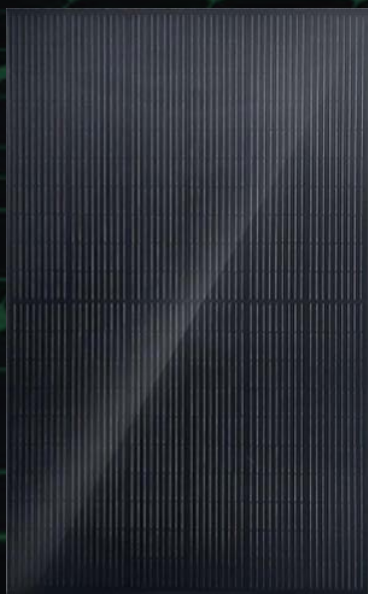




WATTROM
BE FOTOVOLTAIC



WATTROMH54-M10 | 182mm Half Cell Series

390-415W BLACK

108-CELL HALF CUT MONOCRYSTALLINE SOLAR MODULE

21.0%

Module Efficiency

415W

Highest Power Output

12 YEARS

Material & Workmanship Warranty

25 YEARS

Linear Power Warranty

-2.00% First year power degradation

-0.55% Annual degradation

PRODUCT ADVANTAGES



10BB half-cut cell technology

New circuit design, lower internal current, lower Rs loss Ga doped wafer, attenuation < 2% (1st year) / ≤ 0.55% (Linear)



Significantly lower the risk of hot spot

Special circuit design with much lower hot spot temperature



Lower LCOE

2% more power generation, lower LCOE



Excellent Anti-PID performance

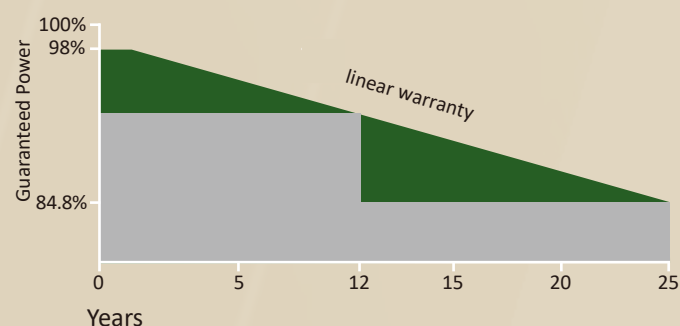
2 times of industry standard Anti-PID test by TUV SUD



Ip68 junction box

High waterproof level

PERFORMANCE WARRANTY



PRODUCT CERTIFICATION



Wattrom (TRITECH GROUP SRL)

Strada Poporului nr. 27
90604 Constanta
ROMANIA

www.wattrom.com (www.tritech.ro)

ELECTRICAL PARAMETERS

Maximum Power (Pmax/W)*	395	400	405	410	415
Operating Voltage (Vmp/V)	31.0	31.2	31.4	31.6	31.8
Operating Current (Imp/A)	12.76	12.83	12.91	12.98	13.05
Open-Circuit Voltage (Voc/V)	36.9	37.1	37.3	37.5	37.7
Short-Circuit Current (Isc/A)	13.66	13.73	13.81	13.88	13.95
Module Efficiency η_m (%)	20.2	20.5	20.7	21.0	21.3
Power Tolerance (W)	0~+5				

STC: Irradiance 1000W/m², module temperature 25°C, AM=1.5; *Measuring tolerance: ±3%

PERFORMANCE AT NMOT

Maximum Power (Pmax/W)	298	302	306	309	313
Operating Voltage (Vmp/V)	28.6	28.8	29.0	29.2	29.4
Operating Current (Imp/A)	10.44	10.50	10.56	10.62	10.68
Open-Circuit Voltage (Voc/V)	34.6	34.8	35.0	35.2	35.4
Short-Circuit Current (Isc/A)	10.98	11.04	11.10	11.16	11.22

NMOT: Irradiance 800W/m², ambient temperature 20°C, AM=1.5, wind speed 1m/s

MECHANICAL SPECIFICATION

Cell Type	Monocrystalline
Cell Dimensions	182*182 mm
Cell Arrangement	108 (6*18)
Weight	22 kg
Module Dimensions	1724*1134*30 mm
Cable Length	1200 mm or customized length
Cable Cross Section Size	TÜV: 4 mm ²
Front Glass	3.2 mm AR Coating Tempered Glass
No. of Bypass Diodes	3/6
Packing Configuration	31 pcs/Carton, 806 pcs/40HQ
Frame	Anodized Aluminium Alloy
Junction Box	IP68

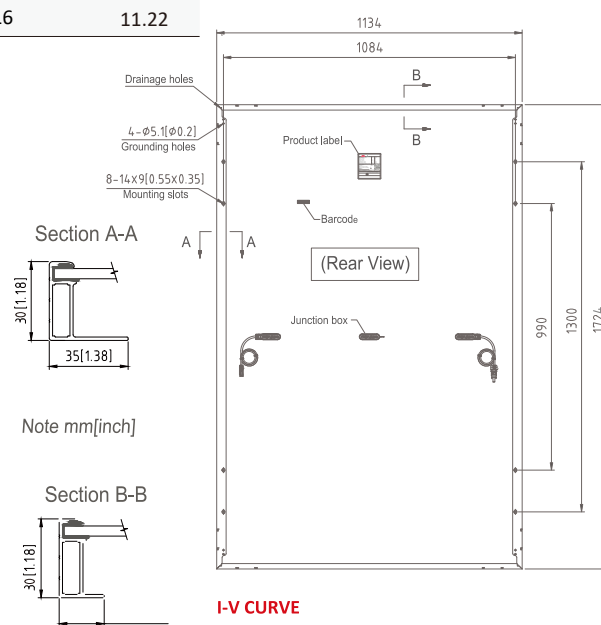
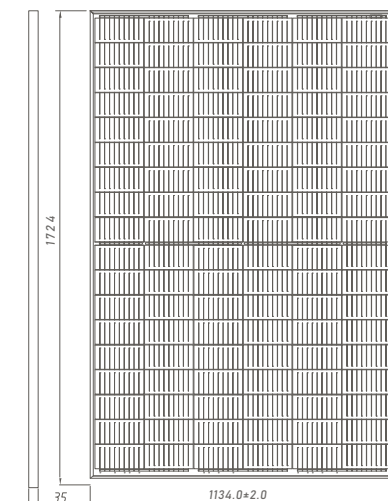
OPERATING CONDITIONS

Maximum System Voltage	1500V/DC(IEC)
Operating Temperature	-40°C to +85°C
Maximum Series Fuse	25A
Static Loading	Snow Loading: 5400Pa / Wind Loading: 2400Pa
Conductivity at Ground	≤0.1Ω
Safety Class	II
Resistance	≥100MΩ
Connector	MC4 compatible

TEMPERATURE COEFFICIENT

Temperature Coefficient Pmax	-0.34%/°C
Temperature Coefficient Voc	-0.25%/°C
Temperature Coefficient Isc	+0.040%/°C
NMOT	42±2°C

TECHNICAL DRAWINGS



I-V CURVE

Current-Voltage & Power-Voltage Curve (410)

