



Helius energy

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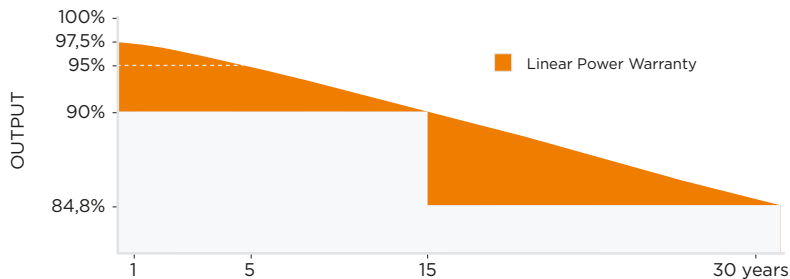
HELIUS ASTER HMF108M10

30-year linear power output warranty



Premium Monocrystalline Cells
MBB Half Cell Technology

Superior Warranty



INMETRO, IEC 61215, IEC 61730, IEC TS 62804, IEC 61701
ISO 9001:2008 - ISO 14001:2004 - OSHAS 18001:2007



Superior Quality

With MBB technology and half cell design, Helius Energy panels reduce the cover of cell by busbars and improve current collection ability on cloudy days.



High Efficiency and Power Density

High conversion efficiency and up to 425W on 1,95m² (21,67%). More gain power per square meter.



Performance Warranty

With up to 30 years of solar generation, Helius Energy warranty can guarantee the longevity of your project.



Light and Reliable

Much lighter modules with thicker frames to ensure module resilience. Modules could be applied under ammonia, salt mist, high temperature, high humidity condition.



Fire-Proof Performance

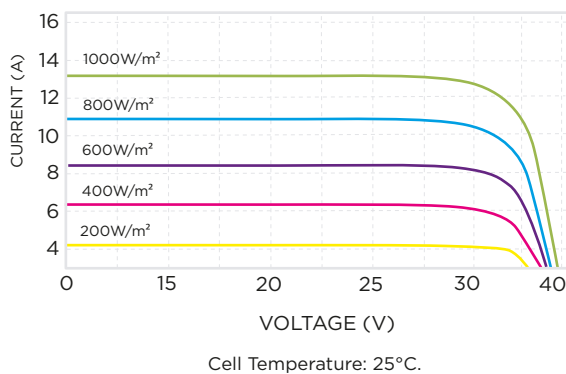
Modules are approved and tested under IEC 61730 and Class C Fire Test.

Mechanical Characteristics

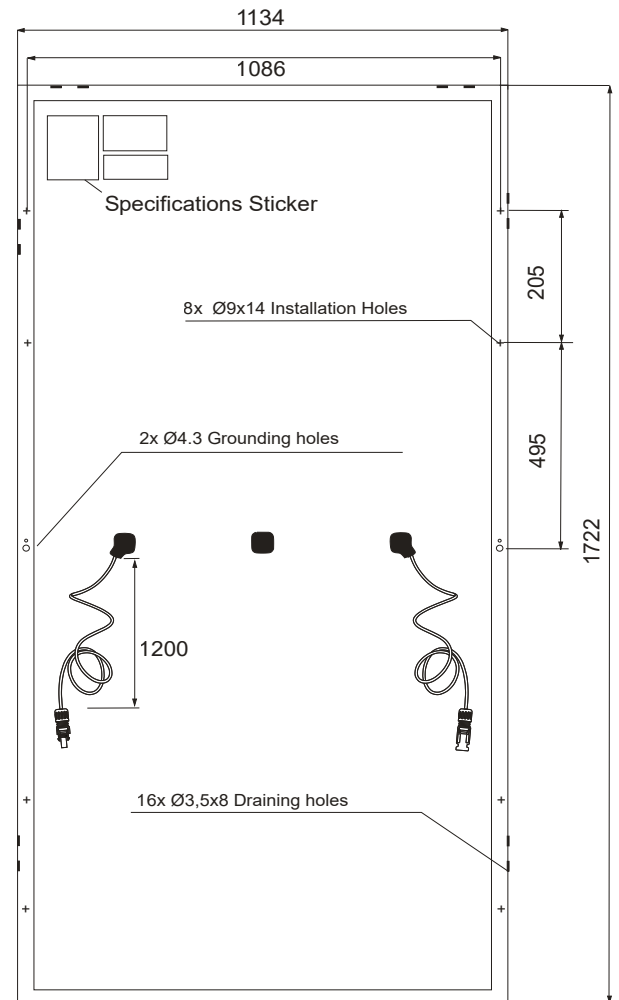
Dimensions	1722 x 1134 x 30mm
Solar Cells	108 Monocrystalline Cells
Weight	21,5 kg
Frame	Anodized Aluminium Alloy
Frontal Glass	2mm High Transmission, Low Iron Tempered
J-Box	IP68 / 3 bypass diodes
Cables	4mm ² / length 1200mm

Temperature Characteristics

Temperature Coefficient I _{sc}	0,045% / °C
Temperature Coefficient V _{oc}	-0,275% / °C
Temperature Coefficient P _{max}	-0,34% / °C
Nominal Module Operating Temperature NMOT	45°C + -2°C
Operational Temperature	-40°C a +85°C



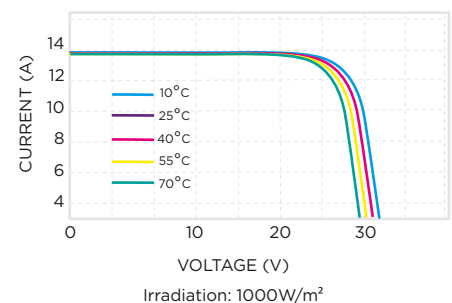
Technical Dimensions (mm)



Electrical Characteristics

HMF108M10	410HL	415HL	420HL	425HL
Maximum Power P _{Max} (W)	410	415	420	425
Maximum Power Voltage V _{mp} (V)	31,44	31,66	31,89	32,10
Maximum Power Current I _{mp} (A)	13,04	13,11	13,18	13,24
Open Circuit Voltage V _{oc} (V)	37,35	37,50	37,64	37,77
Short Circuit Current I _{sc} (A)	13,93	14,00	14,08	14,17
Module Efficiency	21,0%	21,3%	21,48%	21,67%
Maximum System Voltage	1500VCC			

Test Conditions: 1000W/m², 25°C, AM =1,5



Packaging Configuration

Modules per Container 40HQ	936 pcs
Pallets per Container 40HQ	26
Modules per Pallet	36
Pallet Dimensions	1750 x 1623 x 1190mm
Gross Weight per Pallet (kg)	794

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