

MEP610-T144-GG



N-Type TOPCon-144cell-M10+ Dual Glass

0~+5W

Positive Power Tolerance

23.6 %

Maximum Efficiency

585-610W

10-30% Additional Power Generation

30 years lifespan brings 10-30% additional power generation

Zero LID

N-type solar cell has no LID naturally which can increase power generation

Lower LCOE

Up to 25% more power generation in bifacial type (depending on Albedo)

Better Weak Light Performance

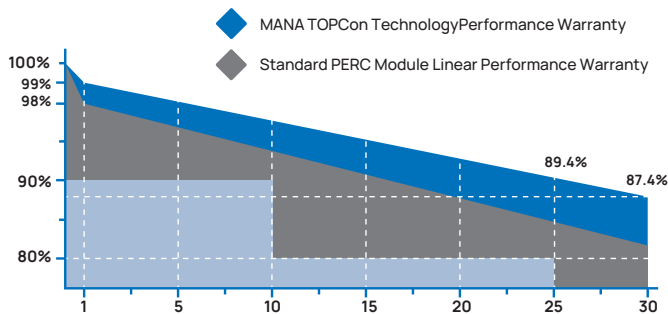
Higher power output even under low-light environment like on cloudy or foggy days

Lower Temperature Coefficient

Better performance of the solar panel in higher temperature environment or hot days

More Weather Resistance

Resistant to harsh environment such as salt, ammonia, sand, high temperature and high humidity



Mana Energy's Certificates

TUV Certificate IEC 61215: 2021
 TUV Certificate IEC 61730: 2016
 TUV Certificate IEC 61730: 2023
 CE Certification (EN 61730:2018)
 UKCA Certification (EN 61730:2018)
 CEBEC Certification (IEC 61215: 2021 / IEC 61730: 2023)
 ISO 9001:2015: Quality management system
 ISO 14001:2015: Environmental management system
 ISO 45001:2018: Occupational health and safety management system



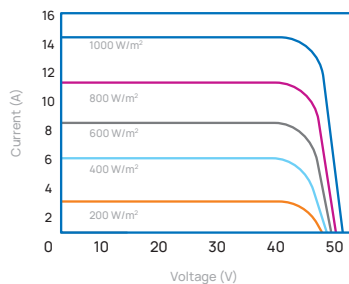
30
YEARS

Performance
Warranty

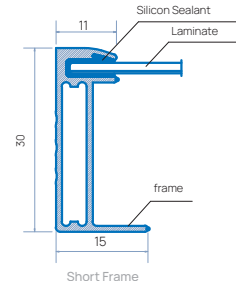
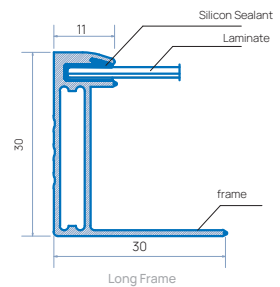
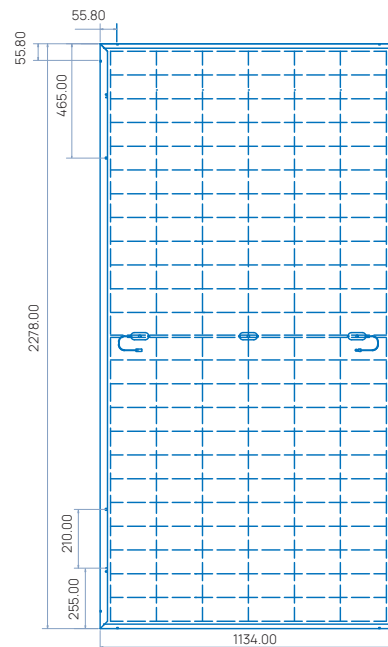
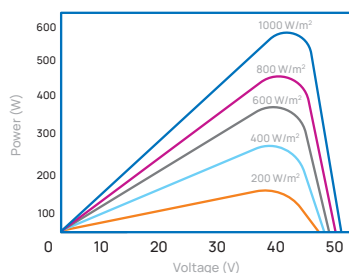
12
YEARS

Product
Warranty

Current-Voltage Curve 610W



Power-Voltage Curve 610W



Caution

To operate, install and manage Mana Energy Modules, read the installation manual and use carefully.

Observation

This datasheet is subject to change without notice due to continuous improvement of our products. You can find all records of the updates on our website www.manaenergypak.com or by contacting one of our sales staff. Allrights reserved @Mana Energy.



MEP610-T144-GG

Electrical Specification (STC) - Front Side			STC: AM1.5 1000W/m ² 25°C [Test Uncertainty: ±3%]					
Model			MEP 610-T144-GG 585	MEP 610-T144-GG 590	MEP 610-T144-GG 595	MEP 610-T144-GG 600	MEP 610-T144-GG 605	MEP 610-T144-GG 610
Max Power	Pmp	[W]	585	590	595	600	605	610
Max Power Voltage	Vmp	[V]	45.41	45.60	45.81	46.10	46.28	46.52
Max Power Current	Imp	[A]	12.92	12.98	13.02	13.06	13.11	13.16
Open Circuit Voltage	Voc	[V]	53.02	53.23	53.48	53.77	53.95	54.22
Short Circuit Current	Isc	[A]	13.57	13.63	13.69	13.75	13.81	13.87
Efficiency		[%]	22.6	22.8	23.0	23.2	23.4	23.6

Electrical Specification (NMOT) - Front Side			NMOT: 800W/m ² 20°C Wind: 1m/s [Test Uncertainty: ±3%]					
Max Power	Pmp	[W]	442	446	450	454	458	462
Max Power Voltage	Vmp	[V]	42.34	42.74	42.71	42.98	43.15	43.38
Max Power Current	Imp	[A]	10.45	10.50	10.54	10.57	10.62	10.56
Open Circuit Voltage	Voc	[V]	50.36	50.56	50.80	51.08	51.25	51.50
Short Circuit Current	Isc	[A]	10.95	11.01	11.07	11.13	11.19	11.25

Bifaciality Power Generation Gain (Regarding 610W as an example)								
Power Gain		[%]	0	5	10	15	20	25
Max Power	Pmp	[W]	610	640	671	701	732	762
Max Power Voltage	Vmp	[V]	46.52	46.58	46.64	46.70	46.76	46.82
Max Power Current	Imp	[A]	13.16	13.74	14.39	15.01	15.66	16.28
Open Circuit Voltage	Voc	[V]	54.22	54.26	54.30	54.34	54.38	54.42
Short Circuit Current	Isc	[A]	13.87	14.52	15.17	15.82	16.47	17.12

Mechanical Data	
Solar Cell	N-Type 182mm × 91mm - [12 × 12]
Module Dimension	2278×1134×30 mm
Weight	32.5 kg
Front Cover	Glass - 2mm Semi Tempered AR coated
Back Cover	Glass - 2mm Semi Tempered
Frame	Silver - Anodized Aluminium Alloy
Junction Box	IP68 Rated - 3 Bypass Diodes
Cable	4mm ² - 300mm

Temperature Ratings				
Temperature Coefficient	Isc	α	[%/°C]	+0.046
Temperature Coefficient	Voc	β	[%/°C]	-0.25
Temperature Coefficient	Pmax	γ	[%/°C]	-0.30
Nominal Module Operating Temperature	NMOT		[°C]	43±2

Operating Properties	
Max System Voltage	1500V
Max System Fuse Rating	30 A
Operational Temperature	-40 to +85 °C
Bifaciality Tolerance	±5%
Bifaciality = Pmaxrear/Pmaxfront (STC)	80%

Packaging Information	
# Module Per Pallet	35
# Pallet per 45' HC Container	22
# Pallet per 40' HC Container	20
# PCs per Container 40' HC	700
Pallet Weight (kg)	1145