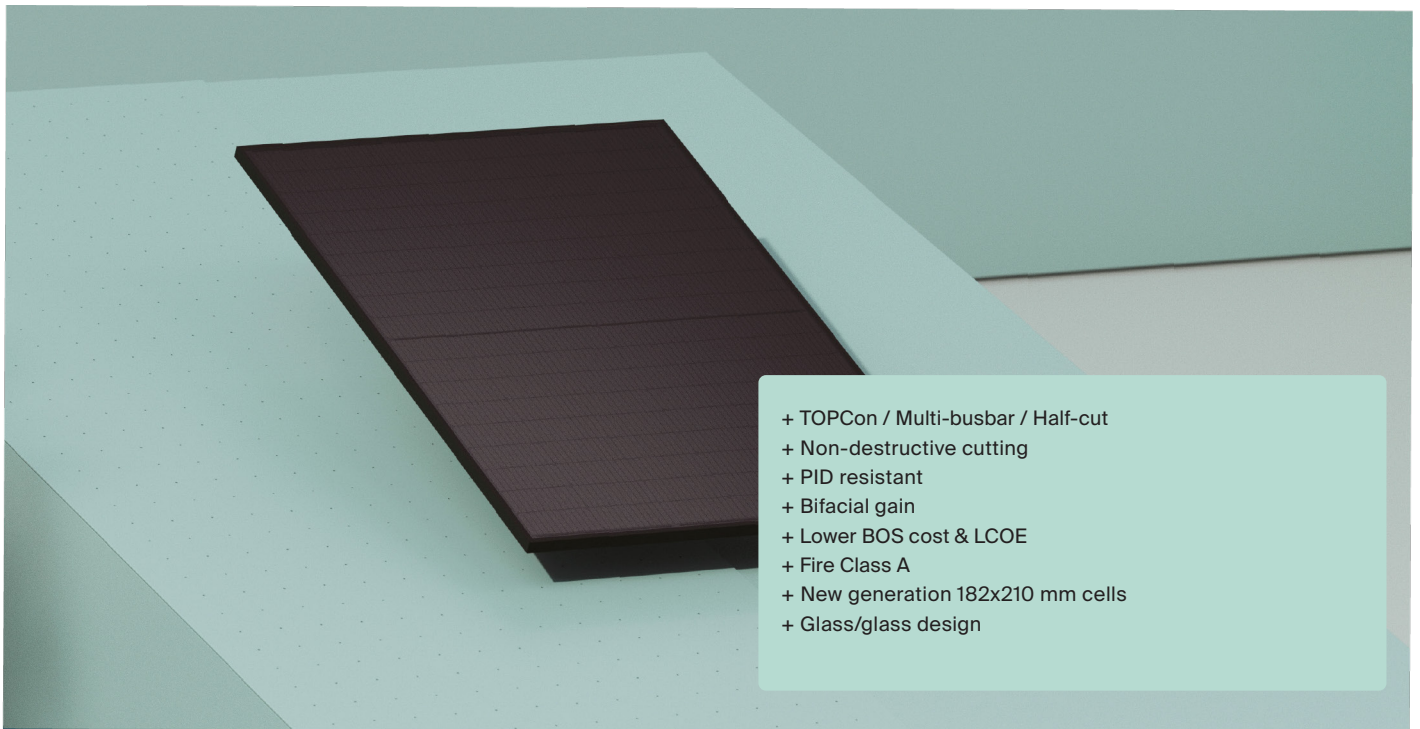


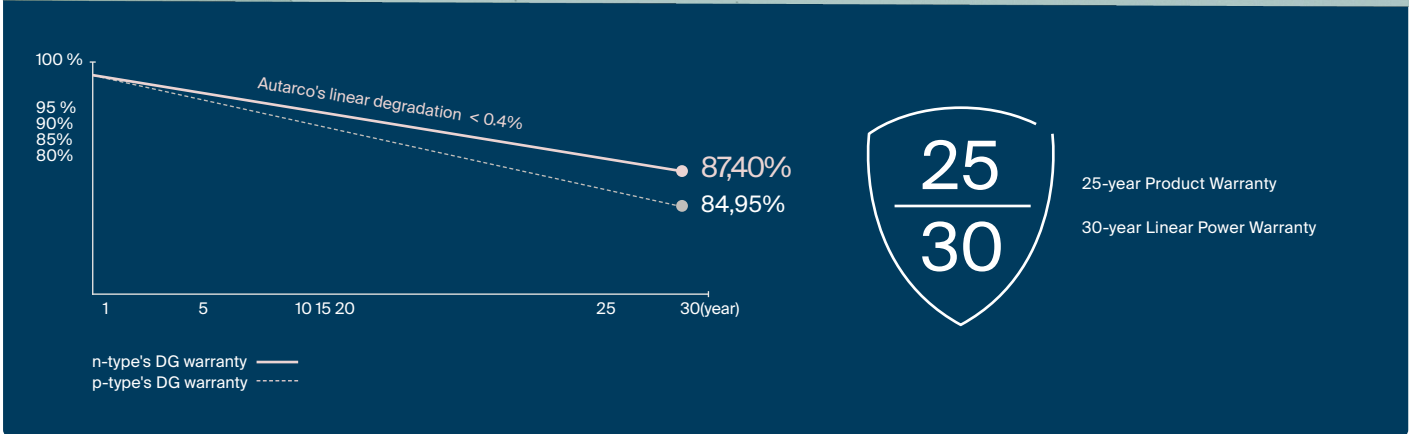
TBY Full Black

Series solar panels

Reach full potential



- + TOPCon / Multi-busbar / Half-cut
- + Non-destructive cutting
- + PID resistant
- + Bifacial gain
- + Lower BOS cost & LCOE
- + Fire Class A
- + New generation 182x210 mm cells
- + Glass/glass design



435~455W

Power Range

0~+3%

Power Tolerance

22.8%

Max Module Efficiency

≤ 1.0%

First Year Power Degradation

≤ 0.4%

Year 2-30 Power Degradation

Electrical specification

STC: Irradiance 1000W/ m², Cell Temperature 25 °C, AM=1.5

Rated output (P _{mpp} / W _p)	435	440	445	450	455
Open circuit voltage (V _{oc} / V)	35.33	35.44	35.55	35.66	35.77
Short circuit current (I _{sc} / A)	15.57	15.70	15.82	15.95	16.08
Rated voltage (V _{mpp} / V)	29.94	30.03	30.13	30.22	30.31
Rated current (I _{mpp} / A)	14.53	14.65	14.77	14.89	15.01
Module efficiency	21.77%	22.02%	22.27%	22.50%	22.80%

BNPI: Irradiance front 1000W/ m², rear 135W/ m² Cell Temperature 25 °C, AM=1.5

Rated output (P _{mpp} / W _p)	480	485	490	495	500
Open circuit voltage (V _{oc} / V)	35.54	35.64	35.74	35.85	35.95
Short circuit current (I _{sc} / A)	17.08	17.21	17.33	17.46	17.58
Rated voltage (V _{mpp} / V)	30.08	30.17	31.26	31.35	30.44
Rated current (I _{mpp} / A)	15.96	16.08	16.19	16.31	16.43

Temperature ratings

Temp. coefficient (P _{mpp})	-0.29% / °C
Temp. coefficient (I _{sc})	+0.043% / °C
Temp. coefficient (V _{oc})	-0.25% / °C
Nominal module operating temperature (NMOT)	43°C (+/- 2°C)

Operating parameters

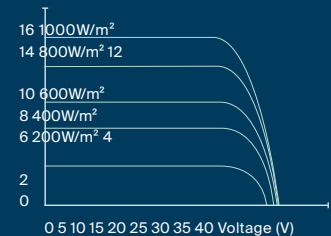
No. of diodes	3
Junction Box IP rating	IP 68
Max. series fuse rating	
TBT440B.1	25 A
TBT440B.2 and TBT445B.1	30 A
Max. system voltage (IEC/UL)	1500V _{dc}

Mechanical specifications

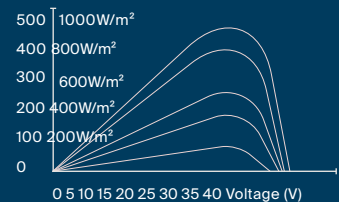
Dimensions (W x H x D)	1762 x 1134 x 30mm
Cells	96, N type mono-crystalline, in a 6 x 16 matrix connected in series
Frame technology	Aluminum, black anodized
Construction	Encapsulant: EVA
TBY450B.1	Front: 2 mm glass (coated) Backsheet: 2 mm glass (black pattern)
TBY450B.2 and higher power classes	Front: 1.6 mm glass (coated) Backsheet: 1.6 mm glass (black pattern)
Cable length (IEC/UL)	1200 mm
Cable diameter (IED/UL)	4 mm ² / 12 AWG
Max. mechanical test load	5400 (front) / 2400 Pa (back)
Connector type (IEC/UL)	MC4-EVO2A
Operating temperature	-40°C to 85°C
Passed hail test	25mm hail @ 30.7m/s
Fire performance	Class A (IEC)
Module weight	
TBY450B.1	23 kg
TBY450B.2 and higher power classes	21.5 kg
Packing unit	36 pcs / pallet
Weight of packing unit	831 kg
TBY450B.1	882 kg
TBY450B.2 and higher power classes	820 kg
Quantity per 40'HQ container	936 pcs

Curves

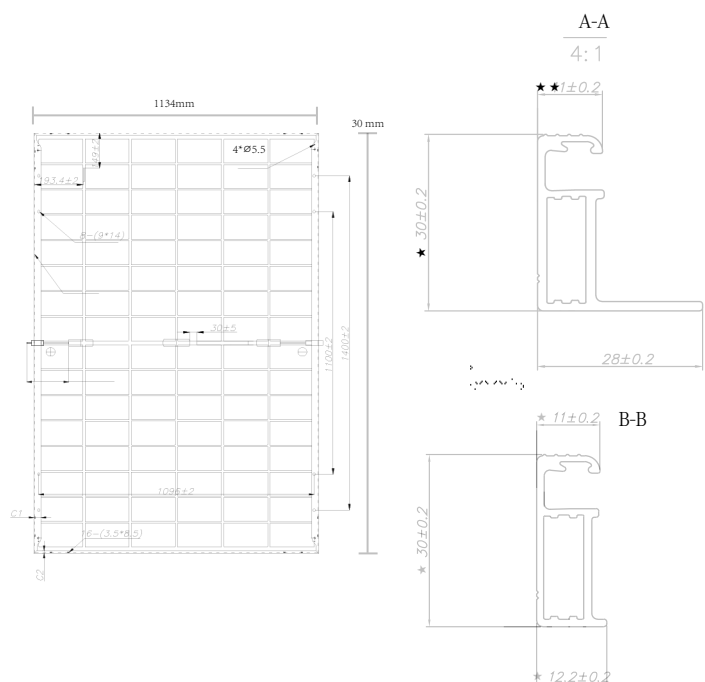
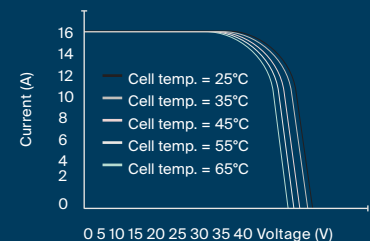
Current-Voltage (445W)



Power-Voltage (445W)



Current-Voltage (445W)



Refer to Autarco installation manual or contact technical department. Maximum Mechanical Test Load=1.5xMaximum Mechanical Design Load.

Autarco Group B.V. Reserves the right of final interpretation. Please contact our company to use the latest version for contract.