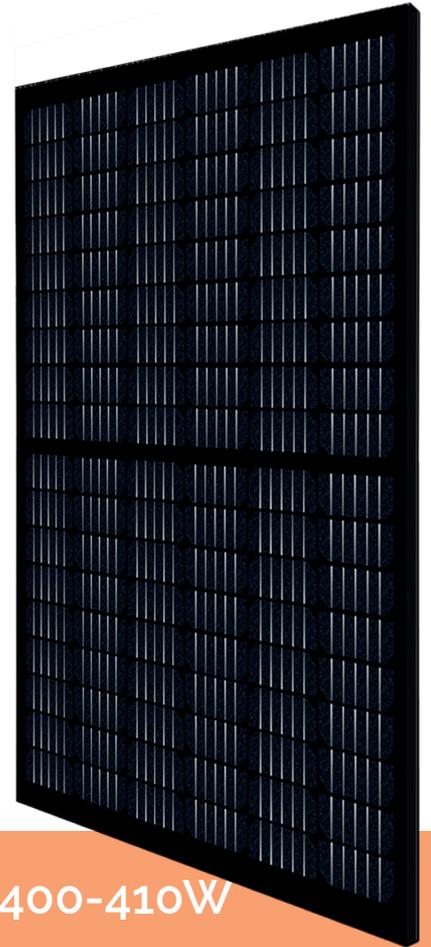




**ESCELCO** operates from its photovoltaic cells and modules factory in Bembibre, León. Through the vertical integration of the production process and the quality control of all its products, Escelco provides security, guarantees and service throughout Spain.

**25 YEARS PERFORMANCE WARRANTY**  
**12 YEARS PRODUCT WARRANTY**



## HALF CELL MONOCRYSTALLINE MODULE 400-410W

108 cells | Black/Black



Free PID



100% electroluminescence test



Module efficiency over 21,17%



ISO Certification  
9001:2015 y 14001:2015



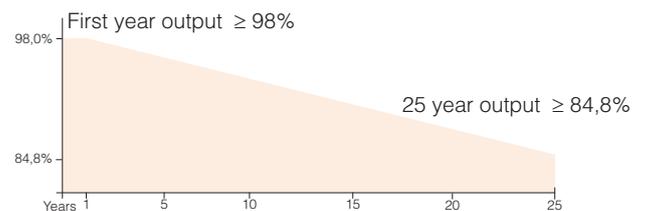
EN 61215-2:2017 / EN  
IEC 61730-2:2018/  
AC:2018-06

### QUALITY

- 2,8mm Arc tempered glass
- Half-cut technology: avoids hot-spot effect and degradation
- High performance under low light conditions (cloudy days, mornings and evenings)
- Back load (wind) 2.400 Pa / Frontal load (snow) 5.400 Pa

### LINEAR PERFORMANCE WARRANTY

- Higher performance over 84,8% at 25 years





## ELECTRIC DATA

Reference	ESM405-54H-M10-S	ESM410-54H-M10-S	ESM415-54H-M10-S
Nominal power, P <sub>mpp</sub>	405W	410W	415W
Tolerance, P <sub>mpp</sub>	0/+3%	0/+3%	0/+3%
Module efficiency	20,91%	21,17%	21,43%
I <sub>sc</sub> (A)	13,68	13,77	14,13
V <sub>oc</sub> (V)	37,33	37,45	37,45
I <sub>mpp</sub> (A)	13,28	13,37	13,29
V <sub>mpp</sub> (V)	30,52	30,69	31,27
Maximum voltage	1.000-1500 V	1.000-1500 V	1.000-1500 V
Reverse-current power rating	25A	25A	25A
α I <sub>sc</sub>	0,0448%/°C	0,0448%/°C	0,0448%/°C
β V <sub>oc</sub>	-0,246%/°C	-0,246%/°C	-0,246%/°C
γ P <sub>max</sub>	-0,33%/°C	-0,33%/°C	-0,33%/°C
Temperature range	-40°C a +85°C	-40°C a +85°C	-40°C a +85°C
NMOT	45°C ± 2°C	45°C ± 2°C	45°C ± 2°C

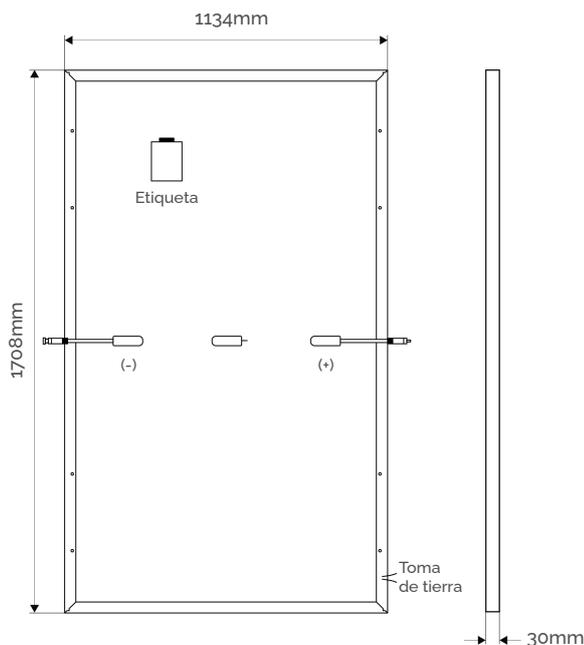
## TECHNICAL FEATURES

- Cell arrangement: 108 [2x (6x9)]
- Weight: 21,5Kg
- Dimensions: 1708X1134X30mm ±1%
- Packaging: 864 pcs-truck
- 36 units per pallet
- Pallet Weight: 774 Kg

## CONNECTION BOX

- Sealed, robust and wide for heat dissipation
- IP67/IP68 according to IEC 60529
- 3 diodes by-pass
- MC4-Type connectors, quick and easy connection
- Cables 1,20m (±0,1m) length and 4mm<sup>2</sup> section

## DIMENSIONS



## FRAME

- Black / anodized aluminium 0,015 mm
- Backsheet / Black
- Robust and resistant to corrosion
- Mounting bore holes
- Built-in plug

## YIELD CURVE

