

## INTEGRATION M60

MONOCRYSTALLINE 320-330 Wp



### 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 <sup>2</sup>

### 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 <sup>3</sup>

PV-module  
safety qualification  
according to  
IEC 61730:2016 <sup>3</sup>

### Guaranteed performance <sup>1</sup>

26 years of linear  
performance guarantee

12 years product  
guarantee, optional  
extension to 25 years

Total Care for the entire  
system (optional)

<sup>1</sup> For detailed information please consult the CS Wismar GmbH warranty conditions

<sup>2</sup> See backside for detailed test loads

<sup>3</sup> Subject to recertification

# INTEGRATION 320 | 325 | 330 M60

## Performance STC

Under standard Test Conditions STC:  
1000 W/m<sup>2</sup>; spectrum AM 1.5;  
Cell temperature 25°C  
Measurement tolerance STC:  
P<sub>mpp</sub> ±3%; I<sub>sc</sub> ±10%; U<sub>oc</sub> ±10%

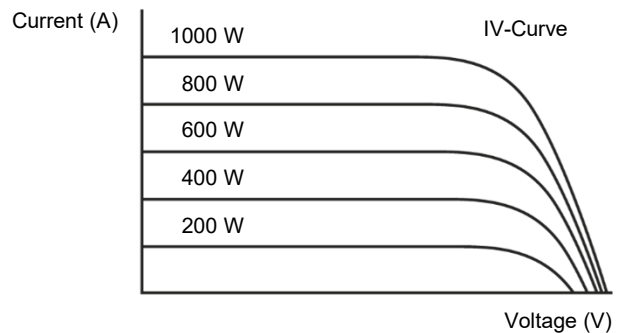
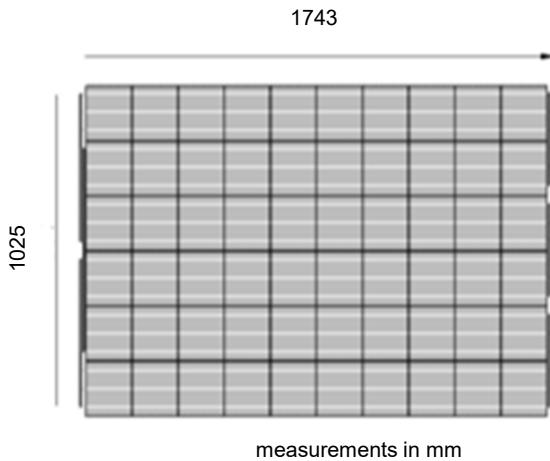
Nominal Power P <sub>mpp</sub> (Wp)	320	325	330
Open Circuit Voltage U <sub>oc</sub> (V)	40,22	40,41	40,60
Voltage U <sub>mpp</sub> (V)	33,61	33,85	34,09
Short Circuit Current I <sub>sc</sub> (A)	10,20	10,31	10,42
Current I <sub>mpp</sub> (A)	9,52	9,60	9,68
Efficiency η (%)	17,9	18,2	18,5

Reduction of module efficiency at reduction from 1000 W/m<sup>2</sup> to 200 W/m<sup>2</sup>: 3,3% ± 0,5% (relative)

## Performance NMOT

Nominal operating temperature of module  
800 W/m<sup>2</sup>, NMOT, AM 1.5

Nominal Power P <sub>mpp</sub> (Wp)	250	254	258
Open Circuit Voltage U <sub>oc</sub> (V)	37,61	37,79	37,97
Voltage U <sub>mpp</sub> (V)	32,94	33,17	33,40
Short Circuit Current I <sub>sc</sub> (A)	8,24	8,33	8,42
Current I <sub>mpp</sub> (A)	7,60	7,66	7,72



## Other Technical Specification

Max. system voltage	1000 V
Weight	19.0 ± 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	3.600 Pa *
Max test load	5.400 Pa
Design load: wind	1.600 Pa *
Max test load	2.400 Pa
Outer dimensions	1743 x 1025 mm
Raster dimensions	1725 x 993 mm

## Thermal Properties

TC P <sub>mpp</sub>	-0.39 %/K
TC U <sub>oc</sub>	-0.28 %/K
TC I <sub>sc</sub>	0.040 %/K
NMOT	45 +/- 2 °C

## Material Used

No. of cells	60 cells
Type of cells	monocrystalline
Front	hardened solar glass
Frame	Solrif frame
Frame height	16 mm
Module height	35 mm

\* safety factor 1.5

