



N-Type TOPCon

Helios Series

EXX-M108HC

Up to **23.0%** efficiency

415 W – 450 W



Product
Warranty



Performance
Warranty

AVAILABLE POWER CLASSES

415 W EXX-415	420 W EXX-420	425 W EXX-425	430 W EXX-430
435 W EXX-435	440 W EXX-440	445 W EXX-445	450 W EXX-450



Key Features

16-Busbar N-Type TOPCon

M10 (182 mm) half-cut cells, 16BB, low series resistance and reduced cell-level losses.

Better Temperature Behaviour

Pmax temperature coefficient $-0.29\%/^{\circ}\text{C}$ - higher yield in Greek summer conditions.

High Power Density

Up to 23.0% module efficiency from a standard 1722 x 1134 mm footprint.

Made in Greece

Manufactured and 100% flash-tested on EXXOLAR's own production line.

Low Degradation

First year $\leq 1.0\%$, then $\leq 0.4\%$ per year; 87.4% guaranteed output at year 30.

Quality & Compliance

IEC 61215 / IEC 61730 · CE · ISO 9001:2015

www.exxolar.gr

EXXOLAR M.E.P.E. · info@exxolar.gr

450 W

MAXIMUM OUTPUT

23.0%

MODULE EFFICIENCY

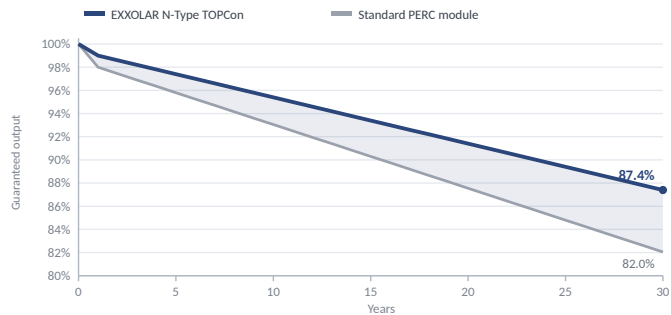
≤1.0%

FIRST-YEAR DEGRADATION

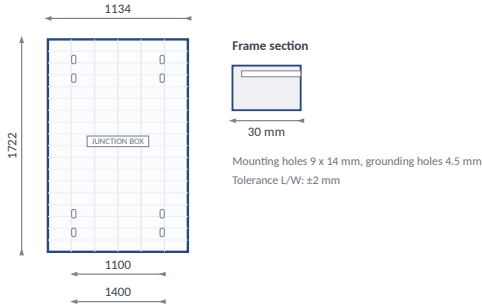
≤0.40%

ANNUAL DEGRADATION, YEAR 2–30

30-Year Linear Performance Warranty



Mechanical Drawing (unit: mm · tolerance ±2 mm)



Electrical Characteristics

STC — AM1.5, 1000 W/m², cell temperature 25 °C

Model	EXX-415	EXX-420	EXX-425	EXX-430	EXX-435	EXX-440	EXX-445	EXX-450
Maximum Power P_{max} [W]	415	420	425	430	435	440	445	450
Open Circuit Voltage V_{oc} [V]	38.49	38.55	38.62	38.69	38.75	38.82	38.88	38.95
Voltage at P_{max} V_{mp} [V]	32.17	32.28	32.38	32.49	32.59	32.70	32.80	32.90
Short Circuit Current I_{sc} [A]	13.62	13.72	13.81	13.91	14.01	14.10	14.20	14.29
Current at P_{max} I_{mp} [A]	12.90	13.01	13.12	13.24	13.35	13.46	13.57	13.68
Module Efficiency	21.25%	21.51%	21.76%	22.02%	22.28%	22.53%	22.79%	23.05%

NMOT — AM1.5, 800 W/m², ambient 20 °C, wind 1 m/s

Model	EXX-415	EXX-420	EXX-425	EXX-430	EXX-435	EXX-440	EXX-445	EXX-450
Maximum Power P_{max} [W]	312.7	316.5	320.3	324.0	327.8	331.6	335.4	339.1
Open Circuit Voltage V_{oc} [V]	36.24	36.29	36.36	36.43	36.48	36.55	36.61	36.67
Voltage at P_{max} V_{mp} [V]	30.23	30.34	30.43	30.54	30.63	30.73	30.83	30.92
Short Circuit Current I_{sc} [A]	10.99	11.07	11.15	11.23	11.31	11.38	11.46	11.53
Current at P_{max} I_{mp} [A]	10.35	10.43	10.52	10.61	10.70	10.79	10.88	10.97

NMOT values are derived from the STC data using the temperature coefficients listed below. Full model designation: EXX-xxx-M108HC.

Mechanical Specification	
Cell Type	N-Type TOPCon, M10 (182 mm) half-cut, 16 busbar
No. of Cells	108 (2 x 54 in series)
Front Cover	3.2 mm high-transmission AR-coated tempered glass
Encapsulant	EVA / POE
Back Cover	Composite backsheet
Frame	Anodized aluminium alloy, 30 mm
Junction Box	IP68, 3 bypass diodes
Connector	MC4-compatible, IP68
Cable	4 mm², 1200 mm or customized length
Weight	21.5 kg ± 3%
Dimensions	1722 x 1134 x 30 mm
Packaging	36 pcs per pallet / 936 pcs per 40' HQ

Temperature Ratings	
Temperature Coefficient of I_{sc}	+0.045 %/°C
Temperature Coefficient of V_{oc}	-0.25 %/°C
Temperature Coefficient of P_{max}	-0.29 %/°C
NMOT	45 ± 2 °C

Installation Guide	
Operating Temperature	-40 °C to +85 °C
Maximum System Voltage	DC 1500 V
Maximum Series Fuse Rating	25 A
Protection Class	Class II
Voc and Isc Tolerance	± 3%
Maximum Static Loading	Front 5400 Pa / Back 2400 Pa
Hail Test	25 mm diameter hail at 23 m/s
Fire Rating	Class C
Application Class	Class A