



SONNENSTROM
FABRIK



INTEGRATION M48

MONOCRYSTALLINE 245–255 Wp

Schweizer

Exquisitly designed in-roof panel

Inroof system, BIPV-Typ
EN 50583, Category A

Easy to install, reliable
operation

Rainproof like a tiled roof
(SIA 232/1)

Excellent mechanical load
values, compressive load
up to 5,400 Pa ²

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

26 years of linear
performance guarantee

12 years product
guarantee, optional
extension to 25 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

INTEGRATION 245 | 250 | 255 M48

Performance STC

Under standard Test Conditions STC:
1000 W/m²; spectrum AM 1.5;
Cell temperature 25°C
Measurement tolerance STC:
P_{mpp} ±3%; I_{sc} ±10%; U_{oc} ±10%

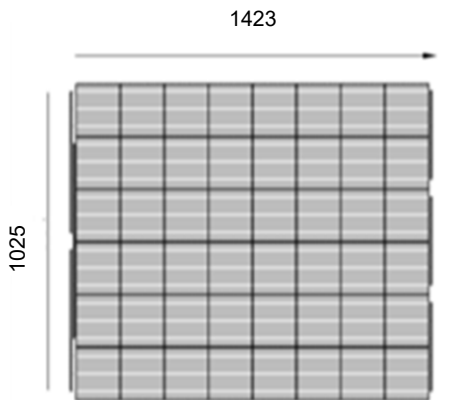
Nominal Power P _{mpp} (Wp)	245	250	255
Open Circuit Voltage U _{oc} (V)	31,52	31,62	31,74
Voltage U _{mpp} (V)	26,32	26,46	26,65
Short Circuit Current I _{sc} (A)	9,96	10,13	10,30
Current I _{mpp} (A)	9,31	9,45	9,57
Efficiency η (%)	16,8	17,1	17,5

Reduction of module efficiency at reduction from 1000 W/m² to 200 W/m²: 4,1% ± 0,2% (relative)

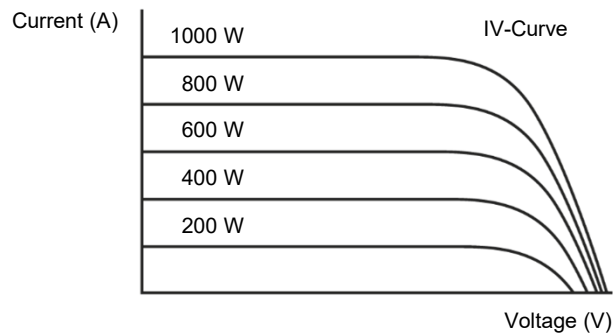
Performance NMOT

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

Nominal Power P _{mpp} (Wp)	189	193	197
Open Circuit Voltage U _{oc} (V)	29,48	29,57	29,68
Voltage U _{mpp} (V)	25,49	25,62	25,80
Short Circuit Current I _{sc} (A)	8,05	8,19	8,32
Current I _{mpp} (A)	7,43	7,54	7,64



measurements in mm



Other Technical Specification

Max. system voltage	1000 V
Weight	16.0 ± 0.5 kg
Reverse Current Load I _R	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	3.600 Pa *
Max test load	5.400 Pa
Design load: wind	1.600 Pa *
Max test load	2.400 Pa
Outer dimensions	1423 x 1025 mm
Raster dimensions	1405 x 993 mm

* safety factor 1.5

Thermal Properties

TC P _{mpp}	-0.39 %/K
TC U _{oc}	-0.28 %/K
TC I _{sc}	0.040 %/K
NMOT	45 +/- 2 °C

Material Used

No. of cells	48 cells
Type of cells	monocrystalline
Front	hardened solar glass
Frame	Solrif frame
Frame height	16 mm
Module height	35 mm

