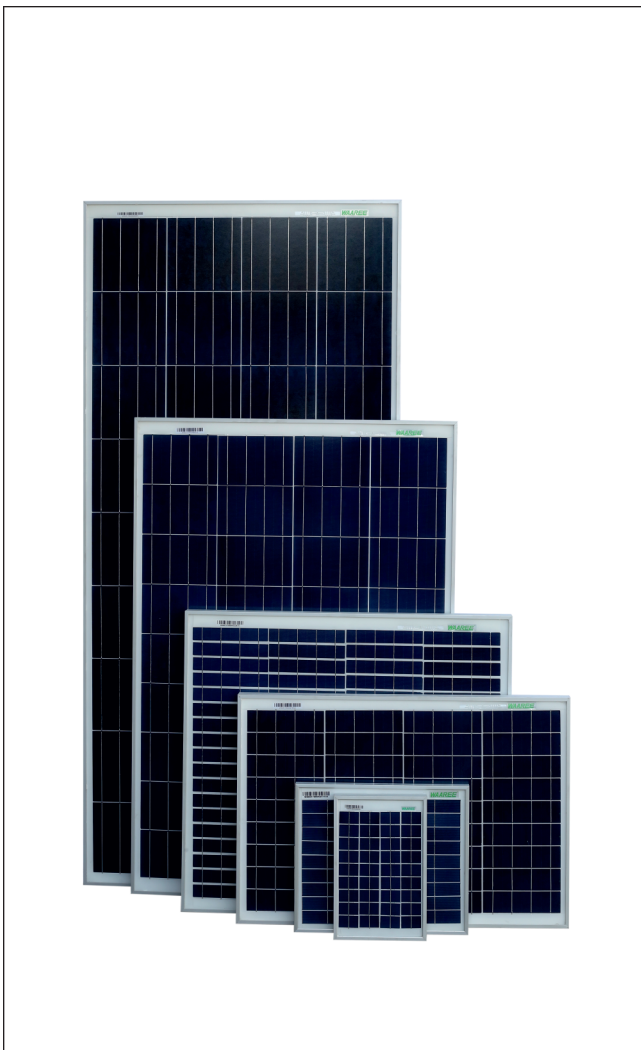
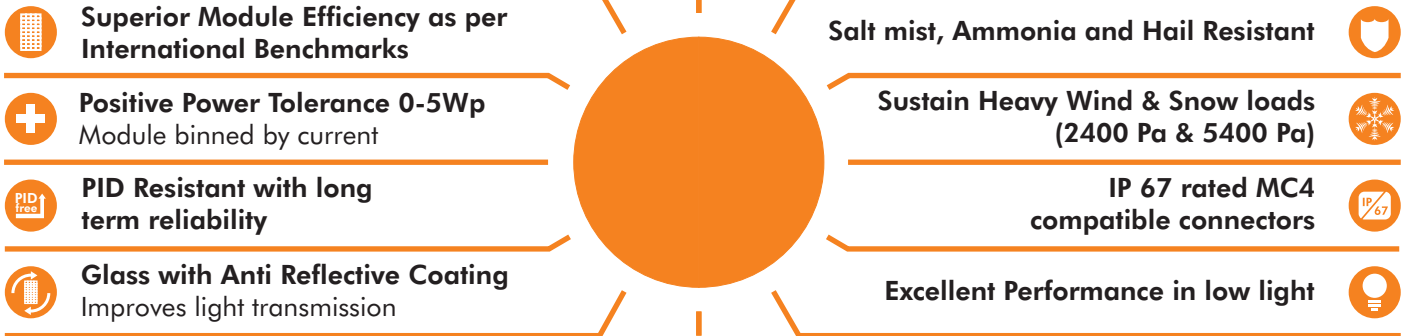


WS-40 to WS-90

ARKA SERIES

WAAREE[®]
One with the Sun



Temperature Coefficients And Operating Conditions

Temperature coefficient of Current α (%/°C)	0.0051
Temperature coefficient of Voltage β (%/°C)	-0.2775
Temperature coefficient of Power γ (%/°C)	-0.3859
NOCT (°C)	46 ± 2
Operating Temperature Range (°C)	-40 to 85
Maximum System Voltage (IEC & UL)	1500VDC

Warranty

5 years Limited Product Warranty**

25 years Limited Power Output Warranty**

- ♦ Minimum 90% at the end of 10 years
- ♦ Minimum 80% at the end of 25 years

INTERNATIONAL & NATIONAL CERTIFICATIONS

IS 14286 | IEC 61215 | IEC 61730 | IEC 61701 | IEC 62804
IEC 62716 | IEC 60068-2-68 | UL1703
ROHS Compliance | REACH Compliance



R-72002038



R-72002020



ISO 9001:2015 | ISO 14001:2015 | OHSAS 18001:2007 / ISO 45001:2018
Independent assessment of factories by BLACK & VEATCH

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ELECTRICAL CHARACTERISTICS

Model	WS-40 / 12V	WS-45 / 12V	WS-50 / 12V	WS-50 / 24V	WS-55 / 12V	WS-60 / 12V	WS-60 / 24V	WS-65 / 12V	WS-70 / 12V	WS-74 / 12V	WS-74 / 24V	WS-75 / 12V	WS-75 / 24V	WS-80 / 12V	WS-80 / 24V	WS-85 / 12V	WS-90 / 12V	WS-90 / 24V	WS-95 / 12V
Nominal Maximum Power, Pm (W)*	40	45	50	50	55	60	60	65	70	74	74	75	75	80	80	85	90	90	95
Positive Tolerance Only																			
Power Tolerance																			
Open Circuit Voltage, Voc (V)*	21.37	21.42	21.47	43.60	21.52	21.57	43.70	21.62	21.67	21.71	43.80	21.72	43.85	21.77	43.90	21.82	21.87	43.95	21.92
Short Circuit Current, Isc (A)*	2.50	2.80	3.11	1.53	3.41	3.71	1.83	4.01	4.31	4.54	2.25	4.60	2.28	4.90	2.43	5.19	5.49	2.73	5.78
Voltage at Maximum Power, Vmp (V)*	17.18	17.19	17.21	35.15	17.24	17.26	35.25	17.29	17.31	17.33	35.35	17.34	35.4	17.36	35.45	17.39	17.41	35.5	17.44
Current at Maximum Power, Imp (A)*	2.33	2.62	2.91	1.43	3.2	3.48	1.71	3.76	4.05	4.28	2.10	4.33	2.12	4.61	2.26	4.89	5.17	2.54	5.45
Maximum System Voltage (V)	1000																		
Module Efficiency (%)	12.22%	10.58%	11.76%	11.76%	12.93%	14.11%	14.11%	13.01%	12.49%	12.18%	12.18%	12.35%	12.35%	13.17%	13.17%	13.69%	14.49%	14.49%	13.60%
Maximum Series Fuse Rating (A)	10	10	10	10	10	10	15	15	15	15	15	15	15	15	10	10	10	10	10
Limiting Reverse Current (A)	10																		
Rated Voltage (V dc)	17.18	17.19	17.21	35.15	17.24	17.26	35.25	17.29	17.31	17.33	35.35	17.34	35.4	17.36	35.45	17.39	17.41	35.5	17.44
Rated Current (A dc)	2.33	2.62	2.91	1.43	3.2	3.48	1.71	3.76	4.05	4.28	2.10	4.33	2.12	4.61	2.26	4.89	5.17	2.54	5.45

MECHANICAL CHARACTERISTICS

Model	WS-40	WS-45	WS-50	WS-50	WS-55	WS-60	WS-60	WS-65	WS-70	WS-74	WS-74	WS-75	WS-75	WS-80	WS-80	WS-85	WS-90	WS-90	WS-95
Length x Width x Thickness (LxWxT) - mm	485x 675x 35	630x 675x 35	630x 675x 35	630x 675x 35	630x 675x 35	630x 675x 35	630x 675x 35	700x 675x 35	830x 675x 35	900x 675x 35	900x 675x 35	900x 675x 35	900x 675x 35	920x 675x 35	920x 675x 35	920x 675x 35	920x 675x 35	920x 675x 35	1035x 675x 35
Mounting holes pitch (Y)-mm	245	310	310	310	310	310	310	360	410	450	450	450	450	450	450	450	450	450	450
Mounting holes pitch (X)-mm	633	633	633	633	633	633	633	633	633	633	633	633	633	633	633	633	633	633	633
Weight (kg)	4.8	5.15	5.15	5.15	5.15	6	6	6	6	6.95	7.95	7.95	7.95	8.3	8.3	8.3	9	9	10.15
Cells per module	For 12V - 36 Cells, For 24V - 72 Cells																		
Cell Type	Polycrystalline Silicon																		
Front Cover (Material/ Thickness)	Tempered & Low Iron Glass, 3.2 / 4.0 mm																		
Encapsulate	Ethylene Vinyl Acetate																		
Frame Material	Anodized Aluminium Alloy																		
Junction Box (Protection degree/ Material)	Ip65 rated/ Weatherproof PPO enclosure with bypass diodes																		
Connector	Optional																		
Cable	Optional																		
Fire Safety Class	C																		
Application Class	A																		
Safety Class	II																		

* Mentioned electrical data are reference values which was derived at STC condition - Temp: 25°, Irradiance: 1000w/m2 and Am: 1.5Am with cleaned modules

**Refer To Waaree's Warranty Document For Terms & Conditions
 *The Specifications Are For The References Purpse Only.
 Waaree Reserves The Right To Change The Specifications Without Prior Notice.