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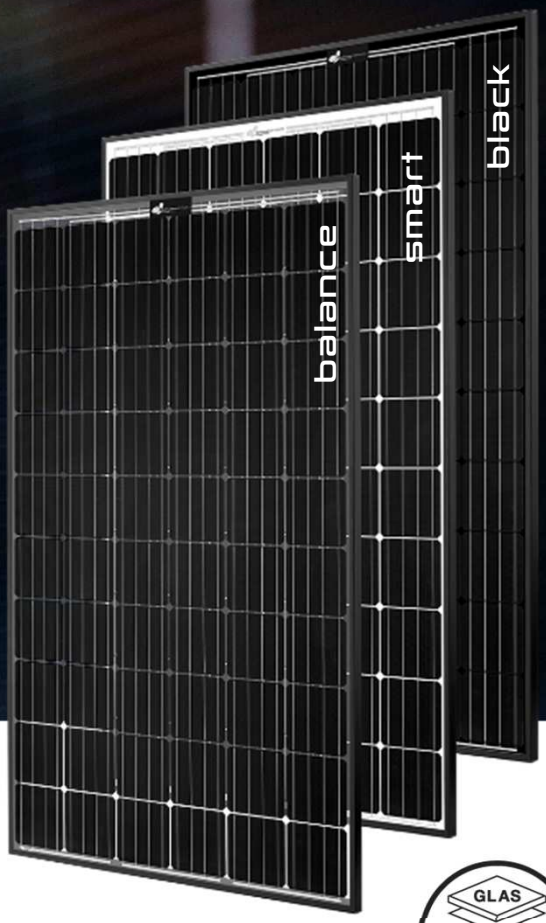
Solar Panel Guide
Specification Data Sheet

CS Wismar GmbH
Excellent Glass/Glass 320-330 M60 balance | sma... 325

SONNENSTROM FABRIK



Optional
snow load module edition
1500 volts module edition
optional in transparent, white, full black
Total Care for the entire system
Extended product guarantee

EXCELLENT GLASS/GLASS M60

balance | smart | black

MONOCRYSTALLINE 320–330 WP

GLAS
GLAS

Long lifetime even under extreme conditions

2 x 2 mm strong, hardened and scratchresistant solar glass

Protection of cells against microcracks through double glass composite

Maximum test load 8.100 Pascal [2]

Stability optimized for increased requirements due to slipping snow loads (optional)

Extended hail impact tests to 30 mm

Optimized for performance

PID-free monocrystalline high performance solar cells

Antireflective coated solar glass

Low-light optimized

Positively classified -0/+4.99 Wp

Industry-leading NMOT values

Highest quality standards

Manufactured according to DIN EN ISO 9001:2015 DIN EN ISO 14001:2015 BS OHSAS 18001:2007

PV-module type approval according to IEC 61215:2016 [3]

PV-module safety qualification according to IEC 61730:2016 [3]

Guaranteed performance [1]

30 years of linear performance guarantee

20 years product guarantee, optional extension to 30 years

Total Care for the entire system (optional)

[1] For detailed information please consult the CS Wismar GmbH warranty conditions
[2] See backside for detailed test loads
[3] Subject to recertification

EXCELLENT GLASS/GLASS 320 | 325 | 330 M60

balance | smart | black

Performance STC

Under standard Test Conditions STC:
1000 W/m²; spectrum AM 1.5;
Cell temperature 25°C
Measurement tolerance STC:
Pmpp ±3%; Isc ±10%; Uoc ±10%

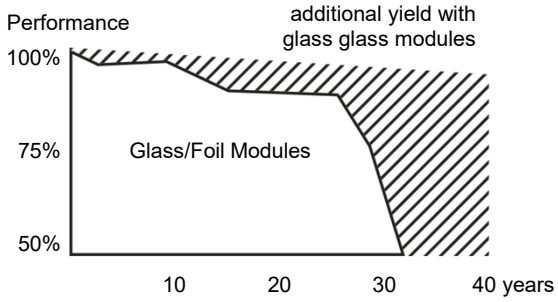
Nominal Power Pmpp (Wp)	320	325	330
Open Circuit Voltage Uoc (V)	40,22	40,41	40,60
Voltage Umpp (V)	33,61	33,85	34,09
Short Circuit Current Isc (A)	10,20	10,31	10,42
Current Impp (A)	9,52	9,60	9,68
Efficiency η (%)	18,8	19,1	19,4

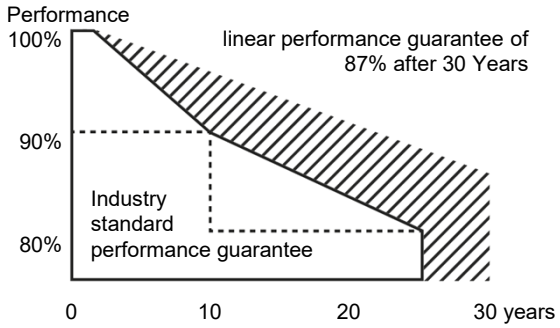
Reduction of module efficiency at reduction from 1000 W/m² to 200 W/m²: 3,3% ± 0,5% (relative)

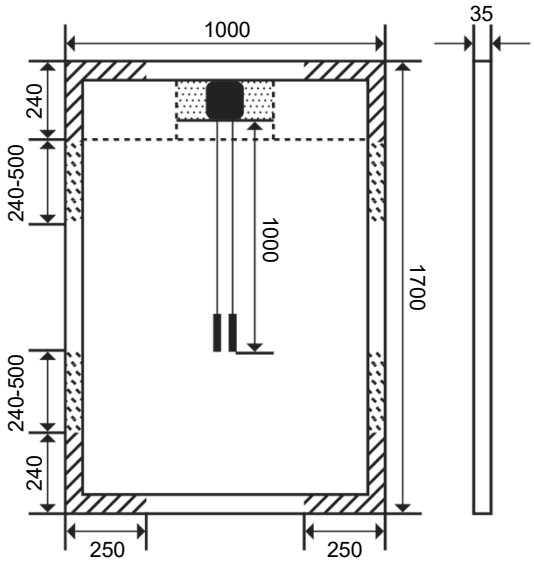
Performance NMOT

Nominal operating temperature of module
800 W/m², NMOT, AM 1.5

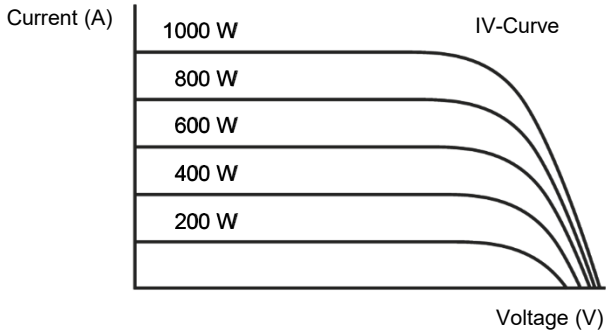
Nominal Power Pmpp (Wp)	250	254	258
Open Circuit Voltage Uoc (V)	37,61	37,79	37,97
Voltage Umpp (V)	32,94	33,17	33,40
Short Circuit Current Isc (A)	8,24	8,33	8,42
Current Impp (A)	7,60	7,66	7,72







measurements in mm



clamping area
approved up to 2.400 Pa
approved up to 5.400 Pa

no contact between junction box and mounting profile permitted in this area.

Other Technical Specification

Max. system voltage	1000 V
Weight	22.0 ± 0.5 kg
Reverse Current Load IR	15 A
Junction box	IP 67 with 3 bypass diodes
Connectors	IP 67, MC4
Fire rating	class C
Operating temperature	-40°C …+85°C
Design load: snow	5.400 Pa *
Max test load	8.100 Pa
Design load: wind	2.400 Pa *
Max test load	3.600 Pa

* safety factor 1.5

Thermal Properties

TC Pmpp	-0.39 %/K
TC Uoc	-0.28 %/K
TC Isc	0.040 %/K
NMOT	45 +/- 2 °C

Material Used

No. of cells	60 cells
Type of cells	monocrystalline
Front	hardened solar glass
Frame	anodized aluminium
Frame height	35 mm

GLAS GLAS · MADE IN GERMANY · 30 JAHRE GARANTIE · -0 / +4,99 WP · TÜVRheinland CERTIFIED www.tuv.com ID 1111214084 · CE · sicZert Zertifizierungen GmbH Lotzbeckstraße 22 • 77933 Lahr Zertifiziert nach DIN EN ISO 9001 DIN EN ISO 14001 BS OHSAS 18001