frame	Anodized Aluminium Alloy
Cell	N-Type Monocrystalline
Junction Box	Protection class IP68, with bypass diodes
Cable	4mm ² Solar Cable (+)≤13.7 in (350 mm) (-)≤9.8 in (250 mm)
Connector	MC 4 or MC 4 Compatible; -IP68



■ Electrical Characteristics

POWER CLASS	630	635	640	645	650
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MINIMUM PERFORMANCE AT STANDARD TEST CONDITIONS, STC¹ (POWER TOLERANCE +5W / -0W)

Minimum	Power at MPP ¹	P _{MPP}	[W]	630	BSTC*		BSTC*		BSTC*		BSTC*		BSTC*
				696	635	701	640	707	645	712	650	718	
	Short Circuit Current ¹	I _{SC}	[A]	16.20	17.94	16.26	17.96	16.32	18.03	16.38	18.09	16.44	18.16
	Open Circuit Voltage ¹	V _{OC}	[V]	49.48	49.24	49.68	49.66	49.88	49.86	50.08	50.06	50.28	50.26
	Current at MPP	I _{MPP}	[A]	15.36	16.58	15.43	17.03	15.50	17.10	15.57	17.17	15.64	17.24
	Voltage at MPP	V _{MPP}	[V]	41.02	41.61	41.16	41.17	41.30	41.33	41.44	41.46	41.58	41.61
Efficiency ¹	η	[%]	≥23.3		≥23.5		≥23.7		≥23.9		≥24.1		

MINIMUM PERFORMANCE AT NORMAL OPERATING CONDITIONS NMOT²

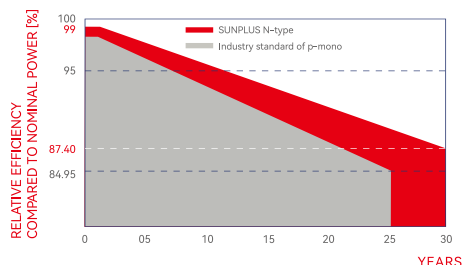
	Power at MPP	P _{MPP}	[W]	486	491	496	502	507
Minimum	Short Circuit Current	I _{SC}	[A]	13.00	13.03	13.06	13.09	13.12
	Open Circuit Voltage	V _{OC}	[V]	47.70	47.90	48.10	48.30	48.50
	Current at MPP	I _{MPP}	[A]	12.44	12.51	12.58	12.65	12.72
	Voltage at MPP	V _{MPP}	[V]	39.10	39.30	39.50	39.70	39.90

¹Measurement tolerances P_{MPP} ± 3 %; I_{SC}; V_{OC} ± 5 % at STC: 1000 W/m², 25 ± 2 °C, AM 1.5 according to IEC 60904-3 • ²800 W/m², NMOT, spectrum AM 1.5

*at BSCT: 1000 W/m² + φ × 135 W/m², φ = 80 %, 25 ± 2 °C, AM 1.5 according to IEC 60904-3

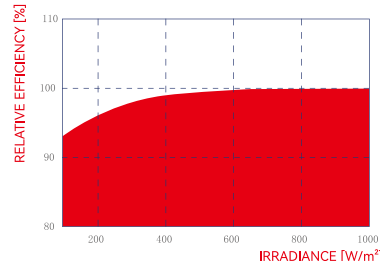
MODULE PERFORMANCE WARRANTY

PERFORMANCE AT LOW IRRADIANCE



At least 99 % of nominal power during first year. Thereafter max. 0.4% degradation per year. At least 95 % of nominal power up to 10 years. At least 87.40 % of nominal power up to 30 years.

All data within measurement tolerances. Full warranties in accordance with the warranty terms of the SUNPLUS sales organization of your respective country.



Typical module performance under low irradiance conditions in comparison to STC conditions (25 °C, 1000 W/m²).

TEMPERATURE COEFFICIENTS

Temperature Coefficient of I _{SC}	α	[% / K]	+0.043	Temperature Coefficient of V _{OC}	β	[% / K]	-0.25
Temperature Coefficient of P _{MPP}	γ	[% / K]	-0.29	Nominal Module Operating Temperature	NMOT	[°C]	43±3

■ Properties for system Design

Maximum System Voltage	V _{SYS}	1500VDC (IEC)	PV module classification	Class II
Maximum Reverse Current	I _R	35A	Fire Rating based UL61730	Type 29
Max. Design Load, Push / Pull		5400 / 2400	Permitted Module Temperature	-40°C~+85°C
Max. Test Load, Push / Pull		8100 / 4000	on Continuous Duty	

■ Qualifications and Certificates

Quality Controlled PV -
CSA;
UL 61730-1;
UL 61730-2.



Packaging Information

Vertical packaging	2396 mm	1110 mm	1251 mm	1190 kg	18 pallets	20 pallets	36 modules
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SUNPLUS pursues minimizing paper output in consideration of the global environment

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