



SONNENSTROM
FABRIK

Product catalogue

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Glass/Glass Module Poly



EXCELLENT
Glass/Glass P60



EXCELLENT
Glass/Glass P60
frameless



EXCELLENT
Glass/Glass P72

Long lifetime even under extreme conditions

2 x 2 mm strong, scratch-resistant thermally hardened solar glass

Glass-Glass composite technology minimizes impact of environmental factors

Cells in neutral phase are especially protected against tensile and pressure loads
Schützt

Optimized for performance

PID-free polycrystalline high performance solar cells

Antireflective coated and light-transmitting solar glass

Best low-light behavior

Positively classified
-0/+4.99 Wp

Industry-leading NMOT values

Highest quality standards

Manufactured in accordance with
DIN EN ISO 9001:2015
DIN EN ISO 14001:2015
BS OHSAS 18001:2007

PV-module type approval according to IEC 61215:2016 ¹

PV-module safety qualification according to IEC 61730:2016 ¹

Performance guarantee degradation below industry standard *

30 years linear performance guarantee

20 years product guarantee

Optional extension of product guarantee to 30 years

Optional Total Care for the entire system

* For detailed information please consult the CS Wismar GmbH warranty conditions
¹ Subject to recertification

EXCELLENT GLASS/GLASS 260 | 265 | 270 | 275 P60 balance | smart | black



balance Edition
Frame: black
Back: transparent



smart Edition
Frame: black
Back: white



black Edition
Frame: black
Back: black

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)	260	265	270	275
Open Circuit Voltage U _{oc} (V)	38,08	38,25	38,42	38,60
Voltage U _{mpp} (V)	30,57	30,80	31,03	31,26
Short Circuit Current I _{sc} (A)	9,18	9,27	9,36	9,44
Current I _{mpp} (A)	8,56	8,65	8,74	8,82
Efficiency η (%)	15,3	15,6	15,9	16,2

Performance NMOT

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

Nominal Power P _{mpp} (Wp)	204	208	212	215
Open Circuit Voltage U _{oc} (V)	35,41	35,57	35,73	35,90
Voltage U _{mpp} (V)	29,82	30,04	30,26	30,47
Short Circuit Current I _{sc} (A)	7,44	7,51	7,59	7,65
Current I _{mpp} (A)	6,85	6,93	7,00	7,06

Material
Used

No. of cells	60
Type of cells	polycrystalline
Front	hardened solar glass
Frame	anodized aluminium
Frame height	35 mm
Module size	1700 x 1000 x 35 mm

Other Technical
Specification

Max. system voltage	1000 V	TC P _{mpp}	-0.40 %/K
Weight	22.0 ± 0.5 kg	TC U _{oc}	-0.305 %/K
Reverse Current Load I _R	15 A	TC I _{sc}	0.053 %/K
Junction box	IP67	NMOT	45 +/- 2 °C
Connectors	IP67		
Bypass diodes	3 pcs		

EXCELLENT GLASS/GLASS 260 | 265 | 270 | 275 P60 balance | smart | black frameless



balance Edition
Back: transparent



smart Edition
Back: white



black Edition
Back: black

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)	260	265	270	275
Open Circuit Voltage U _{oc} (V)	38,08	38,25	38,42	38,60
Voltage U _{mpp} (V)	30,57	30,80	31,03	31,26
Short Circuit Current I _{sc} (A)	9,18	9,27	9,36	9,44
Current I _{mpp} (A)	8,56	8,65	8,74	8,82
Efficiency η (%)	15,5	15,8	16,1	16,4

Performance NMOT

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

Nominal Power P _{mpp} (Wp)	204	208	212	215
Open Circuit Voltage U _{oc} (V)	35,41	35,57	35,73	35,90
Voltage U _{mpp} (V)	29,82	30,04	30,26	30,47
Short Circuit Current I _{sc} (A)	7,44	7,51	7,59	7,65
Current I _{mpp} (A)	6,85	6,93	7,00	7,06

Material
Used

No. of cells	60
Type of cells	polycrystalline
Front	hardened solar glass
Frame	n/a
Frame height	n/a
Module size	1693 x 993 x 28 mm

Other Technical
Specification

Max. system voltage	1000 V	TC P _{mpp}	-0.40 %/K
Weight	20.0 ± 0.5 kg	TC U _{oc}	-0.305 %/K
Reverse Current Load I _R	15 A	TC I _{sc}	0.053 %/K
Junction box	IP67	NMOT	45 +/- 2 °C
Connectors	IP67		
Bypass diodes	3 pcs		

EXCELLENT GLASS/GLASS 315 | 320 | 325 | 330 P72 balance | smart | black



balance Edition

Frame: black
Back: transparent



smart Edition

Frame: black
Back: white



black Edition

Frame: black
Back: black

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)	315	320	325	330
Open Circuit Voltage U _{oc} (V)	45,91	46,15	46,37	46,60
Voltage U _{mpp} (V)	37,18	37,42	37,65	37,73
Short Circuit Current I _{sc} (A)	9,01	9,10	9,18	9,27
Current I _{mpp} (A)	8,49	8,60	8,70	8,84
Efficiency η (%)	15,8	16,0	16,3	16,5

Performance NMOT

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

Nominal Power P _{mpp} (Wp)	249	253	258	263
Open Circuit Voltage U _{oc} (V)	42,69	42,92	43,12	43,34
Voltage U _{mpp} (V)	36,58	36,81	37,04	37,15
Short Circuit Current I _{sc} (A)	7,30	7,38	7,44	7,51
Current I _{mpp} (A)	6,80	6,89	6,97	7,08

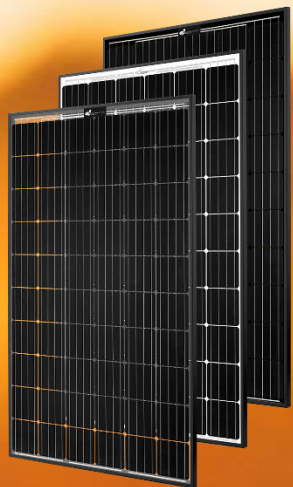
Material
Used

No. of cells	72
Type of cells	polycrystalline
Front	hardened solar glass
Frame	anodized aluminium
Frame height	35 mm
Module size	2000 x 1000 x 35 mm

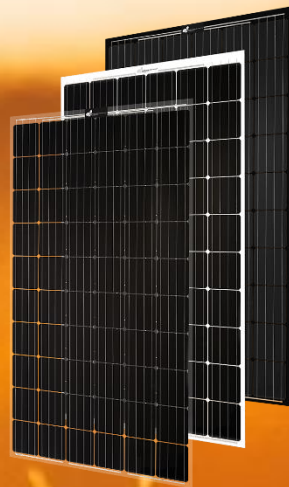
Other Technical
Specification

Max. system voltage	1000 V	TC P _{mpp}	-0.40 %/K
Weight	26.0 ± 0.5 kg	TC U _{oc}	-0.305 %/K
Reverse Current Load I _R	15 A	TC I _{sc}	0.053 %/K
Junction box	IP67	NMOT	45 +/- 2 °C
Connectors	IP67		
Bypass diodes	3 pcs		

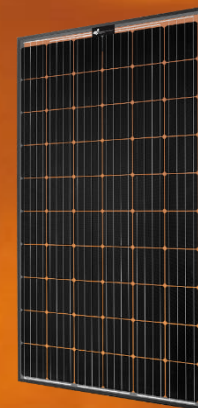
Glass/Glass Module Mono



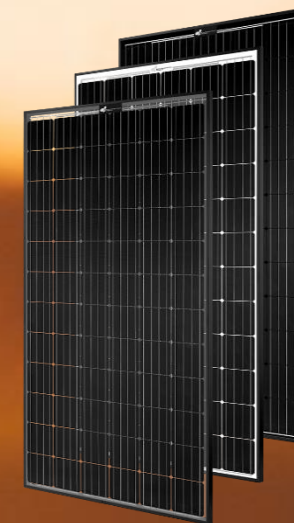
EXCELLENT
Glass/Glass M60



EXCELLENT
Glass/Glass M60
frameless



EXCELLENT
Glass/Glass M60
bifacial



EXCELLENT
Glass/Glass M72

Long lifetime even under extreme conditions

2 x 2 mm strong, scratch-resistant thermally hardened solar glass

Glass-Glass composite technology minimizes impact of environmental factors

Cells in neutral phase are especially protected against tensile and pressure loads

Optimized for performance

PID-free monocrystalline high performance solar cells

Antireflective coated and light-transmitting solar glass

Best low-light behavior

Positively classified
-0/+4.99 Wp

Industry-leading NMOT values

Highest quality standards

Manufactured in accordance with
DIN EN ISO 9001:2015
DIN EN ISO 14001:2015
BS OHSAS 18001:2007

PV-module type approval according to
IEC 61215:2016 ¹

PV-module safety qualification according to
IEC 61730:2016 ¹

Performance guarantee degradation below industry standard *

30 years linear performance guarantee

20 years product guarantee

Optional extension of product guarantee to 30 years

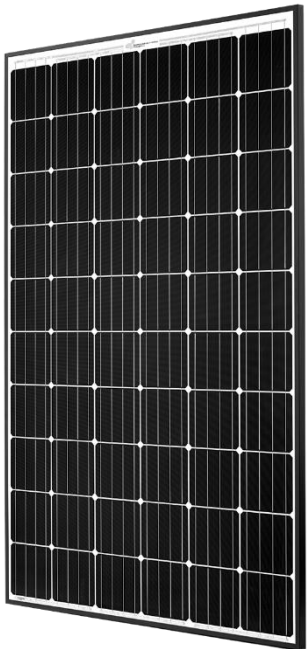
Optional Total Care for the entire system

EXCELLENT GLASS/GLASS 275 | 280 | 285 | 290 M60 balance | smart | black



balance Edition

Frame: black
Back: transparent



smart Edition

Frame: black
Back: white



black Edition

Frame: black
Back: black

Performance STC

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

Nominal Power P _{mp} (Wp)	275	280	285	290
Open Circuit Voltage U _{oc} (V)	38,99	39,16	39,33	39,48
Voltage U _{mp} (V)	31,27	31,64	32,01	32,37
Short Circuit Current I _{sc} (A)	9,37	9,46	9,54	9,63
Current I _{mp} (A)	8,80	8,87	8,90	8,95
Efficiency η (%)	16,2	16,5	16,8	17,1

Performance NMOT

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

Nominal Power P _{mp} (Wp)	215	219	222	226
Open Circuit Voltage U _{oc} (V)	36,21	36,36	36,52	36,66
Voltage U _{mp} (V)	30,58	30,91	31,23	31,55
Short Circuit Current I _{sc} (A)	7,58	7,65	7,72	7,79
Current I _{mp} (A)	7,03	7,09	7,11	7,15

Material
Used

No. of cells	60
Type of cells	monocrystalline
Front	hardened solar glass
Frame	anodized aluminium
Frame height	35 mm
Module size	1700 x 1000 x 35 mm

Other Technical
Specification

Max. system voltage	1000 V	TC P _{mp}	-0.41 %/K
Weight	22.0 ± 0.5 kg	TC U _{oc}	-0.31 %/K
Reverse Current Load I _R	15 A	TC I _{sc}	0.045 %/K
Junction box	IP67	NMOT	45 +/- 2 °C
Connectors	IP67		
Bypass diodes	3 pcs		

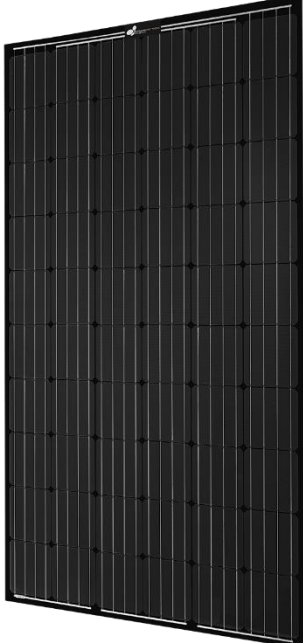
EXCELLENT GLASS/GLASS 275 | 280 | 285 | 290 M60 balance | smart | black frameless



balance Edition
Back: transparent



smart Edition
Back: white



black Edition
Back: black

Performance STC

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

Nominal Power P _{mp} (Wp)	275	280	285	290
Open Circuit Voltage U _{oc} (V)	38,99	39,16	39,33	39,48
Voltage U _{mp} (V)	31,27	31,64	32,01	32,37
Short Circuit Current I _{sc} (A)	9,37	9,46	9,54	9,63
Current I _{mp} (A)	8,80	8,87	8,90	8,95
Efficiency η (%)	16,4	16,7	17,0	17,3

Performance NMOT

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

Nominal Power P _{mp} (Wp)	215	219	222	226
Open Circuit Voltage U _{oc} (V)	36,21	36,36	36,52	36,66
Voltage U _{mp} (V)	30,58	30,91	31,23	31,55
Short Circuit Current I _{sc} (A)	7,58	7,65	7,72	7,79
Current I _{mp} (A)	7,03	7,09	7,11	7,15

Material
Used

No. of cells	60
Type of cells	monocrystalline
Front	hardened solar glass
Frame	n/a
Frame height	n/a
Module size	1693 x 993 x 28 mm

Other Technical
Specification

Max. system voltage	1000 V	TC P _{mp}	-0.41 %/K
Weight	20.0 ± 0.5 kg	TC U _{oc}	-0.31 %/K
Reverse Current Load I _R	15 A	TC I _{sc}	0.045 %/K
Junction box	IP67	NMOT	45 +/- 2 °C
Connectors	IP67		
Bypass diodes	3 pcs		

EXCELLENT GLASS/GLASS 275 | 280 | 285 | 290 M60 bifacial



bifaciale Edition

Frame: black
Back: transparent

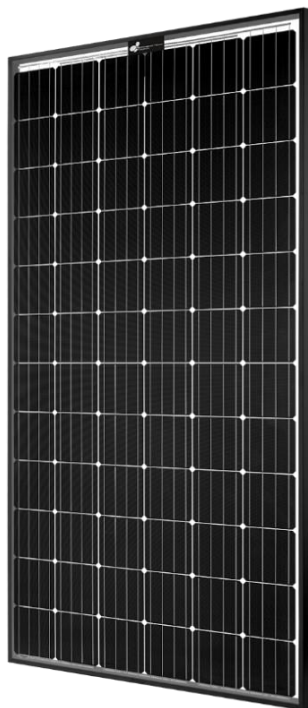
		Rear irradiance % (corresponding Bi-facial gain)			
		15% (12,75%)	20% (17,00%)	25% (21,25%)	30% (25,50%)
Performance STC Under Standard Test Conditions STC: 1000 W/m2; spectrum AM 1.5; Cell temperature 25°C Measurement tolerance STC: Pmpp ±3%; Isc ±10%; Uoc ±10%	Nominal Power Pmpp (Wp)	290	327,0	339,3	351,6
	Open Circuit Voltage Uoc (V)	39,48	39,52	39,56	39,60
	Voltage Umpp (V)	32,37	32,44	32,47	32,51
	Short Circuit Current Isc (A)	9,63	10,86	11,27	11,68
	Current Impp (A)	8,95	10,09	10,47	10,85
	Efficiency η (%)	17,1	19,2	20,0	20,7

Performance NMOT Nominal operating temperature of module 800 W/m², NMOT, AM 1.5	Nominal Power Pmpp (Wp)	226	254,8	264,4	274,0
	Open Circuit Voltage Uoc (V)	36,66	36,46	36,47	36,48
	Voltage Umpp (V)	31,55	30,05	30,07	30,09
	Short Circuit Current Isc (A)	7,79	8,78	9,11	9,45
	Current Impp (A)	7,15	8,06	8,37	8,67

Material Used	No. of cells	60
	Type of cells	monocrystalline bifacial
	Front	hardened solar glass
	Frame	anodized aluminium
	Frame height	35 mm
	Module size	1700 x 1000 x 35 mm

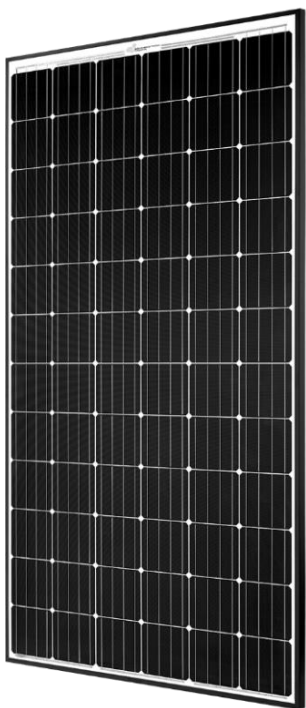
Other Technical Specification	Max. system voltage	1000 V	TC Pmpp	-0.41 %/K
	Weight	22.0 ± 0.5 kg	TC Uoc	-0.31 %/K
	Reverse Current Load IR	15 A	TC Isc	0.045 %/K
	Junction box	IP67	NMOT	45 +/- 2 °C
	Connectors	IP67		
	Bypass diodes	3 pcs		

EXCELLENT GLASS/GLASS 330 | 335 | 340 | 345 M72 balance | smart | black



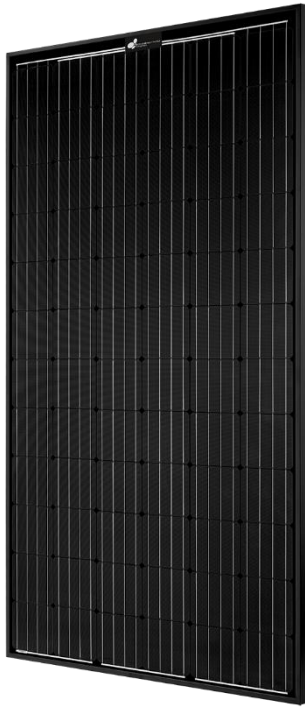
balance Edition

Frame: black
Back: transparent



smart Edition

Frame: black
Back: white



black Edition

Frame: black
Back: 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)	330	335	340	345
Open Circuit Voltage Uoc (V)	45,87	46,04	46,18	46,31
Voltage Umpp (V)	37,25	37,47	37,54	37,60
Short Circuit Current Isc (A)	9,30	9,41	9,50	9,58
Current Impp (A)	8,83	8,96	9,09	9,22
Efficiency η (%)	16,5	16,8	17,0	17,3

Performance NMOT

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

Nominal Power Pmpp (Wp)	259	264	268	273
Open Circuit Voltage Uoc (V)	42,59	42,75	42,88	43,00
Voltage Umpp (V)	36,66	36,87	36,95	37,03
Short Circuit Current Isc (A)	7,52	7,61	7,96	7,75
Current Impp (A)	7,06	7,16	7,26	7,37

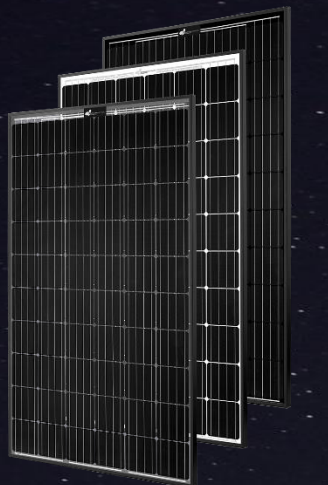
Material
Used

No. of cells	72
Type of cells	monocrystalline
Front	hardened solar glass
Frame	anodized aluminium
Frame height	35 mm
Module size	2000 x 1000 x 35 mm

Other Technical
Specification

Max. system voltage	1000 V	TC Pmpp	-0.41 %/K
Weight	26.0 ± 0.5 kg	TC Uoc	-0.31 %/K
Reverse Current Load IR	15 A	TC Isc	0.045 %/K
Junction box	IP67	NMOT	45 +/- 2 °C
Connectors	IP67		
Bypass diodes	3 pcs		

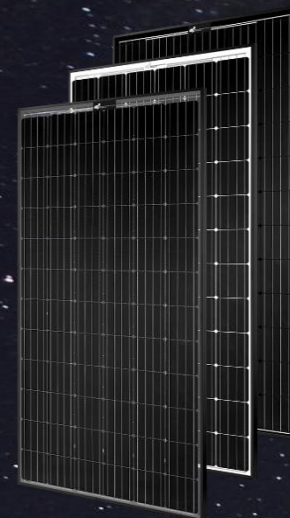
Glass/Glass Module PERC



EXCELLENT
Glass/Glass PERC60



EXCELLENT
Glass/Glass PERC60
frameless



EXCELLENT
Glass/Glass PERC72

Long lifetime even under extreme conditions

2 x 2 mm strong, scratch-resistant thermally hardened solar glass

Glass-Glass composite technology minimizes impact of environmental factors

Cells in neutral phase are especially protected against tensile and pressure loads

Optimized for performance

PID-free PERC high performance solar cells¹

Antireflective coated and light-transmitting solar glass

Best low-light behavior

Positively classified
-0/+4.99 Wp

Industry-leading NMOT values

Highest quality standards

Manufactured in accordance with
DIN EN ISO 9001:2015
DIN EN ISO 14001:2015
BS OHSAS 18001:2007

PV-module type approval according to IEC 61215:2016¹

PV-module safety qualification according to IEC 61730:2016¹

Performance guarantee degradation below industry standard *

30 years linear performance guarantee

20 years product guarantee

Optional extension of product guarantee to 30 years

Optional Total Care for the entire system

* For detailed information please consult the CS Wismar GmbH warranty conditions

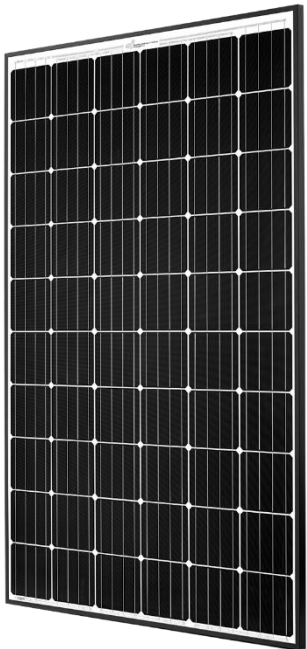
¹ Subject to recertification

EXCELLENT GLASS/GLASS 290 | 295 | 300 | 305 PERC60 balance | smart | black



balance Edition

Frame: black
Back: transparent



smart Edition

Frame: black
Back: white



black Edition

Frame: black
Back: 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)	290	295	300	305
Open Circuit Voltage Uoc (V)	38,83	39,15	39,28	39,62
Voltage Umpp (V)	32,26	32,52	32,72	32,94
Short Circuit Current Isc (A)	9,58	9,66	9,76	9,87
Current Impp (A)	8,99	9,07	9,17	9,26
Efficiency η (%)	17,1	17,4	17,6	17,9

Performance NMOT

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

Nominal Power Pmpp (Wp)	227	231	235	239
Open Circuit Voltage Uoc (V)	36,31	36,61	36,74	37,05
Voltage Umpp (V)	31,6	31,86	32,05	32,29
Short Circuit Current Isc (A)	7,74	7,81	7,89	7,97
Current Impp (A)	7,17	7,24	7,32	7,39

Material
Used

No. of cells	60
Type of cells	mono perc
Front	hardened solar glass
Frame	anodized aluminium
Frame height	35 mm
Module size	1700 x 1000 x 35 mm

Other Technical
Specification

Max. system voltage	1000 V	TC Pmpp	-0.39 %/K
Weight	22.0 ± 0.5 kg	TC Uoc	-0.28 %/K
Reverse Current Load IR	15 A	TC Isc	0.040 %/K
Junction box	IP67	NMOT	45 +/- 2 °C
Connectors	IP67		
Bypass diodes	3 pcs		

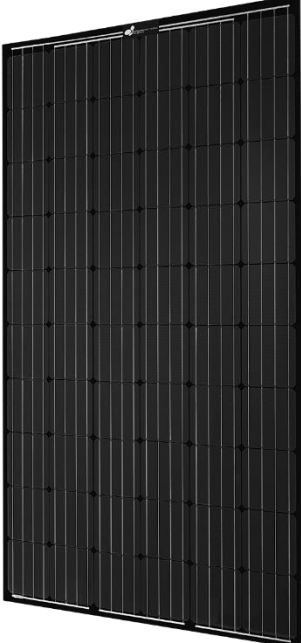
EXCELLENT GLASS/GLASS 290 | 295 | 300 | 305 PERC60 balance | smart | black frameless



balance Edition
Back: transparent



smart Edition
Back: white



black Edition
Back: 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)	290	295	300	305
Open Circuit Voltage Uoc (V)	38,83	39,15	39,28	39,62
Voltage Umpp (V)	32,26	32,52	32,72	32,94
Short Circuit Current Isc (A)	9,58	9,66	9,76	9,87
Current Impp (A)	8,99	9,07	9,17	9,26
Efficiency η (%)	17,3	17,5	17,8	18,1

Performance NMOT

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

Nominal Power Pmpp (Wp)	227	231	235	239
Open Circuit Voltage Uoc (V)	36,31	36,61	36,74	37,05
Voltage Umpp (V)	31,6	31,86	32,05	32,29
Short Circuit Current Isc (A)	7,74	7,81	7,89	7,97
Current Impp (A)	7,17	7,24	7,32	7,39

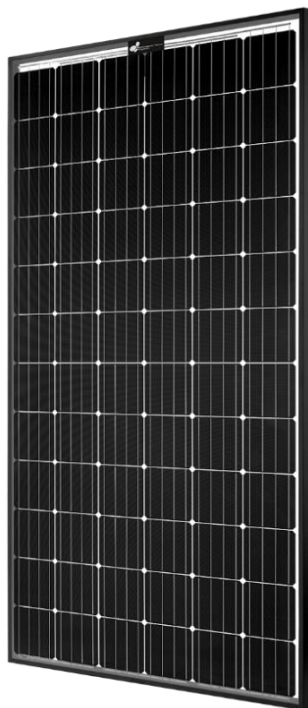
Material
Used

No. of cells	60
Type of cells	mono perc
Front	hardened solar glass
Frame	n/a
Frame height	n/a
Module size	1693 x 993 x 28 mm

Other Technical
Specification

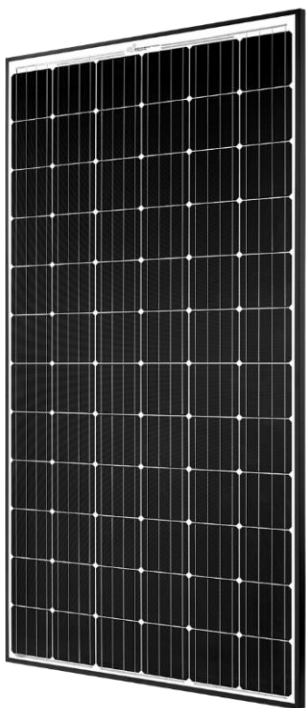
Max. system voltage	1000 V	TC Pmpp	-0.39 %/K
Weight	20.0 ± 0.5 kg	TC Uoc	-0.28 %/K
Reverse Current Load IR	15 A	TC Isc	0.040 %/K
Junction box	IP67	NMOT	45 +/- 2 °C
Connectors	IP67		
Bypass diodes	3 pcs		

EXCELLENT GLASS/GLASS 350 | 355 | 360 | 365 PERC72 balance | smart | black



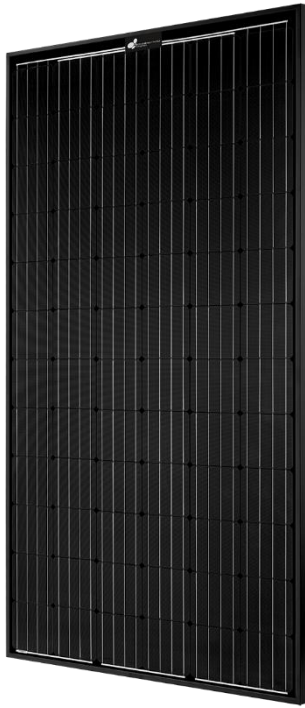
balance Edition

Frame: black
Back: transparent



smart Edition

Frame: black
Back: white



black Edition

Frame: black
Back: black

Performance STC

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

Nominal Power P _{mp} (Wp)	350	355	360	365
Open Circuit Voltage U _{oc} (V)	46,73	47,01	47,13	47,41
Voltage U _{mp} (V)	38,81	39,05	39,27	39,46
Short Circuit Current I _{sc} (A)	9,60	9,68	9,79	9,87
Current I _{mp} (A)	9,02	9,09	9,17	9,25
Efficiency η (%)	17,5	17,8	18,0	18,3

Performance NMOT

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

Nominal Power P _{mp} (Wp)	276	280	284	288
Open Circuit Voltage U _{oc} (V)	43,7	43,97	44,08	44,34
Voltage U _{mp} (V)	38,36	38,60	38,80	39,01
Short Circuit Current I _{sc} (A)	7,76	7,82	7,91	7,97
Current I _{mp} (A)	7,20	7,25	7,32	7,38

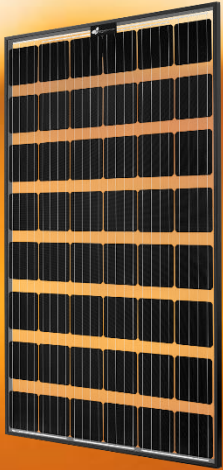
Material
Used

No. of cells	72
Type of cells	mono perc
Front	hardened solar glass
Frame	anodized aluminium
Frame height	35 mm
Module size	2000 x 1000 x 35 mm

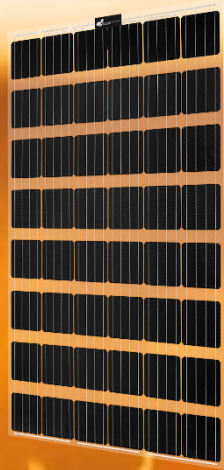
Other Technical
Specification

Max. system voltage	1000 V	TC P _{mp}	-0.39 %/K
Weight	26.0 ± 0.5 kg	TC U _{oc}	-0.28 %/K
Reverse Current Load I _R	15 A	TC I _{sc}	0.040 %/K
Junction box	IP67	NMOT	45 +/- 2 °C
Connectors	IP67		
Bypass diodes	3 pcs		

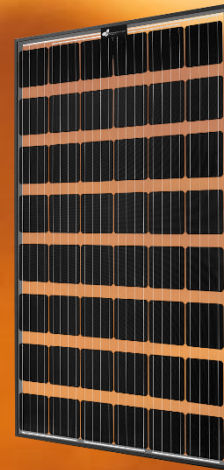
Glass/Glass Module brilliant 48



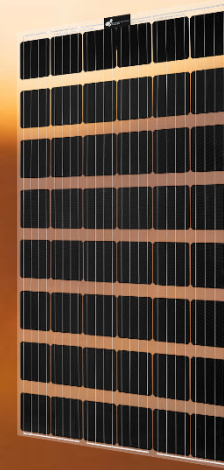
EXCELLENT
Glass/Glass
M48 brilliant



EXCELLENT
Glass/Glass
M48 brilliant
frameless



EXCELLENT
Glass/Glass
PERC48 brilliant



EXCELLENT
Glass/Glass
PERC48 brilliant
frameless

Transparency and Performance

The cell matrix is optimized for light transmission and maximum performance

The optimized cell matrix enables a light transparency of 27%

Optimizes electricity production whilst preserving daylight diffusion for agricultural greenhouses and buildings

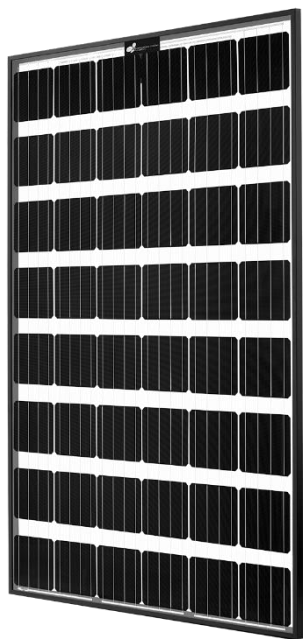
Perfect architectural integration and control of natural light contribution for verandas, pergolas, awnings and carports

30 years linear performance guarantee*

20 years product guarantee

Optional Total Care for the entire system

EXCELLENT GLASS/GLASS 215 | 220 | 225 | 230 M48 brilliant



brilliant Edition

Frame: black
Back: transparent

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)	215	220	225	230
Open Circuit Voltage U _{oc} (V)	30,13	30,54	30,91	31,16
Voltage U _{mpp} (V)	25,05	25,41	25,68	25,87
Short Circuit Current I _{sc} (A)	9,27	9,36	9,45	9,58
Current I _{mpp} (A)	8,58	8,66	8,76	8,89
Efficiency η (%)	12,6	12,9	13,2	13,5

Performance NMOT

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

Nominal Power P _{mpp} (Wp)	165	169	173	177
Open Circuit Voltage U _{oc} (V)	27,98	28,36	28,70	28,93
Voltage U _{mpp} (V)	24,02	24,38	24,66	24,85
Short Circuit Current I _{sc} (A)	7,50	7,57	7,65	7,75
Current I _{mpp} (A)	6,86	6,92	7,00	7,10

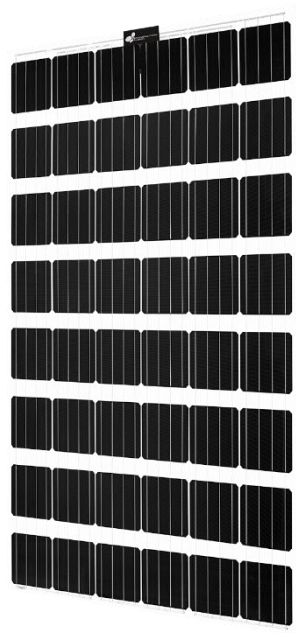
Material
Used

No. of cells	48
Type of cells	monocrystalline
Front	hardened solar glass
Frame	anodized aluminium
Frame height	35 mm
Module size	1700 x 1000 x 35 mm

Other Technical
Specification

Max. system voltage	1000 V	TC P _{mpp}	-0.41 %/K
Weight	22.0 ± 0.5 kg	TC U _{oc}	-0.31 %/K
Reverse Current Load I _R	15 A	TC I _{sc}	0.045 %/K
Junction box	IP67	NMOT	45 +/- 2 °C
Connectors	IP67		
Bypass diodes	3 pcs		

EXCELLENT GLASS/GLASS 215 | 220 | 225 | 230 M48 brilliant frameless



brilliant Edition
Back: transparent

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)	215	220	225	230
Open Circuit Voltage Uoc (V)	30,13	30,54	30,91	31,16
Voltage Umpp (V)	25,05	25,41	25,68	25,87
Short Circuit Current Isc (A)	9,27	9,36	9,45	9,58
Current Impp (A)	8,58	8,66	8,76	8,89
Efficiency η (%)	12,8	13,1	13,4	13,7

Performance NMOT

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

Nominal Power Pmpp (Wp)	165	169	173	177
Open Circuit Voltage Uoc (V)	27,98	28,36	28,70	28,93
Voltage Umpp (V)	24,02	24,38	24,66	24,85
Short Circuit Current Isc (A)	7,50	7,57	7,65	7,75
Current Impp (A)	6,86	6,92	7,00	7,10

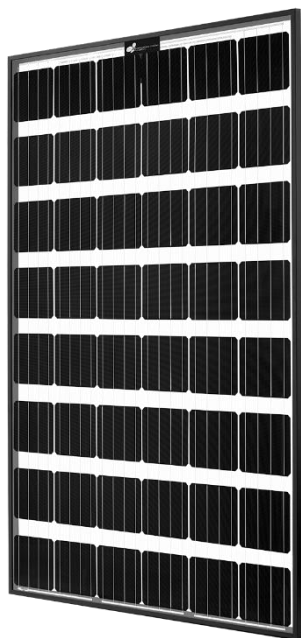
Material
Used

No. of cells	48
Type of cells	monocrystalline
Front	hardened solar glass
Frame	n/a
Frame height	n/a
Module size	1693 x 993 x 28 mm

Other Technical
Specification

Max. system voltage	1000 V	TC Pmpp	-0.41 %/K
Weight	20.0 ± 0.5 kg	TC Uoc	-0.31 %/K
Reverse Current Load IR	15 A	TC Isc	0.045 %/K
Junction box	IP67	NMOT	45 +/- 2 °C
Connectors	IP67		
Bypass diodes	3 pcs		

EXCELLENT GLASS/GLASS 230 | 235 | 240 | 245 PERC48 brilliant



brilliant Edition

Frame: black
Back: transparent

Performance STC

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

Nominal Power P _{mp} (Wp)	230	235	240	245
Open Circuit Voltage U _{oc} (V)	31,06	31,32	31,42	31,52
Voltage U _{mp} (V)	25,81	26,01	26,18	26,32
Short Circuit Current I _{sc} (A)	9,46	9,62	9,79	9,96
Current I _{mp} (A)	8,91	9,03	9,17	9,31
Efficiency η (%)	13,5	13,8	14,1	14,4

Performance NMOT

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

Nominal Power P _{mp} (Wp)	178	182	186	189
Open Circuit Voltage U _{oc} (V)	29,05	29,29	29,38	29,48
Voltage U _{mp} (V)	25,00	25,21	25,36	25,49
Short Circuit Current I _{sc} (A)	7,64	7,77	7,91	8,05
Current I _{mp} (A)	7,11	7,21	7,32	7,43

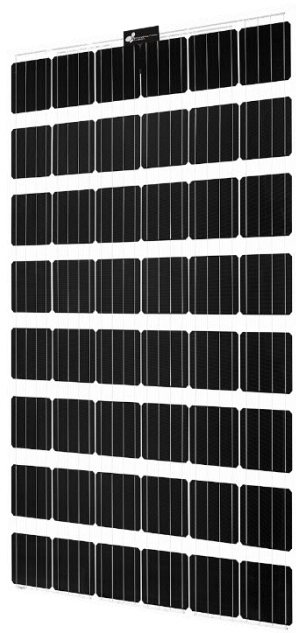
Material
Used

No. of cells	48
Type of cells	mono perc
Front	hardened solar glass
Frame	anodized aluminium
Frame height	35 mm
Module size	1700 x 1000 x 35 mm

Other Technical
Specification

Max. system voltage	1000 V	TC P _{mp}	-0.39 %/K
Weight	22.0 ± 0.5 kg	TC U _{oc}	-0.28 %/K
Reverse Current Load I _R	15 A	TC I _{sc}	0.040 %/K
Junction box	IP67	NMOT	45 +/- 2 °C
Connectors	IP67		
Bypass diodes	3 pcs		

EXCELLENT GLASS/GLASS 230 | 235 | 240 | 245 PERC48 brilliant frameless



brilliant Edition
Rückseite: transparent

Performance STC

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

Nominal Power P _{mp} (Wp)	230	235	240	245
Open Circuit Voltage U _{oc} (V)	31,06	31,32	31,42	31,52
Voltage U _{mp} (V)	25,81	26,01	26,18	26,32
Short Circuit Current I _{sc} (A)	9,46	9,62	9,79	9,96
Current I _{mp} (A)	8,91	9,03	9,17	9,31
Efficiency η (%)	13,7	14,0	14,3	14,6

Performance NMOT

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

Nominal Power P _{mp} (Wp)	178	182	186	189
Open Circuit Voltage U _{oc} (V)	29,05	29,29	29,38	29,48
Voltage U _{mp} (V)	25,00	25,21	25,36	25,49
Short Circuit Current I _{sc} (A)	7,64	7,77	7,91	8,05
Current I _{mp} (A)	7,11	7,21	7,32	7,43

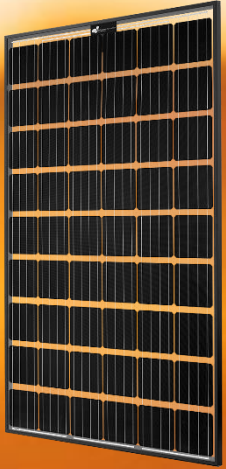
Material
Used

No. of cells	48
Type of cells	mono perc
Front	hardened solar glass
Frame	n/a
Frame height	n/a
Module size	1693 x 993 x 28 mm

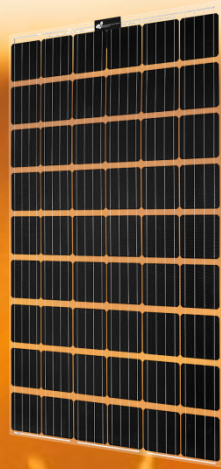
Other Technical
Specification

Max. system voltage	1000 V	TC P _{mp}	-0.39 %/K
Weight	22.0 ± 0.5 kg	TC U _{oc}	-0.28 %/K
Reverse Current Load I _R	15 A	TC I _{sc}	0.040 %/K
Junction box	IP67	NMOT	45 +/- 2 °C
Connectors	IP67		
Bypass diodes	3 pcs		

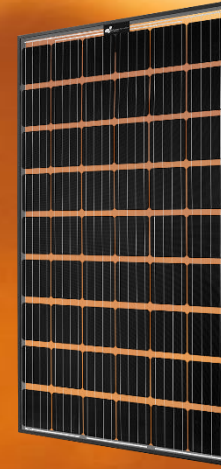
Glass/Glass Module brilliant 54



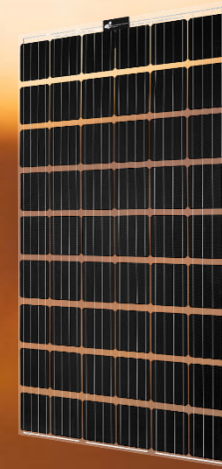
EXCELLENT
Glass/Glass
MS4 brilliant



EXCELLENT
Glass/Glass
MS4 brilliant
frameless



EXCELLENT
Glass/Glass
PERC54 brilliant



EXCELLENT
Glass/Glass
PERC54 brilliant
frameless

Transparency and Performance

The cell matrix is optimized for light transmission and maximum performance

The optimized cell matrix enables a light transparency of 19%

Optimizes electricity production whilst preserving daylight diffusion for agricultural greenhouses and buildings

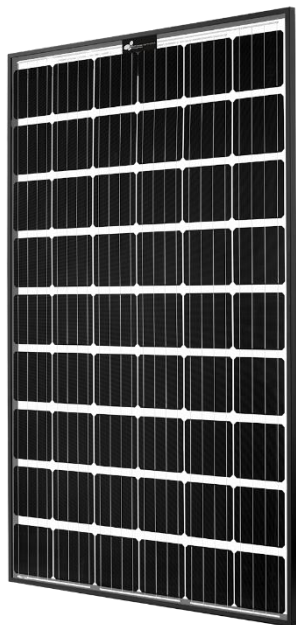
Perfect architectural integration and control of natural light contribution for verandas, pergolas, awnings and carports

30 years linear performance guarantee*

20 years product guarantee

Optional Total Care for the entire system

EXCELLENT GLASS/GLASS 245 | 250 | 255 | 260 M54 brilliant



brilliant Edition

Frame: black
Back: transparent

Performance STC

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

Nominal Power P _{mp} (Wp)	245	250	255	260
Open Circuit Voltage U _{oc} (V)	34,73	34,98	35,18	35,36
Voltage U _{mp} (V)	27,98	28,25	28,50	28,71
Short Circuit Current I _{sc} (A)	9,29	9,37	9,46	9,53
Current I _{mp} (A)	8,76	8,85	8,95	9,06
Efficiency η (%)	14,4	14,7	15,0	15,3

Performance NMOT

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

Nominal Power P _{mp} (Wp)	190	194	198	202
Open Circuit Voltage U _{oc} (V)	32,25	32,48	32,67	32,83
Voltage U _{mp} (V)	27,17	27,43	27,67	27,87
Short Circuit Current I _{sc} (A)	7,52	7,58	7,65	7,71
Current I _{mp} (A)	7,00	7,07	7,15	7,24

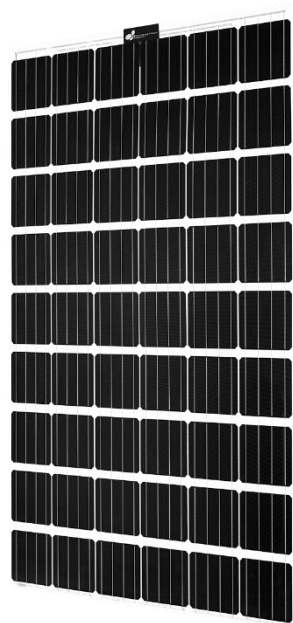
Material
Used

No. of cells	54
Type of cells	monocrystalline
Front	hardened solar glass
Frame	anodized aluminium
Frame height	35 mm
Module size	1700 x 1000 x 35 mm

Other Technical
Specification

Max. system voltage	1000 V	TC P _{mp}	-0.41 %/K
Weight	22.0 ± 0.5 kg	TC U _{oc}	-0.31 %/K
Reverse Current Load I _R	15 A	TC I _{sc}	0.045 %/K
Junction box	IP67	NMOT	45 +/- 2 °C
Connectors	IP67		
Bypass diodes	3 pcs		

EXCELLENT GLASS/GLASS 245 | 250 | 255 | 260 M54 brilliant frameless



brilliant Edition

Back: transparent

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	260
Open Circuit Voltage U _{oc} (V)	34,73	34,98	35,18	35,36
Voltage U _{mpp} (V)	27,98	28,25	28,50	28,71
Short Circuit Current I _{sc} (A)	9,29	9,37	9,46	9,53
Current I _{mpp} (A)	8,76	8,85	8,95	9,06
Efficiency η (%)	14,6	14,9	15,2	15,5

Performance NMOT

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

Nominal Power P _{mpp} (Wp)	190	194	198	202
Open Circuit Voltage U _{oc} (V)	32,25	32,48	32,67	32,83
Voltage U _{mpp} (V)	27,17	27,43	27,67	27,87
Short Circuit Current I _{sc} (A)	7,52	7,58	7,65	7,71
Current I _{mpp} (A)	7,00	7,07	7,15	7,24

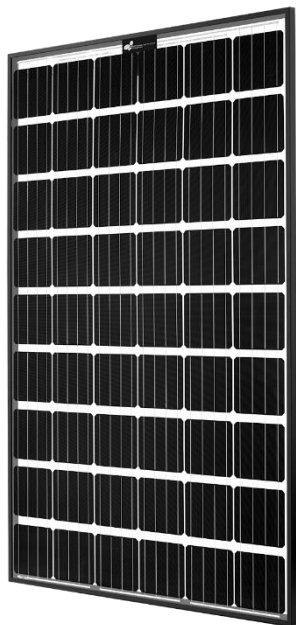
Material
Used

No. of cells	54
Type of cells	monocrystalline
Front	hardened solar glass
Frame	n/a
Frame height	n/a
Module size	1693 x 993 x 28 mm

Other Technical
Specification

Max. system voltage	1000 V	TC P _{mpp}	-0.41 %/K
Weight	20.0 ± 0.5 kg	TC U _{oc}	-0.31 %/K
Reverse Current Load I _R	15 A	TC I _{sc}	0.045 %/K
Junction box	IP67	NMOT	45 +/- 2 °C
Connectors	IP67		
Bypass diodes	3 pcs		

EXCELLENT GLASS/GLASS 260 | 265 | 270 | 275 PERC54 brilliant



brilliant Edition

Frame: black
Back: transparent

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)	260	265	270	275
Open Circuit Voltage Uoc (V)	34,94	35,23	35,55	36,22
Voltage Umpp (V)	29,04	29,26	29,45	29,63
Short Circuit Current Isc (A)	9,54	9,64	9,74	9,84
Current Impp (A)	8,95	9,06	9,17	9,28
Efficiency η (%)	15,3	15,6	15,9	16,2

Performance NMOT

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

Nominal Power Pmpp (Wp)	202	206	210	215
Open Circuit Voltage Uoc (V)	32,68	32,95	33,25	33,87
Voltage Umpp (V)	28,29	28,52	28,73	29,00
Short Circuit Current Isc (A)	7,71	7,79	7,87	7,95
Current Impp (A)	7,14	7,23	7,32	7,41

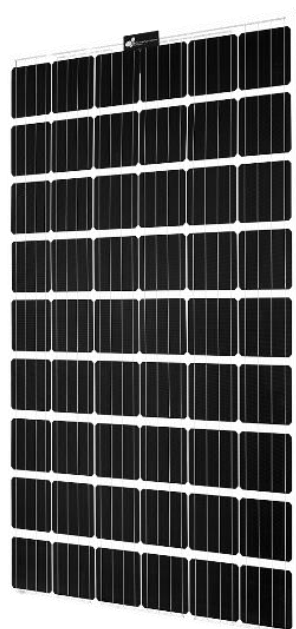
Material
Used

No. of cells	54
Type of cells	mono perc
Front	hardened solar glass
Frame	anodized aluminium
Frame height	35 mm
Module size	1700 x 1000 x 35 mm

Other Technical
Specification

Max. system voltage	1000 V	TC Pmpp	-0.39 %/K
Weight	22.0 ± 0.5 kg	TC Uoc	-0.28 %/K
Reverse Current Load IR	15 A	TC Isc	0.040 %/K
Junction box	IP67	NMOT	45 +/- 2 °C
Connectors	IP67		
Bypass diodes	3 pcs		

EXCELLENT GLASS/GLASS 260 | 265 | 270 | 275 PERC54 brilliant frameless



brilliant Edition
Rückseite: transparent

Performance STC

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

Nominal Power P _{mp} (Wp)	260	265	270	275
Open Circuit Voltage U _{oc} (V)	34,94	35,23	35,55	36,22
Voltage U _{mp} (V)	29,04	29,26	29,45	29,63
Short Circuit Current I _{sc} (A)	9,54	9,64	9,74	9,84
Current I _{mp} (A)	8,95	9,06	9,17	9,28
Efficiency η (%)	15,5	15,8	16,1	16,4

Performance NMOT

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

Nominal Power P _{mp} (Wp)	202	206	210	215
Open Circuit Voltage U _{oc} (V)	32,68	32,95	33,25	33,87
Voltage U _{mp} (V)	28,29	28,52	28,73	29,00
Short Circuit Current I _{sc} (A)	7,71	7,79	7,87	7,95
Current I _{mp} (A)	7,14	7,23	7,32	7,41

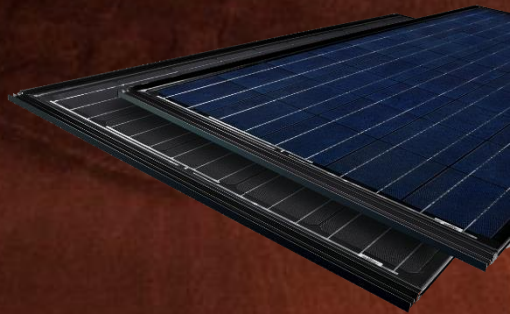
Material
Used

No. of cells	54
Type of cells	mono perc
Front	hardened solar glass
Frame	n/a
Frame height	n/a
Module size	1693 x 993 x 28 mm

Other Technical
Specification

Max. system voltage	1000 V	TC P _{mp}	-0.39 %/K
Weight	22.0 ± 0.5 kg	TC U _{oc}	-0.28 %/K
Reverse Current Load I _R	15 A	TC I _{sc}	0.040 %/K
Junction box	IP67	NMOT	45 +/- 2 °C
Connectors	IP67		
Bypass diodes	3 pcs		

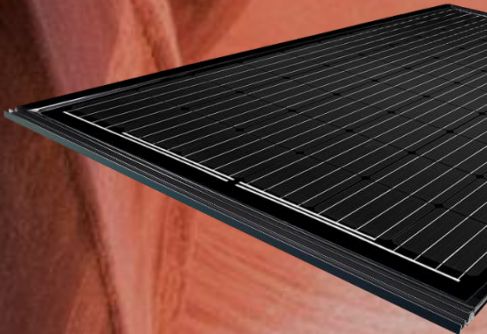
Integration Module



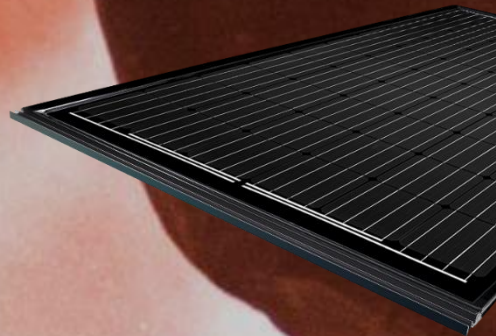
INTEGRATION P50 M50



INTEGRATION
CLASS/GLASS P60



INTEGRATION
CLASS/GLASS M60



INTEGRATION
CLASS/GLASS PERC60

Exquisitly designed in-roof panel

2 x 2 mm strong, scratch-resistant thermally hardened solar glass

Glass-Glass composite technology minimizes impact of environmental factors

Cells in neutral phase are especially protected against tensile and pressure loads

In-roof panels with Solrif frame

Easy to install, reliable operation

Tested system structure and rain-proof

Optimized for performance

PID-free high performance solar cells

Antireflective coated and light-transmitting solar glass

Best low-light behavior

Positively classified
-0/+4.99 Wp

Industry-leading NMOT values

Highest quality standards

Manufactured in accordance with
DIN EN ISO 9001:2015
DIN EN ISO 14001:2015
BS OHSAS 18001:2007

PV-module type approval according to IEC 61215:2016 ¹

PV-module safety qualification according to IEC 61730:2016 ¹

Performance guarantee degradation below industry standard *

30 years linear performance guarantee

20 years product guarantee

Optional extension of product guarantee to 30 years

Optional Total Care for the entire system

* For detailed information please consult the CS Wismar GmbH warranty conditions
¹ Subject to recertification

INTEGRATION 210 | 215 P50 black



Integration Edition

Frame: black
Back: black

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)	210	215
Open Circuit Voltage U _{oc} (V)	31,65	31,9
Voltage U _{mpp} (V)	24,75	24,99
Short Circuit Current I _{sc} (A)	9,13	9,23
Current I _{mpp} (A)	8,49	8,61
Efficiency η (%)	14,5	14,8

Performance NMOT

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

Nominal Power P _{mpp} (Wp)	163	167
Open Circuit Voltage U _{oc} (V)	29,43	29,67
Voltage U _{mpp} (V)	24,01	24,25
Short Circuit Current I _{sc} (A)	7,40	7,48
Current I _{mpp} (A)	6,80	6,89

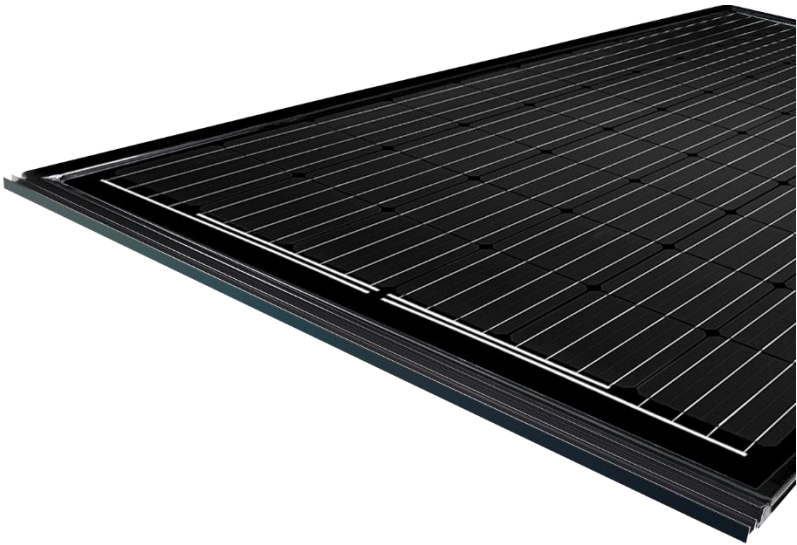
Material Used

No. of cells	50
Type of cells	polycrystalline
Front	hardened solar glass
Frame	Solrif
Frame height	16 mm
Module size	1682 x 864 x 35 mm

Other Technical Specification

Max. system voltage	1000 V	TC P _{mpp}	-0.40 %/K
Weight	17.5 ± 0.5 kg	TC U _{oc}	-0.305 %/K
Reverse Current Load I _R	15 A	TC I _{sc}	0.053 %/K
Junction box	IP67	NMOT	45 +/- 2 °C
Connectors	IP67		
Bypass diodes	3 pcs		

INTEGRATION 220 | 225 MSO black



Integration Edition

Frame: black
Back: black

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)	220	225
Open Circuit Voltage U _{oc} (V)	31,9	32,2
Voltage U _{mpp} (V)	25,51	25,76
Short Circuit Current I _{sc} (A)	9,22	9,31
Current I _{mpp} (A)	8,63	8,74
Efficiency η (%)	15,1	15,5

Performance NMOT

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

Nominal Power P _{mpp} (Wp)	170	174
Open Circuit Voltage U _{oc} (V)	29,62	29,90
Voltage U _{mpp} (V)	24,69	24,94
Short Circuit Current I _{sc} (A)	7,46	7,53
Current I _{mpp} (A)	6,90	6,98

Material Used

No. of cells	50
Type of cells	monocrystalline
Front	hardened solar glass
Frame	Solrif
Frame height	16 mm
Module size	1682 x 864 x 35 mm

Other Technical Specification

Max. system voltage	1000 V	TC P _{mpp}	-0.41 %/K
Weight	17.5 ± 0.5 kg	TC U _{oc}	-0.31 %/K
Reverse Current Load I _R	15 A	TC I _{sc}	0.045 %/K
Junction box	IP67	NMOT	45 +/- 2 °C
Connectors	IP67		
Bypass diodes	3 pcs		

INTEGRATION GLASS/GLASS 260 | 265 | 270 | 275 P60



Integration Edition

Frame: black
Back: black

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)	260	265	270	275
Open Circuit Voltage U _{oc} (V)	38,08	38,25	38,42	38,60
Voltage U _{mpp} (V)	30,57	30,80	31,03	31,26
Short Circuit Current I _{sc} (A)	9,18	9,27	9,36	9,44
Current I _{mpp} (A)	8,56	8,65	8,74	8,82
Efficiency η (%)	14,6	14,8	15,1	15,4

Performance NMOT

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

Nominal Power P _{mpp} (Wp)	204	208	212	215
Open Circuit Voltage U _{oc} (V)	35,41	35,57	35,73	35,90
Voltage U _{mpp} (V)	29,82	30,04	30,26	30,47
Short Circuit Current I _{sc} (A)	7,44	7,51	7,59	7,65
Current I _{mpp} (A)	6,85	6,93	7,00	7,06

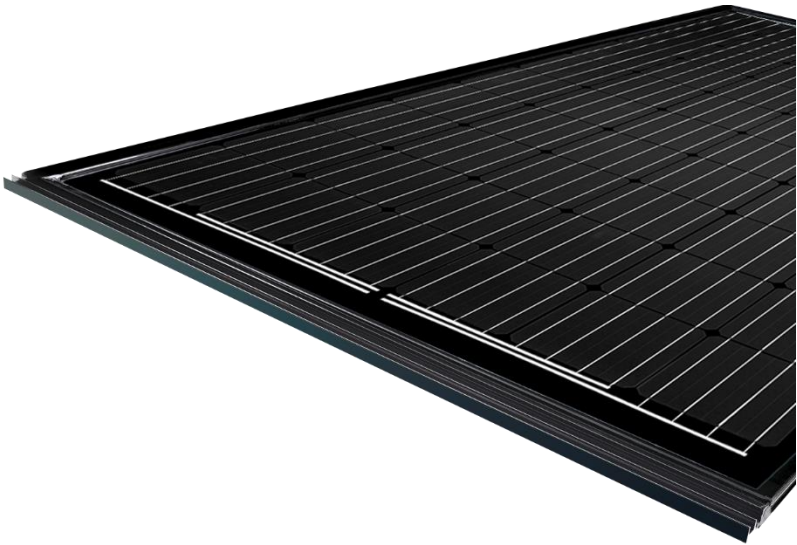
Material
Used

No. of cells	60
Type of cells	polycrystalline
Front	hardened solar glass
Frame	Solrif
Frame height	16 mm
Module size	1743 x 1025 x 35 mm

Other Technical
Specification

Max. system voltage	1000 V	TC P _{mpp}	-0.40 %/K
Weight	20.0 ± 0.5 kg	TC U _{oc}	-0.305 %/K
Reverse Current Load I _R	15 A	TC I _{sc}	0.053 %/K
Junction box	IP67	NMOT	45 +/- 2 °C
Connectors	IP67		
Bypass diodes	3 pcs		

INTEGRATION GLASS/GLASS 275 | 280 | 285 | 290 M60



Integration Edition

Frame: black
Back: black

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)	275	280	285	290
Open Circuit Voltage U _{oc} (V)	38,99	39,16	39,33	39,48
Voltage U _{mpp} (V)	31,27	31,64	32,01	32,37
Short Circuit Current I _{sc} (A)	9,37	9,46	9,54	9,63
Current I _{mpp} (A)	8,80	8,87	8,90	8,95
Efficiency η (%)	15,4	15,7	16,0	16,2

Performance NMOT

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

Nominal Power P _{mpp} (Wp)	215	219	222	226
Open Circuit Voltage U _{oc} (V)	36,21	36,36	36,52	36,66
Voltage U _{mpp} (V)	30,58	30,91	31,23	31,55
Short Circuit Current I _{sc} (A)	7,58	7,65	7,72	7,79
Current I _{mpp} (A)	7,03	7,09	7,11	7,15

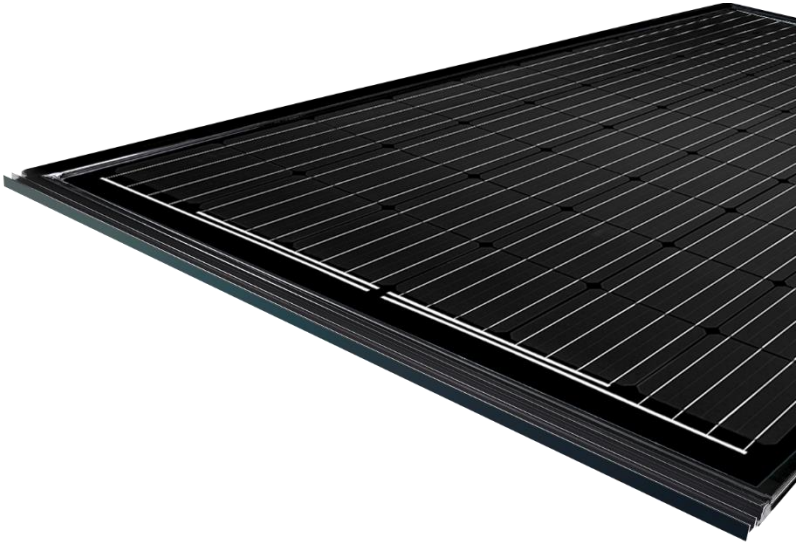
Material
Used

No. of cells	60
Type of cells	monocrystalline
Front	hardened solar glass
Frame	Solrif
Frame height	16 mm
Module size	1743 x 1025 x 35 mm

Other Technical
Specification

Max. system voltage	1000 V	TC P _{mpp}	-0.41 %/K
Weight	20.0 ± 0.5 kg	TC U _{oc}	-0.31 %/K
Reverse Current Load I _R	15 A	TC I _{sc}	0.045 %/K
Junction box	IP67	NMOT	45 +/- 2 °C
Connectors	IP67		
Bypass diodes	3 pcs		

INTEGRATION GLASS/GLASS 290 | 295 | 300 | 305 PERC60



Integration Edition

Frame: black
Back: black

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)	290	295	300	305
Open Circuit Voltage U _{oc} (V)	38,83	39,15	39,28	39,62
Voltage U _{mpp} (V)	32,26	32,52	32,72	32,94
Short Circuit Current I _{sc} (A)	9,58	9,66	9,76	9,87
Current I _{mpp} (A)	8,99	9,07	9,17	9,26
Efficiency η (%)	16,2	16,5	16,8	17,1

Performance NMOT

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

Nominal Power P _{mpp} (Wp)	227	231	235	239
Open Circuit Voltage U _{oc} (V)	36,31	36,61	36,74	37,05
Voltage U _{mpp} (V)	31,6	31,86	32,05	32,29
Short Circuit Current I _{sc} (A)	7,74	7,81	7,89	7,97
Current I _{mpp} (A)	7,17	7,24	7,32	7,39

Material
Used

No. of cells	60
Type of cells	mono perc
Front	hardened solar glass
Frame	Solrif
Frame height	16 mm
Module size	1743 x 1025 x 35 mm

Other Technical
Specification

Max. system voltage	1000 V	TC P _{mpp}	-0.39 %/K
Weight	20.0 ± 0.5 kg	TC U _{oc}	-0.28 %/K
Reverse Current Load I _R	15 A	TC I _{sc}	0.040 %/K
Junction box	IP67	NMOT	45 +/- 2 °C
Connectors	IP67		
Bypass diodes	3 pcs		

Glass/Foil Module Poly



EXCELLENT P60



EXCELLENT P72

Highest esthetics, easy and flexible installation

Elegant and attractive design

Extended clamping areas

Upside down installation possible

Optimized for performance

PID-free polycrystalline high performance solar cells

Antireflective glass ensures high yields even at diffuse irradiation

Positively classified
-0/+4.99 Wp

Industry-leading NMOT values

Highest quality standards

Manufactured in accordance with
DIN EN ISO 9001:2015
DIN EN ISO 14001:2015
BS OHSAS 18001:2007

PV-module type approval according to
IEC 61215:2016 ¹

PV-module safety qualification according to
IEC 61730:2016 ¹

Salt spray corrosion testing according to
IEC 61701 ¹

Ammonia resistance testing according to
IEC 62716 ¹

Guaranteed performance *

26 years of linear
performance guarantee

12 years product guarantee

Optional extension of product guarantee
to 25 years

Optional Total Care
for the entire system

* For detailed information please consult the CS Wismar GmbH warranty conditions

¹ Subject to recertification

EXCELLENT 265 | 270 | 275 | 280 P60 smart | black



smart Edition
Frame: black
Back: white



black Edition
Frame: black
Back: 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)	265	270	275	280
Open Circuit Voltage Uoc (V)	38,25	38,42	38,60	38,74
Voltage Umpp (V)	30,80	31,03	31,26	31,47
Short Circuit Current Isc (A)	9,27	9,36	9,44	9,53
Current Impp (A)	8,65	8,74	8,82	8,91
Efficiency η (%)	15,6	15,9	16,2	16,5

Performance NMOT

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

Nominal Power Pmpp (Wp)	208	212	215	219
Open Circuit Voltage Uoc (V)	35,57	35,73	35,90	36,03
Voltage Umpp (V)	30,04	30,26	30,47	30,67
Short Circuit Current Isc (A)	7,51	7,59	7,65	7,73
Current Impp (A)	6,93	7,00	7,06	7,13

Material
Used

No. of cells	60
Type of cells	polycrystalline
Front	hardened solar glass
Frame	anodized aluminium
Frame height	35 mm
Module size	1700 x 1000 x 35 mm

Other Technical
Specification

Max. system voltage	1000 V	TC Pmpp	-0.40 %/K
Weight	19.0 ± 0.5 kg	TC Uoc	-0.305 %/K
Reverse Current Load IR	15 A	TC Isc	0.053 %/K
Junction box	IP67	NMOT	45 +/- 2 °C
Connectors	IP67		
Bypass diodes	3 pcs		

EXCELLENT 320 | 325 | 330 | 335 P72 smart



smart Edition

Frame: black
Back: white

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	335
Open Circuit Voltage Uoc (V)	46,15	46,37	46,60	46,83
Voltage Umpp (V)	37,42	37,65	37,73	37,91
Short Circuit Current Isc (A)	9,10	9,18	9,27	9,35
Current Impp (A)	8,60	8,70	8,84	8,95
Efficiency η (%)	16,0	16,3	16,5	16,8

Performance NMOT

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

Nominal Power Pmpp (Wp)	253	258	263	268
Open Circuit Voltage Uoc (V)	42,92	43,12	43,34	43,55
Voltage Umpp (V)	36,81	37,04	37,15	37,34
Short Circuit Current Isc (A)	7,38	7,44	7,51	7,58
Current Impp (A)	6,89	6,97	7,08	7,17

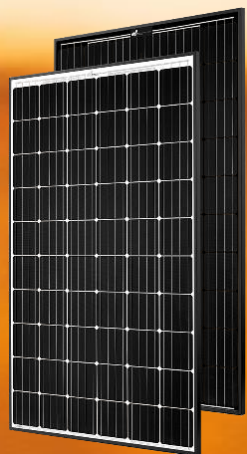
Material
Used

No. of cells	72
Type of cells	polycrystalline
Front	hardened solar glass
Frame	anodized aluminium
Frame height	35 mm
Module size	2000 x 1000 x 35 mm

Other Technical
Specification

Max. system voltage	1000 V	TC Pmpp	-0.40 %/K
Weight	22.0 ± 0.5 kg	TC Uoc	-0.305 %/K
Reverse Current Load IR	15 A	TC Isc	0.053 %/K
Junction box	IP67	NMOT	45 +/- 2 °C
Connectors	IP67		
Bypass diodes	3 pcs		

Glass/Foil Module Mono



EXCELLENT M60



EXCELLENT M72

Highest esthetics, easy and flexible installation

- Elegant and attractive design
- Extended clamping areas
- Upside down installation possible

Optimized for performance

- PID-free monocrystalline high performance solar cells
- Antireflective glass ensures high yields even at diffuse irradiation
- Positively classified -0/+4.99 Wp
- Industry-leading NMOT values

Highest quality standards

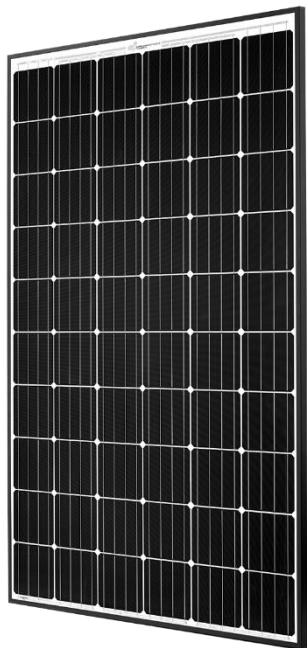
- Manufactured in accordance with
DIN EN ISO 9001:2015
DIN EN ISO 14001:2015
BS OHSAS 18001:2007
- PV-module type approval according to IEC 61215:2016 ¹
- PV-module safety qualification according to IEC 61730:2016 ¹
- Salt spray corrosion testing according to IEC 61701 ¹
- Ammonia resistance testing according to IEC 62716 ¹

Guaranteed performance *

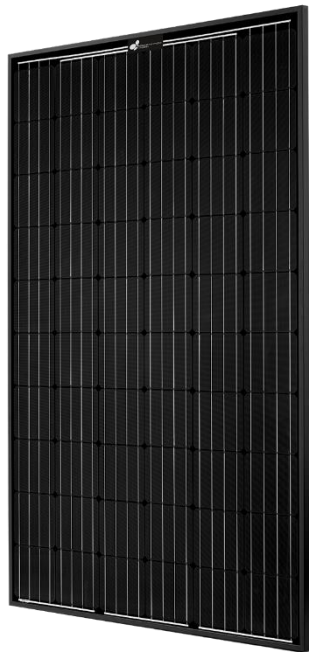
- 26 years of linear performance guarantee
- 12 years product guarantee
- Optional extension of product guarantee to 25 years
- Optional Total Care for the entire system

* For detailed information please consult the CS Wismar GmbH warranty conditions
¹ Subject to recertification

EXCELLENT 275 | 280 | 285 | 290 M60 smart | black



smart Edition
Frame: black
Back: white



black Edition
Frame: black
Back: 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)	275	280	285	290
Open Circuit Voltage Uoc (V)	38,99	39,16	39,33	39,48
Voltage Umpp (V)	31,27	31,64	32,01	32,37
Short Circuit Current Isc (A)	9,37	9,46	9,54	9,63
Current Impp (A)	8,80	8,87	8,90	8,95
Efficiency η (%)	16,2	16,5	16,8	17,1

Performance NMOT

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

Nominal Power Pmpp (Wp)	215	219	222	226
Open Circuit Voltage Uoc (V)	36,21	36,36	36,52	36,66
Voltage Umpp (V)	30,58	30,91	31,23	31,55
Short Circuit Current Isc (A)	7,58	7,65	7,72	7,79
Current Impp (A)	7,03	7,09	7,11	7,15

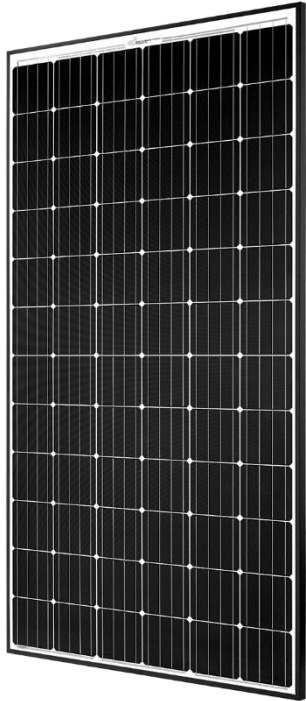
Material
Used

No. of cells	60
Type of cells	monocrystalline
Front	hardened solar glass
Frame	anodized aluminium
Frame height	35 mm
Module size	1700 x 1000 x 35 mm

Other Technical
Specification

Max. system voltage	1000 V	TC Pmpp	-0.41 %/K
Weight	19.0 ± 0.5 kg	TC Uoc	-0.31 %/K
Reverse Current Load IR	15 A	TC Isc	0.045 %/K
Junction box	IP67	NMOT	45 +/- 2 °C
Connectors	IP67		
Bypass diodes	3 pcs		

EXCELLENT 335 | 340 | 345 | 350 M72 smart



smart Edition

Frame: black
Back: white

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)	335	340	345	350
Open Circuit Voltage Uoc (V)	46,04	46,18	46,31	46,45
Voltage Umpp (V)	37,47	37,54	37,60	37,66
Short Circuit Current Isc (A)	9,41	9,50	9,58	9,67
Current Impp (A)	8,96	9,09	9,22	9,34
Efficiency η (%)	16,8	17,0	17,3	17,5

Performance NMOT

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

Nominal Power Pmpp (Wp)	264	268	273	277
Open Circuit Voltage Uoc (V)	42,75	42,88	43,00	43,13
Voltage Umpp (V)	36,87	36,95	37,03	37,10
Short Circuit Current Isc (A)	7,61	7,69	7,75	7,82
Current Impp (A)	7,16	7,26	7,37	7,46

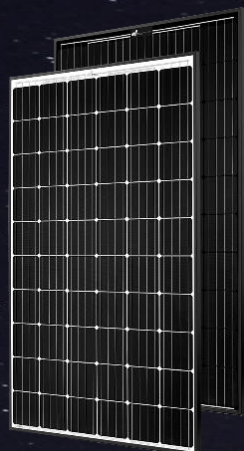
Material
Used

No. of cells	72
Type of cells	monocrystalline
Front	hardened solar glass
Frame	anodized aluminium
Frame height	35 mm
Module size	2000 x 1000 x 35 mm

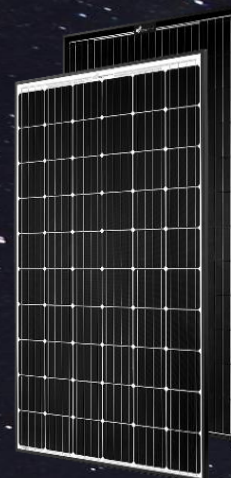
Other Technical
Specification

Max. system voltage	1000 V	TC Pmpp	-0.41 %/K
Weight	22.0 ± 0.5 kg	TC Uoc	-0.31 %/K
Reverse Current Load IR	15 A	TC Isc	0.045 %/K
Junction box	IP67	NMOT	45 +/- 2 °C
Connectors	IP67		
Bypass diodes	3 pcs		

Glass/Foil Module PERC



EXCELLENT
PERC 60



EXCELLENT
PERC 72

Highest esthetics, easy and flexible installation

Elegant and attractive design

Extended clamping areas

Upside down installation possible

Optimized for performance

PID-free PERC high performance solar cells

Antireflective glass ensures high yields even at diffuse irradiation

Positively classified
-0/+4.99 Wp

Industry-leading NMOT values

Highest quality standards

Manufactured in accordance with
DIN EN ISO 9001:2015
DIN EN ISO 14001:2015
BS OHSAS 18001:2007

PV-module type approval according to
IEC 61215:2016 ¹

PV-module safety qualification according to
IEC 61730:2016 ¹

Salt spray corrosion testing according to
IEC 61701 ¹

Ammonia resistance testing according to
IEC 62716 ¹

Guaranteed performance *

26 years of linear
performance guarantee

12 years product guarantee

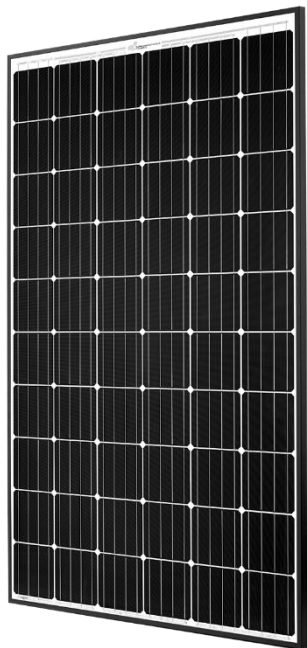
Optional extension of product guarantee
to 25 years

Optional Total Care
for the entire system

* For detailed information please consult the CS Wismar GmbH warranty conditions

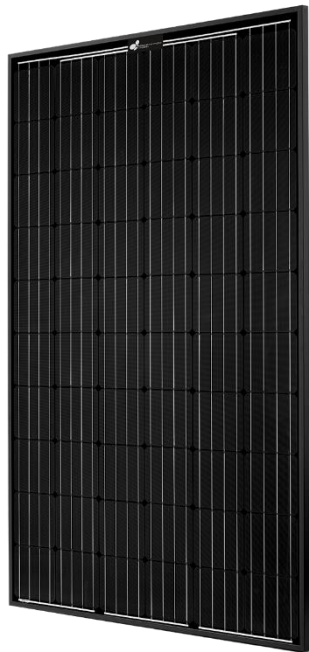
¹ Subject to recertification

EXCELLENT 295 | 300 | 305 | 310 PERC60 smart | black



smart Edition

Frame: black
Back: white



black Edition

Frame: black
Back: 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)	295	300	305	310
Open Circuit Voltage Uoc (V)	39,15	39,28	39,62	39,82
Voltage Umpp (V)	32,52	32,72	32,94	33,16
Short Circuit Current Isc (A)	9,66	9,76	9,87	9,98
Current Impp (A)	9,07	9,17	9,26	9,35
Efficiency η (%)	17,4	17,6	17,9	18,2

Performance NMOT

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

Nominal Power Pmpp (Wp)	231	235	239	243
Open Circuit Voltage Uoc (V)	36,61	36,74	37,05	37,24
Voltage Umpp (V)	31,86	32,05	32,29	32,50
Short Circuit Current Isc (A)	7,81	7,89	7,97	8,06
Current Impp (A)	7,24	7,32	7,39	7,46

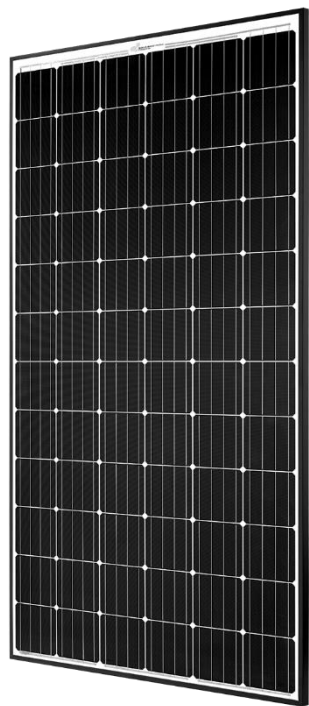
Material
Used

No. of cells	60
Type of cells	mono perc
Front	hardened solar glass
Frame	anodized aluminium
Frame height	35 mm
Module size	1700 x 1000 x 35 mm

Other Technical
Specification

Max. system voltage	1000 V	TC Pmpp	-0.39 %/K
Weight	19.0 ± 0.5 kg	TC Uoc	-0.28 %/K
Reverse Current Load IR	15 A	TC Isc	0.040 %/K
Junction box	IP67	NMOT	45 +/- 2 °C
Connectors	IP67		
Bypass diodes	3 pcs		

EXCELLENT 355 | 360 | 365 | 370 PERC72 smart



smart Edition

Frame: black
Back: white

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)	355	360	365	370
Open Circuit Voltage Uoc (V)	47,01	47,13	47,41	47,67
Voltage Umpp (V)	39,05	39,27	39,46	39,70
Short Circuit Current Isc (A)	9,68	9,79	9,87	9,95
Current Impp (A)	9,09	9,17	9,25	9,32
Efficiency η (%)	17,8	18,0	18,3	18,5

Performance NMOT

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

Nominal Power Pmpp (Wp)	280	284	288	292
Open Circuit Voltage Uoc (V)	43,97	44,08	44,34	44,58
Voltage Umpp (V)	38,60	38,80	39,01	39,25
Short Circuit Current Isc (A)	7,82	7,91	7,97	8,04
Current Impp (A)	7,25	7,32	7,38	7,44

Material
Used

No. of cells	72
Type of cells	mono perc
Front	hardened solar glass
Frame	anodized aluminium
Frame height	35 mm
Module size	2000 x 1000 x 35 mm

Other Technical
Specification

Max. system voltage	1000 V	TC Pmpp	-0.39 %/K
Weight	22.0 ± 0.5 kg	TC Uoc	-0.28 %/K
Reverse Current Load IR	15 A	TC Isc	0.040 %/K
Junction box	IP67	NMOT	45 +/- 2 °C
Connectors	IP67		
Bypass diodes	3 pcs		

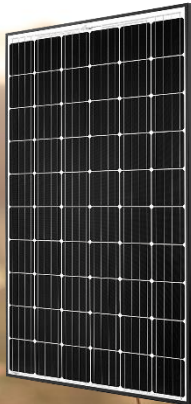
Glass/Foil Module Low Carbon



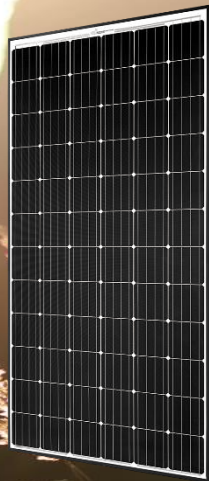
PROFESSIONAL
P60 Low Carbon



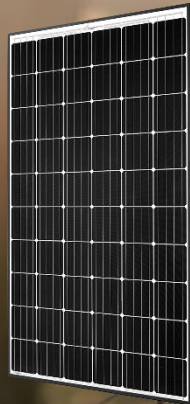
EXCELLENT
P72 Low Carbon



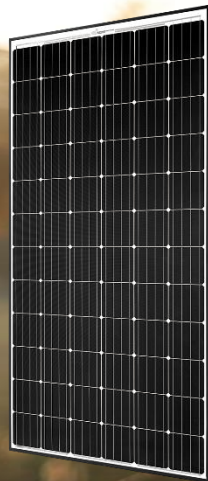
PROFESSIONAL
M60 Low Carbon



EXCELLENT
M72 Low Carbon



PROFESSIONAL
PERC60 Low Carbon



EXCELLENT
PERC72 Low Carbon

Certified sustainable manufacturing

Sustainable manufacturing certified by Certisolis

Carbon emissions during production are 50% lower than industry average

Optimized for performance

PID-free high performance solar cells

Antireflective glass ensures high yields even at diffuse irradiation

Positively classified -0/+4.99 Wp

Industry-leading NMOT values

Highest quality standards

Manufactured in accordance with
DIN EN ISO 9001:2015
DIN EN ISO 14001:2015
BS OHSAS 18001:2007

PV-module type approval according to IEC 61215:2016 ¹

PV-module safety qualification according to IEC 61730:2016 ¹

Salt spray corrosion testing according to IEC 61701 ¹

Ammonia resistance testing according to IEC 62716 ¹

Guaranteed performance *

26 years of linear performance guarantee

12 years product guarantee

Optional extension of product guarantee to 25 years

Optional Total Care for the entire system

* For detailed information please consult the CS Wismar GmbH warranty conditions
¹ Subject to recertification

PROFESSIONAL 265 | 270 | 275 | 280 P60 Low Carbon



Low Carbon Edition

Frame: black
Back: white

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)	265	270	275	280
Open Circuit Voltage Uoc (V)	38,25	38,42	38,60	38,74
Voltage Umpp (V)	30,80	31,03	31,26	31,47
Short Circuit Current Isc (A)	9,27	9,36	9,44	9,53
Current Impp (A)	8,65	8,74	8,82	8,91
Efficiency η (%)	15,8	16,1	16,4	16,7

Performance NMOT

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

Nominal Power Pmpp (Wp)	208	212	215	219
Open Circuit Voltage Uoc (V)	35,57	35,73	35,90	36,03
Voltage Umpp (V)	30,04	30,26	30,47	30,67
Short Circuit Current Isc (A)	7,51	7,59	7,65	7,73
Current Impp (A)	6,93	7,00	7,06	7,13

Material
Used

No. of cells	60
Type of cells	polycrystalline
Front	hardened solar glass
Frame	anodized aluminium
Frame height	35 mm
Module size	1680 x 1000 x 35 mm

Other Technical
Specification

Max. system voltage	1000 V	TC Pmpp	-0.40 %/K
Weight	19.0 ± 0.5 kg	TC Uoc	-0.305 %/K
Reverse Current Load IR	15 A	TC Isc	0.053 %/K
Junction box	IP67	NMOT	45 +/- 2 °C
Connectors	IP67		
Bypass diodes	3 pcs		

EXCELLENT 320 | 325 | 330 | 335 P72 Low Carbon



Low Carbon Edition

Frame: black
Back: white

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	335
Open Circuit Voltage Uoc (V)	46,15	46,37	46,60	46,83
Voltage Umpp (V)	37,42	37,65	37,73	37,91
Short Circuit Current Isc (A)	9,10	9,18	9,27	9,35
Current Impp (A)	8,60	8,70	8,84	8,95
Efficiency η (%)	16,0	16,3	16,5	16,8

Performance NMOT

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

Nominal Power Pmpp (Wp)	253	258	263	268
Open Circuit Voltage Uoc (V)	42,92	43,12	43,34	43,55
Voltage Umpp (V)	36,81	37,04	37,15	37,34
Short Circuit Current Isc (A)	7,38	7,44	7,51	7,58
Current Impp (A)	6,89	6,97	7,08	7,17

Material
Used

No. of cells	72
Type of cells	polycrystalline
Front	hardened solar glass
Frame	anodized aluminium
Frame height	35 mm
Module size	2000 x 1000 x 35 mm

Other Technical
Specification

Max. system voltage	1000 V	TC Pmpp	-0.40 %/K
Weight	22.0 ± 0.5 kg	TC Uoc	-0.305 %/K
Reverse Current Load IR	15 A	TC Isc	0.053 %/K
Junction box	IP67	NMOT	45 +/- 2 °C
Connectors	IP67		
Bypass diodes	3 pcs		

PROFESSIONAL 280 | 285 | 290 | 295 M60 Low Carbon



Low Carbon Edition

Frame: black
Back: white

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)	280	285	290	295
Open Circuit Voltage Uoc (V)	39,16	39,33	39,48	39,64
Voltage Umpp (V)	31,64	32,01	32,37	32,66
Short Circuit Current Isc (A)	9,46	9,54	9,63	9,71
Current Impp (A)	8,87	8,90	8,95	9,02
Efficiency η (%)	16,7	17,0	17,3	17,6

Performance NMOT

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

Nominal Power Pmpp (Wp)	219	222	226	229
Open Circuit Voltage Uoc (V)	36,36	36,52	36,66	36,81
Voltage Umpp (V)	30,91	31,23	31,55	31,81
Short Circuit Current Isc (A)	7,65	7,72	7,79	7,86
Current Impp (A)	7,09	7,11	7,15	7,21

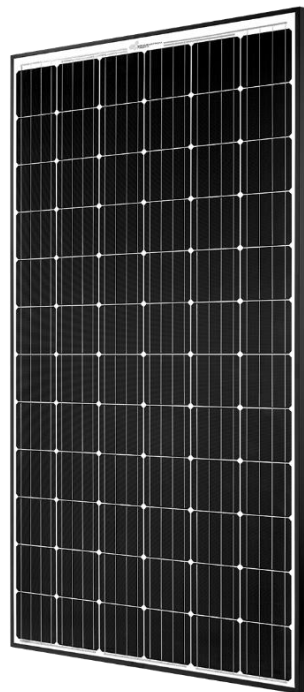
Material
Used

No. of cells	60
Type of cells	monocrystalline
Front	hardened solar glass
Frame	anodized aluminium
Frame height	35 mm
Module size	1680 x 1000 x 35 mm

Other Technical
Specification

Max. system voltage	1000 V	TC Pmpp	-0.41 %/K
Weight	19.0 ± 0.5 kg	TC Uoc	-0.31 %/K
Reverse Current Load IR	15 A	TC Isc	0.045 %/K
Junction box	IP67	NMOT	45 +/- 2 °C
Connectors	IP67		
Bypass diodes	3 pcs		

EXCELLENT 335 | 340 | 345 | 350 M72 Low Carbon



Low Carbon Edition

Frame: black
Back: white

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)	335	340	345	350
Open Circuit Voltage Uoc (V)	46,04	46,18	46,31	46,45
Voltage Umpp (V)	37,47	37,54	37,60	37,66
Short Circuit Current Isc (A)	9,41	9,50	9,58	9,67
Current Impp (A)	8,96	9,09	9,22	9,34
Efficiency η (%)	16,8	17,0	17,3	17,5

Performance NMOT

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

Nominal Power Pmpp (Wp)	264	268	273	277
Open Circuit Voltage Uoc (V)	42,75	42,88	43,00	43,13
Voltage Umpp (V)	36,87	36,95	37,03	37,10
Short Circuit Current Isc (A)	7,61	7,69	7,75	7,82
Current Impp (A)	7,16	7,26	7,37	7,46

Material
Used

No. of cells	72
Type of cells	monocrystalline
Front	hardened solar glass
Frame	anodized aluminium
Frame height	35 mm
Module size	2000 x 1000 x 35 mm

Other Technical
Specification

Max. system voltage	1000 V	TC Pmpp	-0.41 %/K
Weight	22.0 ± 0.5 kg	TC Uoc	-0.31 %/K
Reverse Current Load IR	15 A	TC Isc	0.045 %/K
Junction box	IP67	NMOT	45 +/- 2 °C
Connectors	IP67		
Bypass diodes	3 pcs		

PROFESSIONAL 295 | 300 | 305 | 310 PERC60 Low Carbon



Low Carbon Edition

Frame: black
Back: white

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)	295	300	305	310
Open Circuit Voltage Uoc (V)	39,15	39,28	39,62	39,82
Voltage Umpp (V)	32,52	32,72	32,94	33,16
Short Circuit Current Isc (A)	9,66	9,76	9,87	9,98
Current Impp (A)	9,07	9,17	9,26	9,35
Efficiency η (%)	17,6	17,9	18,2	18,5

Performance NMOT

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

Nominal Power Pmpp (Wp)	231	235	239	243
Open Circuit Voltage Uoc (V)	36,61	36,74	37,05	37,24
Voltage Umpp (V)	31,86	32,05	32,29	32,50
Short Circuit Current Isc (A)	7,81	7,89	7,97	8,06
Current Impp (A)	7,24	7,32	7,39	7,46

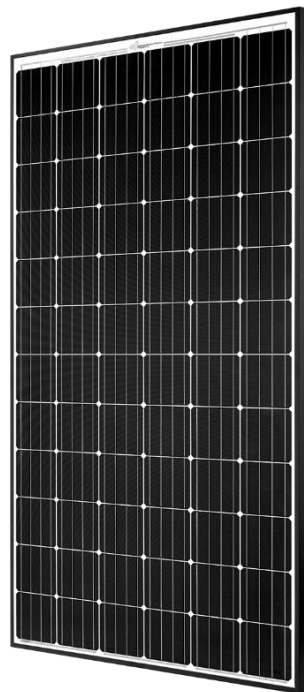
Material
Used

No. of cells	60
Type of cells	mono perc
Front	hardened solar glass
Frame	anodized aluminium
Frame height	35 mm
Module size	1680 x 1000 x 35 mm

Other Technical
Specification

Max. system voltage	1000 V	TC Pmpp	-0.39 %/K
Weight	19.0 ± 0.5 kg	TC Uoc	-0.28 %/K
Reverse Current Load IR	15 A	TC Isc	0.040 %/K
Junction box	IP67	NMOT	45 +/- 2 °C
Connectors	IP67		
Bypass diodes	3 pcs		

EXCELLENT 355 | 360 | 365 | 370 PERC72 Low Carbon



Low Carbon Edition

Frame: black
Back: white

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)	355	360	365	370
Open Circuit Voltage Uoc (V)	47,01	47,13	47,41	47,67
Voltage Umpp (V)	39,05	39,27	39,46	39,70
Short Circuit Current Isc (A)	9,68	9,79	9,87	9,95
Current Impp (A)	9,09	9,17	9,25	9,32
Efficiency η (%)	17,8	18,0	18,3	18,5

Performance NMOT

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

Nominal Power Pmpp (Wp)	280	284	288	292
Open Circuit Voltage Uoc (V)	43,97	44,08	44,34	44,58
Voltage Umpp (V)	38,60	38,80	39,01	39,25
Short Circuit Current Isc (A)	7,82	7,91	7,97	8,04
Current Impp (A)	7,25	7,32	7,38	7,44

Material
Used

No. of cells	72
Type of cells	mono perc
Front	hardened solar glass
Frame	anodized aluminium
Frame height	35 mm
Module size	2000 x 1000 x 35 mm

Other Technical
Specification

Max. system voltage	1000 V	TC Pmpp	-0.39 %/K
Weight	22.0 ± 0.5 kg	TC Uoc	-0.28 %/K
Reverse Current Load IR	15 A	TC Isc	0.040 %/K
Junction box	IP67	NMOT	45 +/- 2 °C
Connectors	IP67		
Bypass diodes	3 pcs		