

Preliminary

Simply highest-efficient module technology

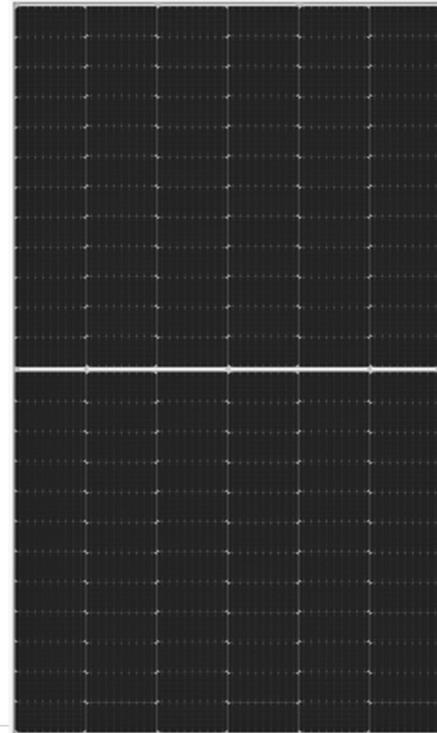
Topcon Solar Technology

Made in India

144 HC M10R GG Bifacial

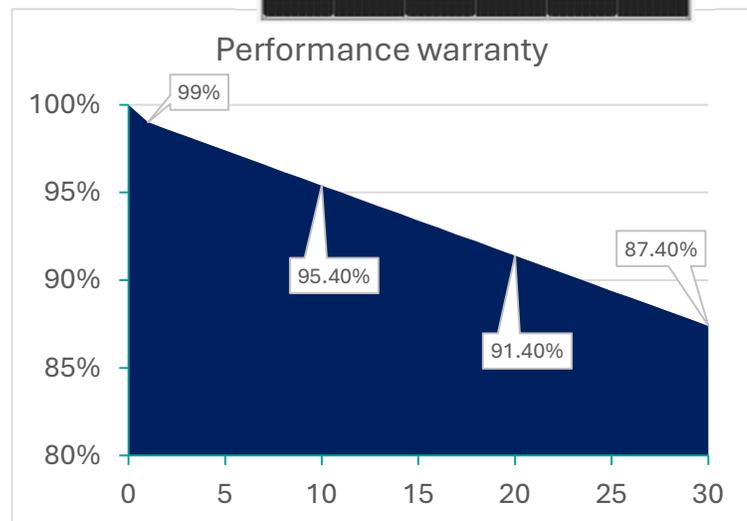
KEY FEATURES

- **High Power Output:** 580 W – 600 W power output
- **Superior Efficiency:** Module efficiency up to 23.20%
- **Advanced Technology:** Featuring TOPCon Solar cell technology
- **Bifacial Design:** Glass-to-glass module for increased energy
- **Positive Power Tolerance:** 0~+5W output tolerance
- **Long-term Reliability:** 30 years power output warranty >87.4%
- **Cost-Effective:** Lower Levelized Cost of Energy (LCOE)
- **Temperature Performance:** Excellent temperature coefficient for higher efficiency in various conditions
- **Manufactured in India:** Solar modules proudly made in India



PERFORMANCE WARRANTIES

- **Unmatched Warranty:** Offering an industry-leading product and performance warranty of 30 years and 12 years product warranty.
- **Quality Assurance:** This exceptional extension underscores a commitment to quality, supported by state-of-the-art manufacturing standards that ensure superior durability and performance. 100% EL inspection ensuring defect free modules.
- **Minimal Degradation:** Thanks to advanced n-type solar TOPCon cells with resistance to LID and LeTID, our solar modules boast an impressive first-year degradation rate of just 1% and an annual degradation rate of only 0.4% thereafter.



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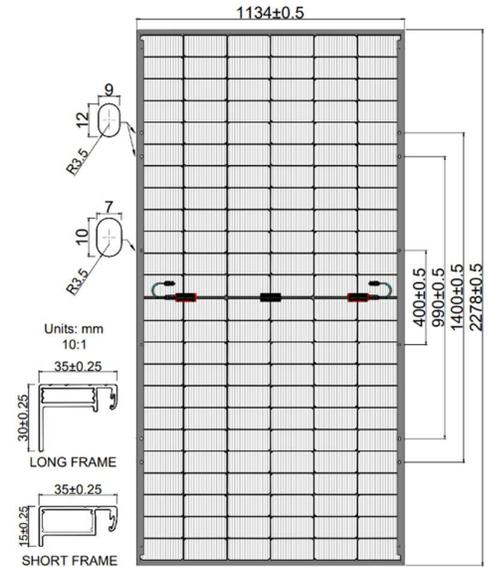
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Electrical properties: Front side @STC					
Peak power P _{mpp} (W)	580	585	590	595	600
V _{mpp} (V)	44.15	44.41	44.68	44.95	45.22
I _{mpp} (A)	13.14	13.17	13.20	13.24	13.27
V _{oc} (V)	51.79	51.95	52.12	52.28	52.44
I _{sc} (A)	14.00	14.01	14.01	14.01	14.02
Module efficiency (%)	22.5%	22.6%	22.8%	23.0%	23.2%

Bifacial Power Output						
Module Type		580	585	590	595	600
+10% (BNPI)	P _{mpp} (W)	638	644	649	655	660
+20%	P _{mpp} (W)	696	702	708	714	720
+30%	P _{mpp} (W)	754	761	767	774	780

STC: 1000 W/m², AM 1.5, Cell 25°C; BNPI: front 1000 W/m², rear 135 W/m²

Except P_{mpp}, all other parameters have tolerance of ± 3%. Measurement uncertainty <3%



Mechanical properties						
Cells	Cell type	Mono-crystalline, n-type TOPCon		Mounting	Mounting holes	8pcs, 9mm diameter and 12mm long
	Amount	144 half cells			Position	700mm, and 495mm from center
Module mechanical data	Dimension	2278 mm x 1134 mm x 35 mm		Junction box	Design	3-split, IP68
	Front and rear cover	2 mm heat-strengthened glass			Cable	4.00 mm ² , 300 mm can be customized
	Encapsulant	EPE /EVA			Connector	MC4/MC4 compatible
	Weight	32 kg			Rated current	30 A

System properties	
Operating temperature	-40 to +80°C
Maximum system voltage	1500 V DC (IEC)
Maximum series fuse rating	30 A
Power tolerance	0 to +5W
Fire rating (IEC 61730)	Class C
Appliance class (IEC 61140)	II
Maximum mechanical load (static)	-2400 Pa / +5400 Pa

Temperature coefficient	
Temp. coefficient of P _{max}	-0.30%/K
Temp. coefficient of V _{oc} (V)	-0.25 %/K
Temp. coefficient of I _{sc} (A)	0.045 %/K
Nominal operating cell temperature (NOCT)	45 ± 2 °C

QUALIFICATIONS AND CERTIFICATIONS *

- IEC 61215 / IEC 61730
- IS 14286 / IS 61730
- ISO 14001
- ISO 9001
- ISO 45001



*Certifications is in process

PACKAGING CONFIGURATION

- Module per pallet: 31 pieces,
- Module per 40'HQ container: 20 pallets, 620

RPSG reserves the right to modify the specifications and features outlined in this datasheet at any time without prior notice.