



TOPCON N-TYPE M12

BAUER SOLARTECHNIK

# PREMIUM PROTECT

BS-132M12NHBT-GG 690 - 700 W

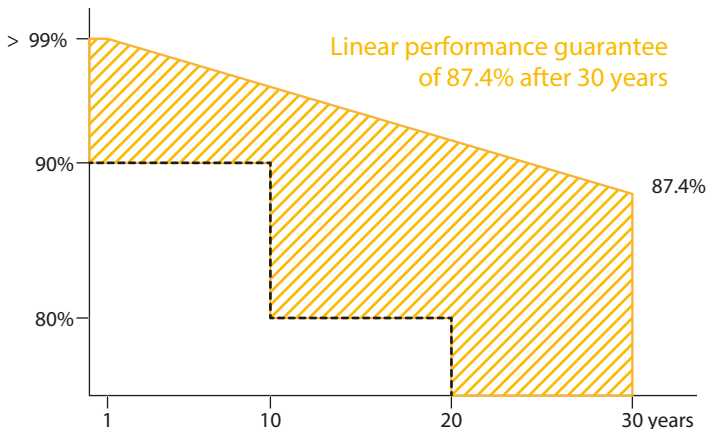


BIFACIAL GLASS-GLASS HALF-CELL MODULE - TRANSPARENT

engineered & designed in  
**GERMANY**



BAUER guarantees a minimum performance value of 87.4% after 30 years for the PREMIUM PROTECT glass-glass solar modules.



### FIRE CLASS A

Maximum fire protection through double glazing according to the highest security requirements



### CERTIFICATION

Constant in-house quality controls - certified several times over by accredited inspection bodies



### GRADE A N-TYPE BIFACIAL HALF-CELLS

Up to 30% increase in yield through bifacial cells active on both sides and a transparent backside. Only GRADE A half cells are used in the production of all BAUER solar modules and only the blackest are selected.



### GERMAN GUARANTOR

If necessary, it is guaranteed that a German company takes over any claim settlements



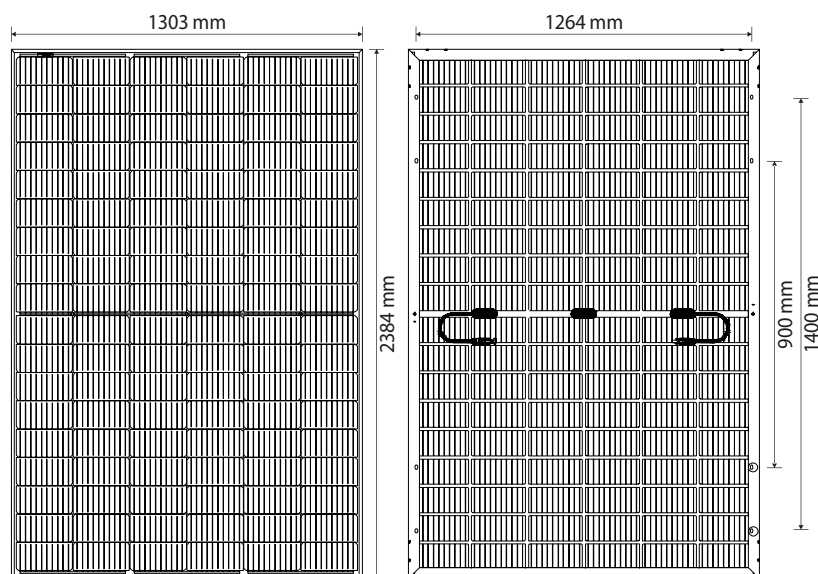
### PERFORMANCE GUARANTEE

30 year product warranty and a linear performance guarantee over a period of 30 years



### REINSURANCE COVERAGE

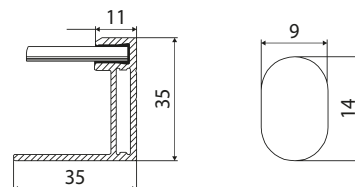
BAUER is re-insured with Munich RE for 12 years of the product warranty & 25 years of the performance guarantee



### BAUER SOLARTECHNIK

## PREMIUM PROTECT

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#### WARRANTIES<sup>1</sup>

- 30 years product warranty
- 30 years performance guarantee

#### PHYSICAL SPECIFICATIONS

Module dimensions	2384 x 1303 x 35 mm
Weight	38.5 kg
Frame	Silver anodized aluminum profile
Frontside	AR-coating Semi-toughened glass, 2 mm
Embedding material	EVA
Backside	White-glazed & Semi-toughened glass, 2 mm
Solar cells	132 monocrystalline N-type bifacial half-cells
Bifaciality	80 % ± 10 %
Junction box(es)	IP68, 3 bypass diodes
Cable & connector	1x4 mm <sup>2</sup> , 500 mm, MC4 compatible

#### OPERATING CONDITIONS

Operating temperature	-40 to 85°C
Static load	5400 Pa (snow/wind/ice)
Hail	Ø 25 mm at 23 m/s

#### CERTIFICATION

CSA, IEC 61215, IEC 61730, Fire Class A IEC 61730-2 (UL790)

#### PACKAGING

Modules per pallet	31
Modules per container	558

#### ELECTRICAL CHARACTERISTICS<sup>2</sup>

		BS-690-132M12NHBT-GG	BS-695-132M12NHBT-GG	BS-700-132M12NHBT-GG
Maximum power	P <sub>max</sub> (W)	690	695	700
Power output tolerance	P <sub>max</sub> (%)	0 ~ +3	0 ~ +3	0 ~ +3
Open circuit voltage	V <sub>oc</sub> (V)	47.90	48.30	48.50
Short circuit current	I <sub>sc</sub> (A)	18.25	18.28	18.32
Voltage at maximum power	V <sub>mpp</sub> (V)	40.10	40.30	40.50
Current at maximum power	I <sub>mp</sub> (A)	17.23	17.25	17.29
Module efficiency	η <sub>m</sub> (%)	22.21	22.37	22.53
Bifaciality performance increase*	10 % P <sub>mp</sub> (W)	759 (+69)	764.5 (+69.5)	770 (+70)
	20 % P <sub>mp</sub> (W)	828 (+138)	834 (+139)	840 (+140)
	30 % P <sub>mp</sub> (W)	897 (+207)	903.5 (+208.5)	910 (+210)
Nominal operating cell temperature	NOCT (°C)	45 +/- 2		
Temperature coefficient of Voc	T <sub>k</sub> (Voc)	-0.25 %/°C		
Temperature coefficient of I <sub>sc</sub>	T <sub>k</sub> (I <sub>sc</sub> )	+0.040 %/°C		
Temperature coefficient of P <sub>mp</sub>	T <sub>k</sub> (P <sub>mp</sub> )	-0.30 %/°C		
Maximum system voltage DC (TÜV)	(V)	1500		
Maximum series fuse rating	(A)	30		

<sup>1</sup>Nominal value is specified in the written warranty conditions. A possible light-induced degradation in performance is not taken into account.

<sup>2</sup>Values under Standard Test Conditions (STC): air pressure 1.5 AM, irradiance 1000 W/m<sup>2</sup>, cell temperature 25°C. STC measuring tolerance: ±3 % (P<sub>max</sub>), ±10 % (V<sub>max</sub>, I<sub>mp</sub>, V<sub>oc</sub>, I<sub>sc</sub>). The beneficiary under the reinsurance policy is solely Bauer Solar GmbH. Please contact us to get information on how this insurance coverage benefits you as a customer.

Note: please read the safety instructions and installation manual before using this product.  
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