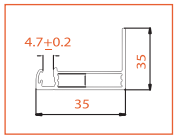
Philadelphia Solar
Delivering Clean Energy Solutions

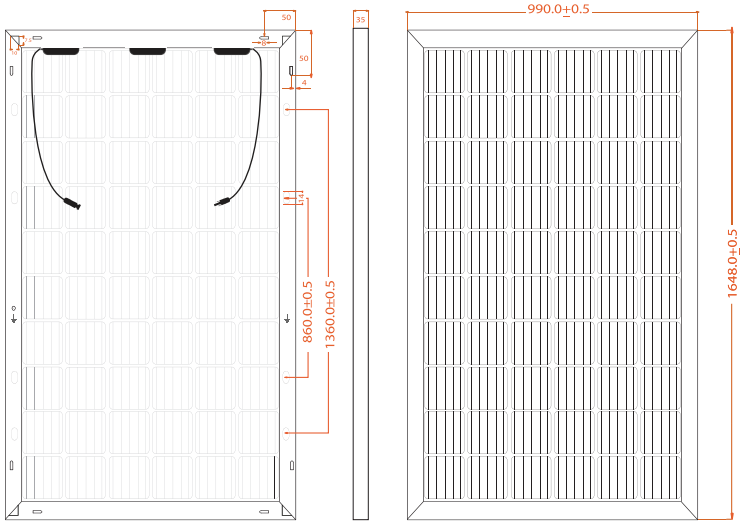
PS-M60(BF)-(305-320 W)

Mono **PERC** Bifacial Modules

Module Drawings



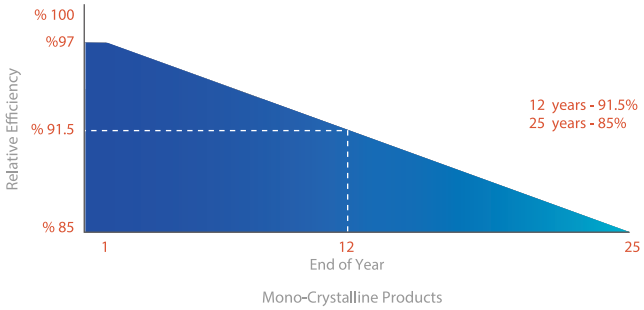
●Dimensions are in mm



Back Side Front

Philadelphia Solars' Mono-Crystalline Bifacial Modules with power up to 320 Wp are produced using the state-of-the-art (automated) robotic production lines. These modules are suitable to be used for most electrical power applications and have excellent durability to prevailing weather conditions.

Linear Performance Warranty



Mono-Crystalline Products

- 12 Year Product Warranty
- 25 Year Linear Power Warranty
- Only -0.5% Annual Degradation

Certificates

- Bankability Report DNV GL

PTL US CERTIFIED
ANSI/UL61730-1-2017
ANSI/UL61730-2-2017

PTL
IEC61215-1-2016
IEC61215-2-2016

PTL
IEC61730-1-2016
IEC61730-2-2016

TÜV AUSTRIA HELLAS
EN ISO 9001:2015

TÜV AUSTRIA HELLAS
EN ISO 14001:2015

TÜV AUSTRIA HELLAS
EN ISO 18001:2007

PV CYCLE Global Member 2020

CE

ELECTRICAL CHARACTERISTICS (STC)	305W	310W	315W	320W
Module System Voltage (v)	1500	1500	1500	1500
Open Circuit Voltage - Voc (V)	40.52	40.75	41.06	41.35
Short Circuit Current - Isc (A)	9.62	9.68	9.72	9.79
Maximum Power Voltage - Vmpp (V)	33.23	33.56	33.84	34.12
Maximum Power Current - Impp (A)	9.18	9.24	9.31	9.38
Maximum Power - Pmax (W)	305	310	315	320
Module Efficiency - η´(%)	18.7	19.0	19.3	19.6

Values at Standard Test Conditions STC (Air Mass AM1.5, Irradiance 1000W/m², Cell Temperature 25°C).

MATERIAL CHARACTERISTICS

Characteristics	Value
Cells per Module	60 (10X6)
Cell Type	Grade A - Mono-Crystalline Silicon (PERC) Bifacial 156.75x156.75 ±0.25 mm
Front Surface	Anti-Reflective Coated Tempered 3.2mm Glass
Encapsulant	PID Free EVA
Back Cover	Transparent Backsheet
Frame	Anodized Aluminum (silver or black)
Junction Box	IP3 ,68 Bypass Diodes
Connector and Cable	MC4 interconnection / Cable length can be customized
Fire Classification	Type I

PACKAGING

Physical Characteristics	Value
Module Dimensions (mm)	1648 x 990 x 35
Module Weight (kg)	18
Pallet Dimensions W.D.H (mm)	1715 x 1135 x 1150
Modules per Pallet	30

Container Capacity	Value
20 Feet Container	360 Modules
40 Feet High-Cube Container	840 Modules

Bifacial Output-Rearside Power Gain

Power Gain%	Front Side Power at STC	305W	310W	315W	320W
10%	Maximum Power W	335.5	341.0	346.5	352.0
	Module Efficiency %	20.6	20.9	21.2	21.6
20%	Maximum Power W	366	372.0	378.0	384.0
	Module Efficiency %	22.4	22.8	23.2	23.5
30%	Maximum Power W	396.5	403.0	409.5	416.0
	Module Efficiency %	24.3	24.7	25.1	25.5

THERMAL CHARACTERISTICS

Characteristics	Value
Open Voltage Temperature Coefficient β_{Voc} (%/°C)	-0.28
Short Current Temperature Coefficient α_{Isc} (%/°C)	+0.05
Power Temperature Coefficient γ_{Pmp} (%/°C)	-0.370
NOCT (°C)	43 ± 2

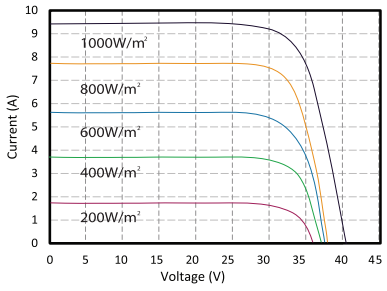
OPERATING CONDITIONS

Maximum Sytem Voltage - Vmax (V)	1500
Maximum Series Fuse (A)	20
Operating Temperature Range (°C)	IEC: -40 to + 85 /UL: -40 to + 90
Bifaciality Ratio	75% ±5%

FEATURES

- Less degradation than standard modules
- Easy to handle, 25-35 % lighter weight than dual glass modules.
- Positive power tolerance up to %3 extra output.
- Diverse mounting solutions
- Excellent low light performance.
- Less cell gap light transmittance loss than dual glass module
- More power gain with same utilized area
- PID resistant.
- Excellent high mechanical loads, certified to withstand high wind load (2400 pa) and snow load (5400 pa).

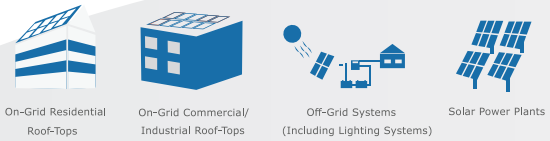
IV - Curve M60 (BF) - 305W



BENEFITS

- Outstanding technical support.
- Pre and after sales-service.
- Marketing support to official distributors.
- Customized mounting solutions.

APPLICATIONS



- Power measuring tolerance: ± %3, other measurements tolerances: ± %5
- Datasheet is subjected to changes without prior notice, always obtain the most recent version of the datasheet.
- Caution: For professional use only, the installation and handling of PV modules and cleaning modules require professional skills and should only be performed by qualified professionals, please read the Installation and Operation Manual before using the modules, also Cleaning Guidelines.