

Monocrystalline 120 cells

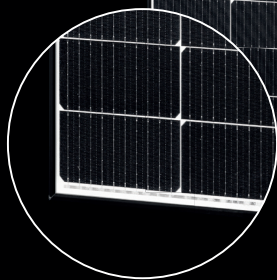
# MARS TOPCON



**N-TYPE M10 182**  
multibusbar



3.2 mm anti-reflective glass



BLACK | WHITE



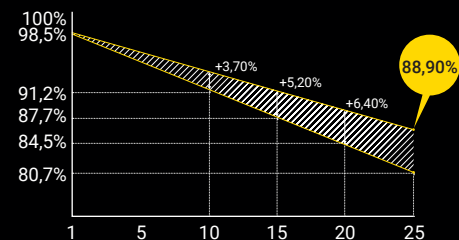
Maximum stability through  
aluminium soft grip frame



Maximum 5400 Pa snow load



15 years manufacturer's warranty  
25 years linear performance guarantee



## OUTPUT: 470 - 480 WATT

The MARS range with 120 monocrystalline TOPCON M10 half cells with multibusbar technology is the latest range of high-performance modules. Halfcut cells are split in two halves to improve the performance and they are arranged in two parallel strings for a better management of shading. Featuring a 35 mm black anodized aluminium frame, MARS series can combine visual attractiveness to conversion efficiency over 22 %.



power for a better world

STC	A-HCM470/120-TC/M10	A-HCM480/120-TC/M10
Maximum Power (Pmax) (W)	470	480
Open Circuit Voltage (Voc) (V)	42.38	42.71
Short Circuit Current (Isc) (A)	14.15	14.31
Voltage at Maximum Power (Vmpp) (V)	35.05	35.38
Current at Maximum Power (Impp) (A)	13.41	13.57
Module Efficiency (%)	21.70	22.17

STC (Standard Testing Condition): Irradiance 1000 W/m<sup>2</sup>, Cell Temperature 25 °C, Spectra at AM 1.5; Test uncertainty tolerance for Pmax, Voc and Isc: ±3 %

Electrical Parameters at NOCT	A-HCM470/120-TC/M10	A-HCM480/120-TC/M10
Maximum Power (Pmax) (W)	353	361
Open Circuit Voltage (Voc) (V)	40.25	40.57
Short Circuit Current (Isc) (A)	11.42	11.55
Voltage at Maximum Power (Vmpp) (V)	32.94	33.27
Current at Maximum Power (Impp) (A)	10.37	10.85

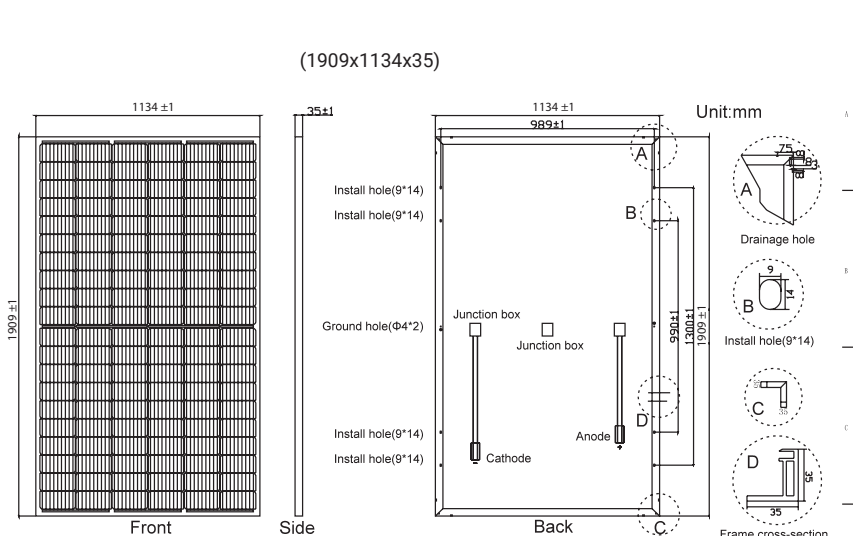
NOCT (Nominal Operating Cell Temperature): Irradiance 800 W/m<sup>2</sup>, Ambient Temperature 20 °C, Spectra at AM 1.5, Wind at 1 m/s

Temperature Characteristics	
Pmax Temperature Coefficients (W / °C)	-0.30 % / °C
Voc Temperature Coefficients (V / °C)	-0.25 % / °C
Isc Temperature Coefficients (A / °C)	+0.046 % / °C
NMOT Nominal Operating Cell Temperature (°C)	45 ±2 °C

Operating Conditions	
Operating Module Temperature	-40 °C ~ +85 °C
Maximum System Voltage	1500 V
Maximum Series Fuse Rating	25 A
Nominal Front Load	5400 Pa
Nominal Rear Load	2400 Pa
Class of Protection	II

Specifications	
Cell Type	Mono M10 182   N-Type – multibusbar
Weight	24.5 kg ±3 %
Dimensions	1909x1134x35 mm (±0.7 %)
Cable Cross Section Size	4 mm <sup>2</sup> , cable approx 130 cm, QC4 compatible
No. of cells	120 (6x20)
Junction Box	IP67, 3 diodes
Frame	Black anodized aluminium
Front glass	3.2 mm high transmission, low iron, tempered glass

Packing Details	
Container Type	40'HC
No. of Pallets	24
Pieces per Pallet	31
Total quantity of modules	744



A-HCM470/120-TC/M10

