

# WS-40 to WS-90

ARKA SERIES

**WAAREE**<sup>®</sup>

One with the Sun



**Superior Module Efficiency as per International Benchmarks**



**Positive Power Tolerance 0-5Wp**  
Module binned by current



**PID Resistant with long term reliability**



**Glass with Anti Reflective Coating**  
Improves light transmission

**Salt mist, Ammonia and Hail Resistant**



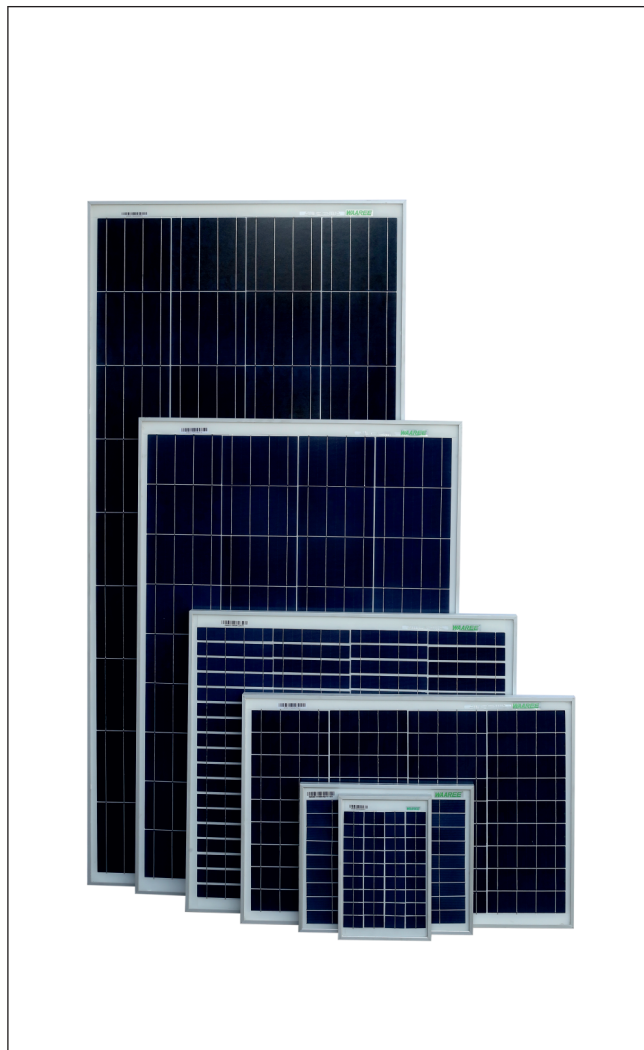
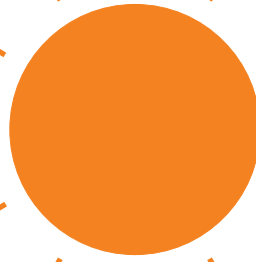
**Sustain Heavy Wind & Snow loads (2400 Pa & 5400 Pa)**



**IP 67 rated MC4 compatible connectors**



**Excellent Performance in low light**



## THERMAL CHARACTERISTICS

Temperature coefficient of Current/°C	0.0154
Temperature coefficient of Voltage/°C	-0.2775
Temperature coefficient of Power/°C	-0.3859
NOCT	46° ± 2°
Operating Temperature Range	-40° to 85°

## 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

IEC 62804 | UI1703 | ROHS Compliance | REACH Compliance | IS 14286

ISO 9001:2015 | ISO 14001:2015 | OHSAS 18001:2007 / ISO 45001:2018  
IEC 61215 | IEC 61730-1&2 | IEC 60068-2-68 | IEC 61701 | IEC 62716

[www.waaree.com](http://www.waaree.com)

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ELECTRICAL CHARACTERISTICS																			
Model	WS-40 / 12V	WS-45 / 12V	WS-50 / 24V	WS-50 / 12V	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	21.47	21.52	21.57	21.57	21.62	21.67	21.71	21.71	21.72	21.72	21.77	21.77	21.82	21.87	21.87	21.92
Short Circuit Current, Isc (A)*	2.50	2.80	3.11	3.11	3.41	3.71	3.71	4.01	4.31	4.54	4.54	4.60	4.60	4.90	4.90	5.19	5.49	5.49	5.78
Voltage at Maximum Power, Vmp (V)*	17.18	17.185	17.21	17.21	17.235	17.26	17.26	17.285	17.31	17.33	17.33	17.335	17.335	17.36	17.36	17.385	17.41	17.41	17.435
Current at Maximum Power, Imp (A)*	2.33	2.62	2.91	2.91	3.2	3.48	3.48	3.77	4.05	4.28	4.28	4.33	4.33	4.61	4.61	4.89	5.17	5.17	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	10	15	15	15	15	15	15	15	15	10	10	10	10
Limiting Reverse Current (A)	10																		
Rated Voltage (V dc)	17.18	17.19	17.21	17.21	17.24	17.26	17.26	17.29	17.31	17.33	17.33	17.34	17.34	17.36	17.36	17.39	17.41	17.41	17.44
Rated Current (A dc)	2.33	2.62	2.91	2.91	3.19	3.48	3.48	3.76	4.04	4.27	4.27	4.33	4.33	4.61	4.61	4.89	5.17	5.17	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	6	6	6	6	6	6	6	6	6
Cells per module (Units)/ Arrangement	36 / ( 9 x 4 )																		
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 installation Manual instructions & Waaree warranty statement for terms & conditions.  
Waaree Reserves The Right To Change The Specifications Without Prior Notice.

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