# RAPID N-MAX

M10 TOPCon Series

SMART MODULE



Powered By The Sun



## 560 ~ 585W

- TOPCon / Multi-busbar / Half-cut
- Non-desctructive cutting
- PID resistance
- Lower BOS cost & LCOE

## **HOW IT WORKS**

Spark Rapid 144 TOPCon M10 module Produces energy even if part of the module is shaded. Whereas if standard module is partially shaded minimum one string will completely stop producing power, this accounts to one third reduction in power generation. Moreover, it can even completely stop generating power if shaded across its breadth. Rapid 144 TOPCon M10 Series module is split into two parts. Each section of 72 half-cut cells generates power on standalone basis but combines again before current exits the module. This structure results in power generation in non-shaded area of the module even if one of the section is partially or completely shaded, resulting in higher overall energy yield as compared to standard module.

# The Ultimate Power

Performance | Durability | Reliability

#### **FEATURES**



## **Temperature Coefficient**

Even on hot days, Spark Solar modules produce reliable yields and lose less efficiency than standard solar modules.



## **Higher Performance**

Half-cell technology offer more power per square meter, resulting in higher yields at lower BOS cost.



## Low-light Behaviour

High yields with low radiation intensity



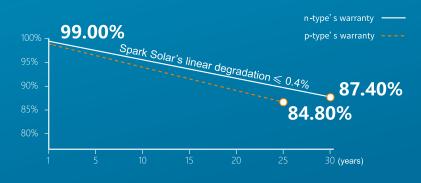
## Remarkable Performance

Remarkable performance in shaded condition



13-year Product Warranty

30-year Linear Power Warranty



www.sparksolar.in

## SS 144 TOPCon | M10 Series

upto 22.7%

**EFFICIENCY** 

YEAR PRODUCT WARRANTY

YEAR LINEAR POWER OUTPUT WARRANTY

#### **TEMPERATURE RATINGS\***

Nominal Module Operating Temperatur	re :	41.0°C (±2°C)
Temperature coefficient of P <sub>MPP</sub>	(Y)	-0.30 %/°C
Temperature coefficient of V <sub>oc</sub>	(β)	-0.24 %/°C
Temperature coefficient of I <sub>sc</sub>	(α)	0.04 %/°C

#### **GENERAL DATA**

Cell type	N-type TOPCon monocrystalline MBB cells
Cell matrix	144 [ 2 X (12 X 6)]
Junction box	3-part, 3 bypass diodes, IP 68 rated
Cable	4mm² solar cable, Portrait : N (-) 300 mm, P (+) 300 mm Landscape : ≥ 1300 mm / Customized
Frame	Silver anodized aluminum alloy
Glass	3.2 mm low iron solar glass with anti-reflection technology
Connectors	UTX / Multi-Contact MC4 (4 mm²)

#### **MAXIMUM RATINGS**

Operating temperature		-40 upto +85°C
(Permitted Module Temperature on Continu	ious Duty)	
Maximum system voltage		1500 V <sub>DC(IEC/UL)</sub>
Max series fuse rating		25 A
Max reverse current		25 A
Maximum test load (front)		5400 Pa (550 kg/m²)*
Maximum test load (rear)		2400 Pa (244 kg/m²)*
Application classification		Class A
Safety Class		
Fire Rating		C

See installation manual for mounting instructions Design load = Test load /1.5 (safety factor)

#### **MECHANICAL SPECIFICATION**

Dimensions	2277 x 1133 x 30 mn
Area	2.58 m
Weight	28 kg (61.73 lbs

## **PACKAGING INFORMATION**

20' 40'HC **Container Size** Pallets/Container 20 Quantity/Container: 185 740

\*Due to continuous innovation, research and product improvement the specifications in this product information sheet are subject to change without prior notice. Installation instructions must be followed. See the installation manual or contact technical service department for further information on approved installation. Atleast 99.00% of nominal power during first year. Thereafter max. degression in performance of 0.4% p.a. See warranty conditions for further details.

## 560 ~ 585W

POWER RANGE

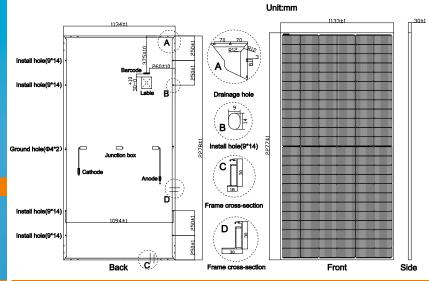
 $0 \sim + 5W$ POWER TOLERANCE

≤1.0%

FIRST YEAR POWER DEGRADETION

 $\leq 0.4\%$ 

YEAR 2-30 POWER DEGRADETION



<b>ELECTRICAL DATA</b>	@STC	Module code* : SSXXX144 TOPCon M10					
Nominal Power	- P <sub>MPP</sub> (Wp)	560	565	570	575	580	585
Power Tolerance	- (W)	0/+5	0/+5	0/+5	0/+5	0/+5	0/+5
Maximum Power Voltage	- V <sub>MPP</sub> (V)	41.77	41.92	42.07	42.22	42.37	42.52
Maximum Power Current	- I <sub>MPP</sub> (A)	13.41	13.48	13.55	13.62	13.69	13.76
Open Circuit Voltage	- V <sub>oc</sub> (V)	50.47	50.60	50.74	50.88	51.02	51.16
Short Circuit Current	- I <sub>sc</sub> (A)	14.15	14.23	14.31	14.39	14.47	14.55
Module Efficiency	- (%)	21.68	21.87	22.07	22.26	22.45	22.65

Values at standard test conditions STC (airmass AM 1.5, irradiance 1000 W/m², cell temperature 25°C). \*Where xxx indicates the nominal power class  $(P_{\mbox{\tiny MPP}})$  at STC indicated above.

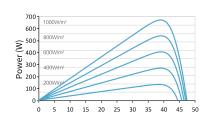
#### **ELECTRICAL DATA@NMOT**

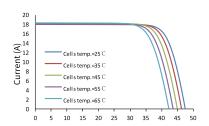
Nominal Power	- P <sub>MPP</sub> (Wp)	421.00	425.00	429.00	433.00	437.00	441.00
Power Tolerance	- (W)	0/+5	0/+5	0/+5	0/+5	0/+5	0/+5
Maximum Power Voltage	- V <sub>MPP</sub> (V)	39.25	39.38	39.51	39.64	39.77	39.90
Maximum Power Current	- I <sub>MPP</sub> (A)	10.73	10.79	10.85	10.91	10.97	11.03
Open Circuit Voltage	- V <sub>oc</sub> (V)	47.94	48.06	48.20	48.33	48.46	48.59
Short Circuit Current	- I <sub>sc</sub> (A)	11.42	11.49	11.55v	11.62	11.68	11.74

Nominal Module Operating Temperature NMOT (800 W/m², AM 1.5, windspeed 1 m/s, ambient temperature 20°C). Typical values, actual values may differ. \*Where xxx indicates the nominal power class (PMPP) at STC indicated above.

#### **Electrical Performance & Temperature Dependence**

#### **Current-Voltage & Power-Voltage Curves**





Power - Voltage

Current - Voltage

