



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
10 YEARS PRODUCT WARRANTY



HALF CELL MONOCRYSTALLINE MODULE 450-460W

144 cells | Silver/White



Free PID



100% electroluminescence test



Module efficiency over 16,6%



ISO Certification
9001:2015 y 14001:2015



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



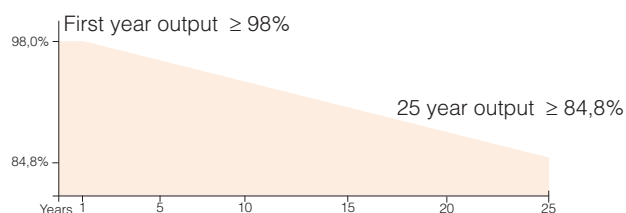
Factory Inspection
Certificate

QUALITY

- 3,2mm 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	ESM450-72H-M6-S	ESM455-72H-M6-S	ESM460-72H-M6-S
Nominal power, P _{mp}	450W	455W	460W
Tolerance, P _{mp}	0/+3%	0/+3%	0/+3%
Module efficiency	20,70%	20,93%	21,16%
I _{sc} (A)	11,43	11,51	11,59
V _{oc} (V)	50,27	50,42	50,57
I _{mp} (A)	11,01	11,10	11,18
V _{mp} (V)	40,91	41,04	41,17
Maximum voltage	1500 V	1500 V	1500 V
Reverse-current power rating	25A	25A	25A
α I _{sc}	0,038%/°C	0,038%/°C	0,038%/°C
β V _{oc}	-0,27%/°C	-0,27%/°C	-0,27%/°C
γ P _{max}	-0,3650%/°C	-0,3650%/°C	-0,3650%/°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

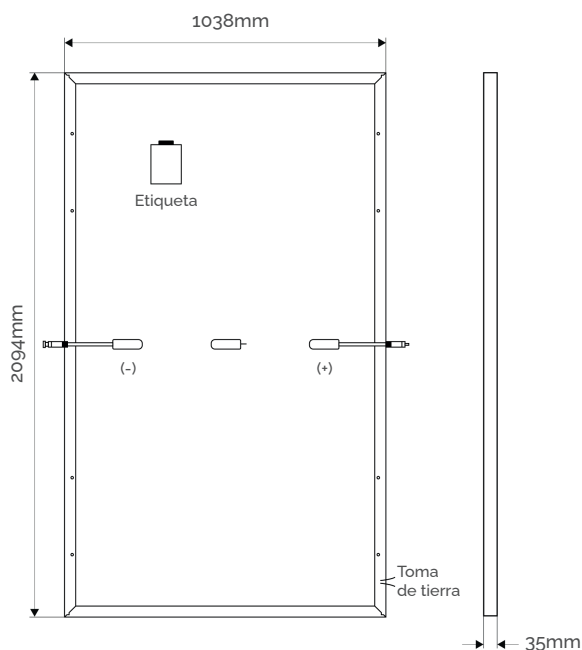
TECHNICAL FEATURES

- Cell arrangement: 144 [2x(06x12)]
- Weight: 24,3Kg
- Dimensions: 2094x1038x35mm ±1%
- Packaging: 682 pcs-truck
- 31 units per pallet
- Pallet Weight: 753,3Kg

CONNECTION BOX

- Sealed, robust and wide for heat dissipation
- IP67/IP68 according to IEC 60529
- 3 diodes by-pass
- MC4 connectors or MC4-Type connectors, quick and easy connection
- Cables 1,00m (±0,1m) length and 4mm² section

DIMENSIONS



FRAME

- Silver / anodized aluminium 0,015 mm
- Backsheet White
- Robust and resistant to corrosion
- Mounting bore holes: on request
- Built-in plug

YIELD CURVE

