




WS-100 to WS-235 ARUN SERIES

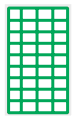


FEATURES

-  Superior Module Efficiency as per International Benchmarks
-  Positive Power Tolerance
-  IP 67 rated MC4 compatible connectors

APPLICATIONS

Telecommunication and Radio Relay Stations | Telemetry systems | Defence and Offshore Devices | Signage and Outdoor Media | Standalone Systems for Homes not connected to Grid | Power packs for Telemetry Stations | Billboard Lighting | Portable Mobile Phone Chargers | Street & Outdoor Lighting | Home & Indoor Lighting | Community Lighting | Solar Lanterns: LED, CFL | Standalone Power Packs | Railway Signaling | Surveillance Camera | Rural Electrification | Backup Power Systems & much more..



500 MW
Module
Manufacturing Capacity

- 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



Over 20 in house tests
(DH: Damp heat test
TC: Thermal cycling test
HF: Humidity freeze test)

INTERNATIONAL & NATIONAL CERTIFICATIONS



ISO 9001:2008 | ISO 14001:2004 | OHSAS 18001:2007
IEC 61215 | IEC 61730-1&2 | IEC 61701 | IEC 62716 | IEC 60068-2-68

Electrical Characteristics *

Model**	WS-170 / 24V	WS-175 / 24V	WS-180 / 24V	WS-185 / 24V	WS-190 / 24V	WS-195 / 24V	WS-200	WS-200 / 12V	WS-200 / 24V	WS-205
Nominal Maximum Power, P _m (W)*	170	175	180	185	190	195	200	200	200	205
Power tolerance	Positive tolerance only									
Open Circuit Voltage, Voc (V)*	44.38	44.40	44.43	44.45	44.48	44.50	33.00	22.97	44.53	33.10
Short Circuit Current, Isc (A)*	5.11	5.26	5.40	5.56	5.71	5.85	8.08	11.64	6.00	8.25
Voltage at Maximum Power, V _{mp} (V)*	35.95	35.98	36	36.03	36.05	36.08	27	17.97	36.1	27.1
Current at Maximum Power, I _{mp} (A)*	4.73	4.87	5	5.14	5.28	5.41	7.41	11.13	5.55	7.57
Maximum System Voltage (V)	1000									
Module Efficiency (%)*	14.61	15.04	12.20	12.54	12.88	13.22	13.56	13.56	13.56	13.90
Maximum Series Fuse Rating (A)	15	15	15	15	15	15	15	15	15	15
Limiting Reverse Current (A)	15	15	15	15	15	15	15	15	15	15

*Under Standard Test Conditions (STC) of 1000 W/m² irradiance, AM 1.5 spectrum and 25°C cell temperature.

Mechanical Characteristics

Model**	WS-170 / 24V	WS-175 / 24V	WS-180 / 24V	WS-185 / 24V	WS-190 / 24V	WS-195 / 24V	WS-200	WS-200 / 12V	WS-200 / 24V	WS-205
Length x Width x Thickness (L x W x T) - mm	1175 x 990 x 35	1175 x 990 x 35	1490 x 990 x 42	1490 x 990 x 42	1490 x 990 x 42	1490 x 990 x 42	1490 x 990 x 42	1490 x 990 x 42	1490 x 990 x 42	1490 x 990 x 42
Mounting Holes Pitch (Y) - mm	595.00	595	900	900	900	900	900	900	900	900
Mounting Holes Pitch (X) - mm	950	950	942	942	942	942	942	942	942	942
Weight (kg)	14.45	14.45	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5
Solar Cells per Module (Units) / Arrangement	72 / (12 x 6)	72 / (12 x 6)	72 / (12 x 6)	72 / (12 x 6)	72 / (12 x 6)	72 / (12 x 6)	54 / (9 x 6)	72 / (12 x 6)	72 / (12 x 6)	54 / (9 x 6)
Solar Cell Type	Poly crystalline Silicon									
Front Cover (Material / Thickness)	Tempered & Low Iron Glass / 3.2 mm									
Encapsulate	Ethylene Vinyl Acetate									
Frame Material	Anodized Aluminum Alloy									

Junction Box (Protection degree / Material) IP65 rated / Weatherproof PPO enclosure with bypass diodes

Connector Optional

Cable Optional

Fire safety class C

Safety application class A

Safety class II

** " / xxV" in Model indicates the voltage rating of applicable battery

Thermal Characteristics

Temperature coefficient of Current (I _{sc}), α (%/°C)	0.0681
Temperature coefficient of Voltage (V _{oc}), β (%/°C)	-0.2941
Temperature coefficient of Power (P _m), γ (%/°C)	-0.3845
NOCT (°C)	46 ± 2
Operating temperature range (°C)	-40 to 85