



**Monocrystalline**

# **SOLAR PANEL MANUAL**



## **SUPPORT**

If you are experiencing technical problems and cannot find a solution in this manual, please contact ECO-WORTHY for further assistance.

·Call: 1-866 939 8222(US)  
+44 20 7570 0328(UK)  
+49 693 1090 113(DE)

·Web: //www.eco-worthy.com/

·E-mail: [customer.service@eco-worthy.com](mailto:customer.service@eco-worthy.com)





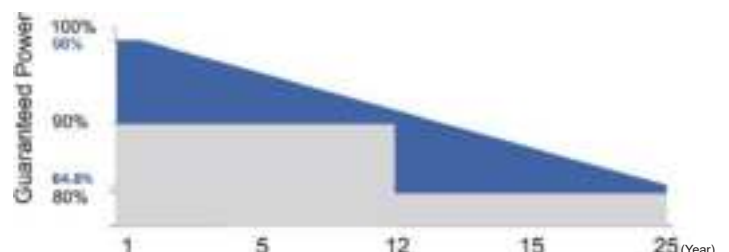


## 100W 18V MONO Solar Panel

High-Efficiency Monocrystalline  
PERC PV Module



- ▶ IP65 waterproof
- ▶ Durable aluminum frame
- ▶ Over 25 years lifespan
- ▶ Built-in diode to prevent reverse current
- ▶ High bearing capacity with tempered glass



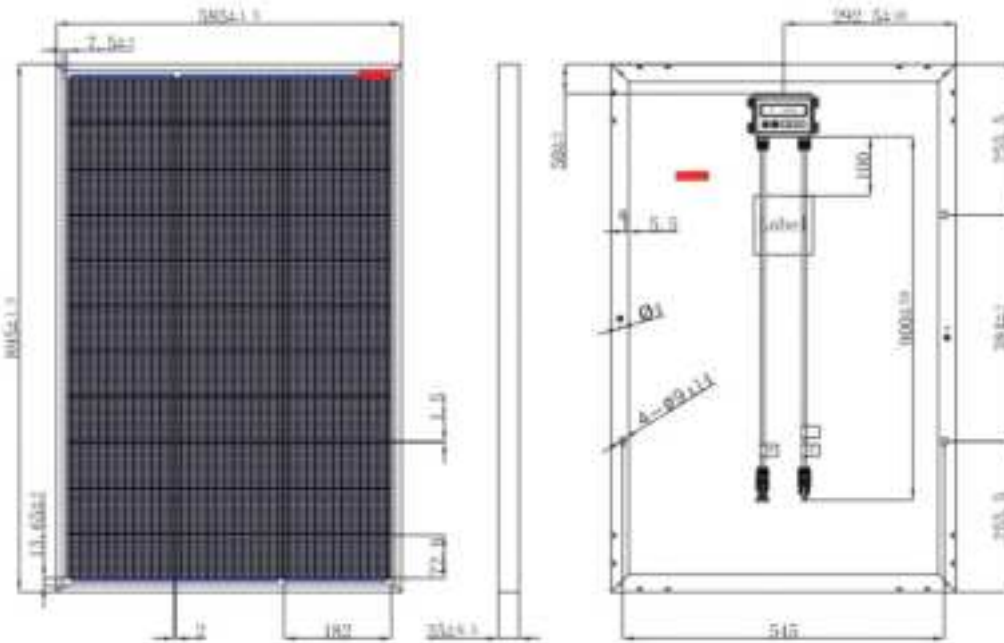
# 100W 18V

## Mono Solar Panel



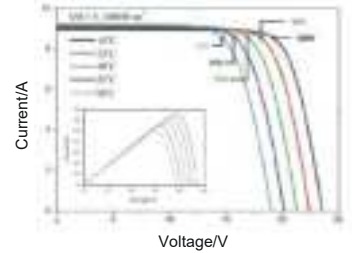
# ECO-WORTHY

### Module Diagram:

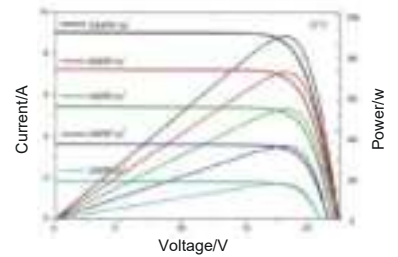


### I-V Curves:

I-V Curves of PV Module(100W)



P-V Curves of PV Module(100W)



Mechanical Parameters	
Cell Type	Mono PERC
No. of cells	33 (3*11)
Front Glass	3.2mm,High Transmission, AR Coated Tempered Glass
Frame	Anodized aluminum alloy frame
Junction Box	IP67
Number of Diodes	3
Protection Class	Class II
Fire Rating	Class C
Connector Type	MC4
Output Cable	4mm <sup>2</sup> , 900mm (with Connectors)
Dimension	895*585*35mm/35.24*23.03*1.37in
Weight	6.6kg/14.55lbs
Operating Temperature	-40°C~+85°C

Electrical Characteristics	
Module Type	ECOM100W
Maximum Power - Pmax [W]	100W ±3%
Maximum Power Voltage - Vmp [V]	22.7V ±3%
Maximum Power Current - Imp [A]	19.5V ±3%
Open Circuit Voltage - Voc [V]	5.13A ±3%
Short Circuit Current - Isc [A]	5.55A ±3%
Module Efficiency STC [%]	22.83%
Power Tolerance	±3%
Temperature Coefficient of Pmax	-0.35%/°C
Temperature Coefficient of Voc	-0.23%/°C
Temperature Coefficient of Isc	+0.05%/°C
Testing Condition(STC)	All technical data at STC: AM=1.5 Irradiance=1000w/m <sup>2</sup> Tc=25°C
Maximum System Voltage	1000Vdc
Maximum Series Fuse Rating	10A

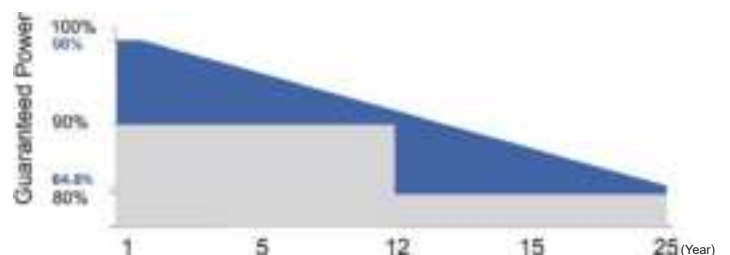


## 120W 18V MONO Solar Panel

High-Efficiency Monocrystalline  
PERC PV Module



- ▶ IP65 waterproof
- ▶ Durable aluminum frame
- ▶ Over 25 years lifespan
- ▶ Built-in diode to prevent reverse current
- ▶ High bearing capacity with tempered glass



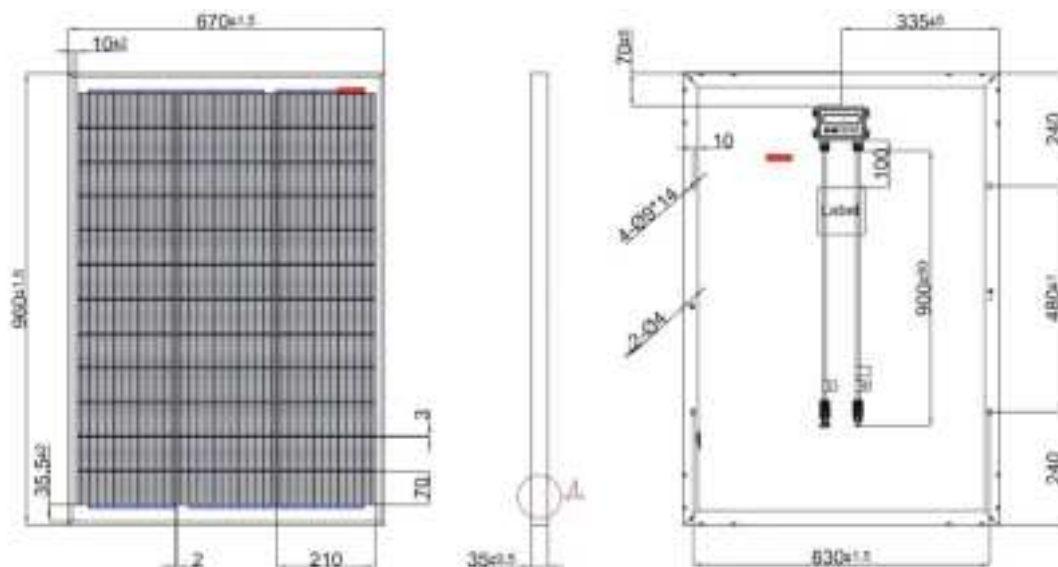
# 120W 18V

## Mono Solar Panel



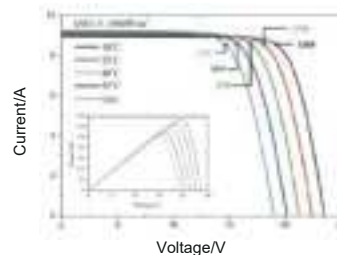
# ECO-WORTHY

### Module Diagram:

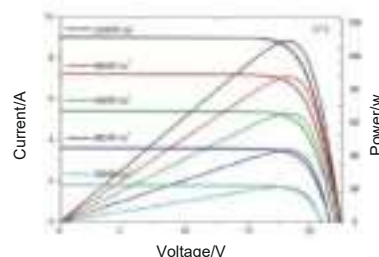


### I-V Curves:

I-V Curves of PV Module(120W)



P-V Curves of PV Module(120W)



Mechanical Parameters	
Cell Type	Mono PERC
No. of cells	36(3*12)
Front Glass	3.2mm,High Transmission, AR Coated Tempered Glass
Frame	Anodized aluminum alloy frame
Junction Box	IP67
Number of Diodes	3
Protection Class	Class II
Fire Rating	Class C
Connector Type	MC4
Output Cable	4mm <sup>2</sup> , 900mm (with Connectors)
Dimension	960*670*35mm/37.8*26.4*1.4in
Weight	7.00kg/15.43 lbs
Operating Temperature	-40°C~+85°C

Electrical Characteristics	
Module Type	ECOM120W
Maximum Power - Pmax [W]	120W ±3%
Maximum Power Voltage - Vmp [V]	24.5V ±3%
Maximum Power Current - Imp [A]	20.2V ±3%
Open Circuit Voltage - Voc [V]	5.94A ±3%
Short Circuit Current - Isc [A]	6.24A ±3%
Module Efficiency STC [%]	22.83%
Power Tolerance	±3%
Temperature Coefficient of Pmax	-0.35%/°C
Temperature Coefficient of Voc	-0.23%/°C
Temperature Coefficient of Isc	+0.05%/°C
Testing Condition(STC)	All technical data at STC: AM=1.5 Irradiance=1000w/m <sup>2</sup> Tc=25°C
Maximum System Voltage	1000Vdc
Maximum Series Fuse Rating	10A

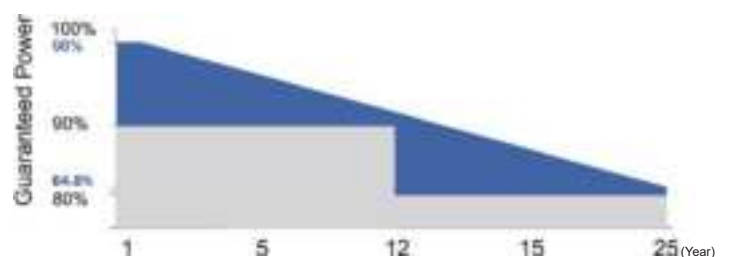


## 170W 18V MONO Solar Panel

High-Efficiency Monocrystalline  
PERC PV Module



- ▶ IP65 waterproof
- ▶ Durable aluminum frame
- ▶ Over 25 years lifespan
- ▶ Built-in diode to prevent reverse current
- ▶ High bearing capacity with tempered glass



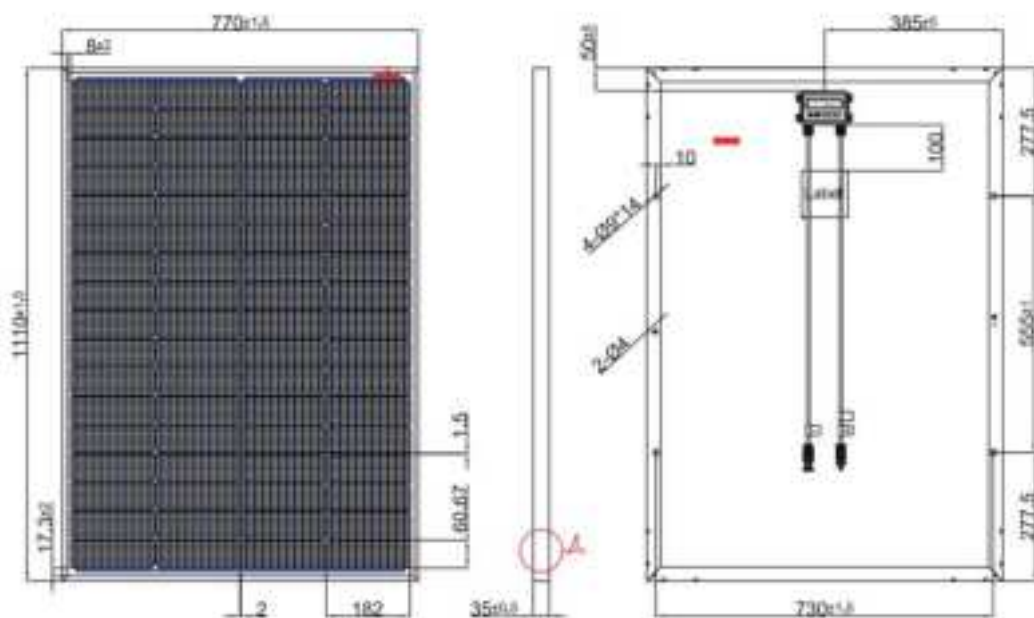
# 170W 18V

## Mono Solar Panel



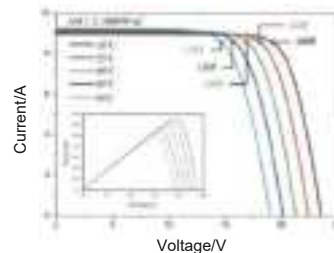
# ECO-WORTHY

## Module Diagram:

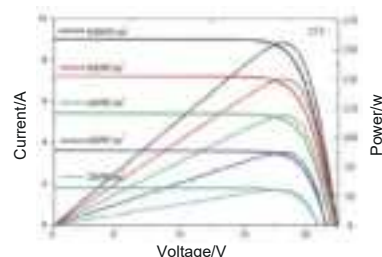


## I-V Curves:

I-V Curves of PV Module(170W)



P-V Curves of PV Module(170W)



Mechanical Parameters	
Cell Type	Mono PERC
No. of cells	68 (4*17)
Front Glass	3.2mm,High Transmission, AR Coated Tempered Glass
Frame	Anodized aluminum alloy frame
Junction Box	IP67
Number of Diodes	2
Protection Class	Class II
Fire Rating	Class C
Connector Type	MC4
Output Cable	4mm <sup>2</sup> , 900mm (with Connectors)
Dimension	1110*770*35mm/43.7*30.3*1.4in
Weight	8.90kg/19.62 lbs
Operating Temperature	-40°C~+85°C

Electrical Characteristics	
Module Type	ECOM170W
Maximum Power - Pmax [W]	120W ±3%
Maximum Power Voltage - Vmp [V]	23.0V ±3%
Maximum Power Current - Imp [A]	19.0V ±3%
Open Circuit Voltage - Voc [V]	8.95A ±3%
Short Circuit Current - Isc [A]	9.39A ±3%
Module Efficiency STC [%]	22.83%
Power Tolerance	±3%
Temperature Coefficient of Pmax	-0.35%/°C
Temperature Coefficient of Voc	-0.23%/°C
Temperature Coefficient of Isc	+0.05%/°C
Testing Condition(STC)	All technical data at STC: AM=1.5 Irradiance=1000w/m <sup>2</sup> Tc=25°C
Maximum System Voltage	1000Vdc
Maximum Series Fuse Rating	15A

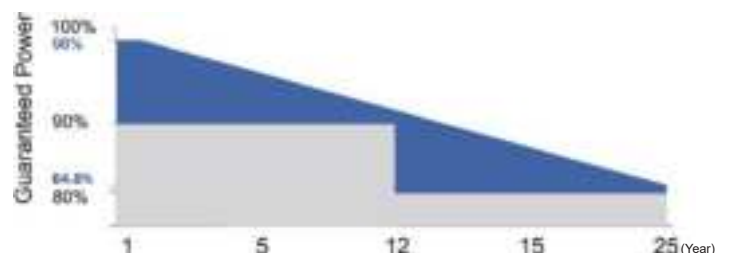


## 195W 18V MONO Solar Panel

High-Efficiency Monocrystalline  
PERC PV Module



- ▶ IP65 waterproof
- ▶ Durable aluminum frame
- ▶ Over 25 years lifespan
- ▶ Built-in diode to prevent reverse current
- ▶ High bearing capacity with tempered glass



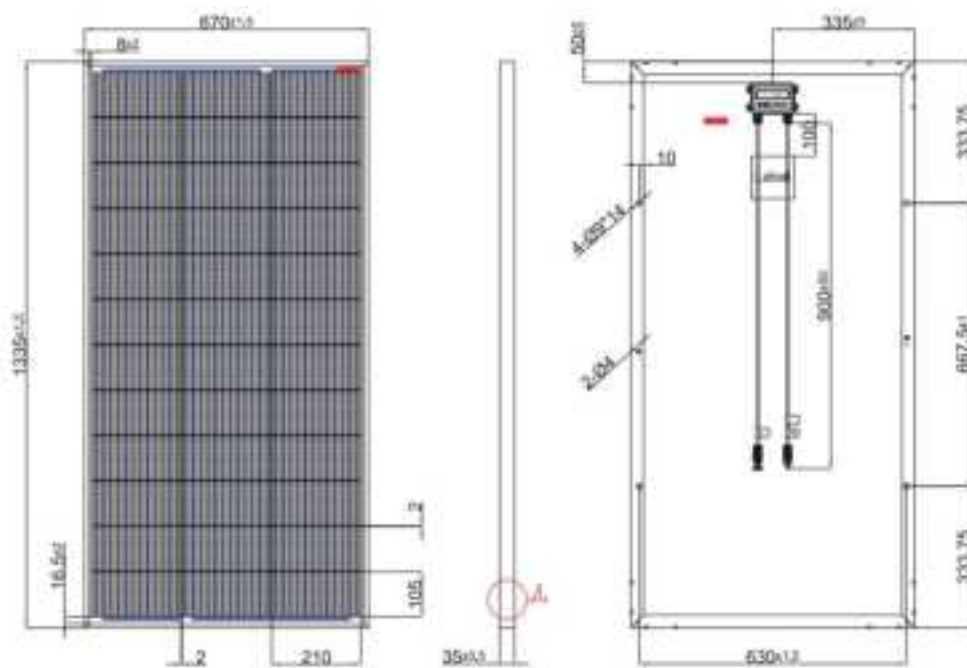
# 195W 18V

## Mono Solar Panel



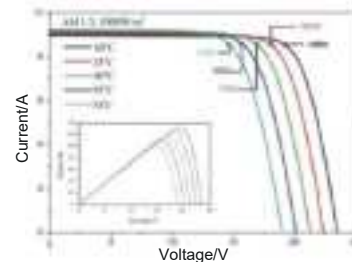
# ECO-WORTHY

### Module Diagram:

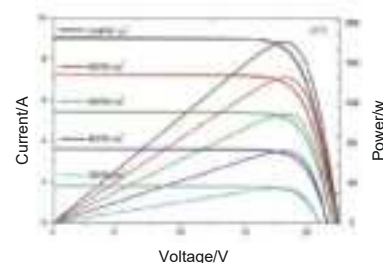


### I-V Curves:

I-V Curves of PV Module(195W)



P-V Curves of PV Module(195W)



Mechanical Parameters	
Cell Type	Mono PERC
No. of cells	36 (3*12)
Front Glass	3.2mm,High Transmission, AR Coated Tempered Glass
Frame	Anodized aluminum alloy frame
Junction Box	IP67
Number of Diodes	3
Protection Class	Class II
Fire Rating	Class C
Connector Type	MC4
Output Cable	4mm <sup>2</sup> , 900mm (with Connectors)
Dimension	1335*670*35mm/52.6*26.4*1.4in
Weight	9.29kg/20.48 lbs
Operating Temperature	-40°C~+85°C

Electrical Characteristics	
Module Type	ECOM195W
Maximum Power - Pmax [W]	195W ±3%
Maximum Power Voltage - Vmp [V]	24.5V ±3%
Maximum Power Current - Imp [A]	20.2V ±3%
Open Circuit Voltage - Voc [V]	9.65A ±3%
Short Circuit Current - Isc [A]	10.14A ±3%
Module Efficiency STC [%]	22.83%
Power Tolerance	±3%
Temperature Coefficient of Pmax	-0.35%/°C
Temperature Coefficient of Voc	-0.23%/°C
Temperature Coefficient of Isc	+0.05%/°C
Testing Condition(STC)	All technical data at STC: AM=1.5 Irradiance=1000w/m <sup>2</sup> Tc=25°C
Maximum System Voltage	1000Vdc
Maximum Series Fuse Rating	15A



## 1) Customer service telephone numbers:

**Tel(DE):** +49 693-1090-113

**Tel(US):** 1-866-939-8222

**Tel(UK):** +44 20 7570 0328

### Note:

#### Customer Service Hours:

**US:** Mon-Fri 8:30 AM - 6:00 PM (CST)

**UK:** Mon-Fri 9 AM - 5 PM(GMT)

**DE:** Mon-Fri 9 AM - 5 PM(CET)

If you cannot get through by phone, please send us an email.

## 2) Company address: USA/Germany



**Address(US):** 4411 East State Hwy D Suite C Springfield, Missouri 65809



**Address(DE):** ECO-Worthy Europe GmbH Otto-Hahn-Str. 20 61381 Friedrichsdorf - Köppern Germany

## 3) Customer service email:



**E-mail:** [customer.service@eco-worthy.com](mailto:customer.service@eco-worthy.com)

## 4) Official website address:



**Web:** <https://www.eco-worthy.com/>

## 5) Official social media:



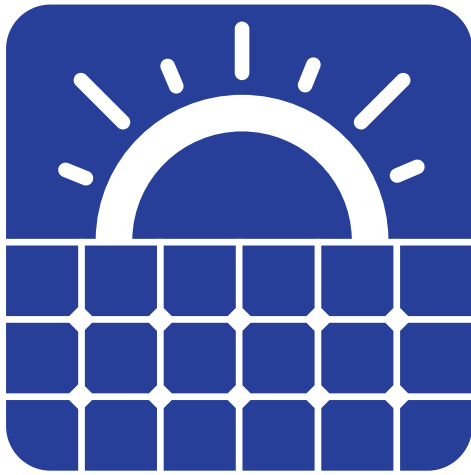
**Facebook:** <https://www.facebook.com/ecoworthy.store/>



**Youtube:** @ecoworthy



**Tiktok:** [https://www.tiktok.com/@eco\\_worthy](https://www.tiktok.com/@eco_worthy)



**ECO-WORTHY**

**Monokristallin**

# SONNENKOLLEKTOR HANDBUCH



## UNTERSTÜTZUNG

Wenn Sie technische Probleme haben und in diesem Handbuch keine Lösung finden können, wenden Sie sich für weitere Unterstützung bitte an ECO-WORTHY.

·Anrufen:1-866 939 8222(US)  
+44 20 7570 0328(UK)  
+49 693 1090 113(DE)

·Web://[www.eco-worthy.com/](http://www.eco-worthy.com/)

·E-mail: [customer.service@eco-worthy.com](mailto:customer.service@eco-worthy.com)



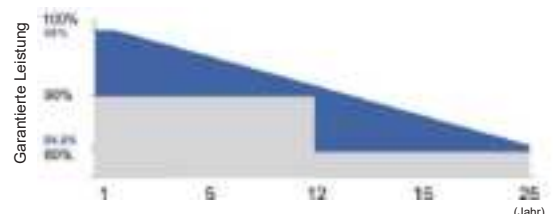


## 100W 18V MONO Solarmodul

Hocheffiziente Monokristalline  
PERC PV Module



- ▶ IP65 wasserdicht
- ▶ Langlebiger Aluminiumrahmen
- ▶ Über 25 Jahre Lebensdauer
- ▶ Eingebaute Diode zur Vermeidung von Rückstrom
- ▶ Hohe Tragfähigkeit durch gehärtetes Glas



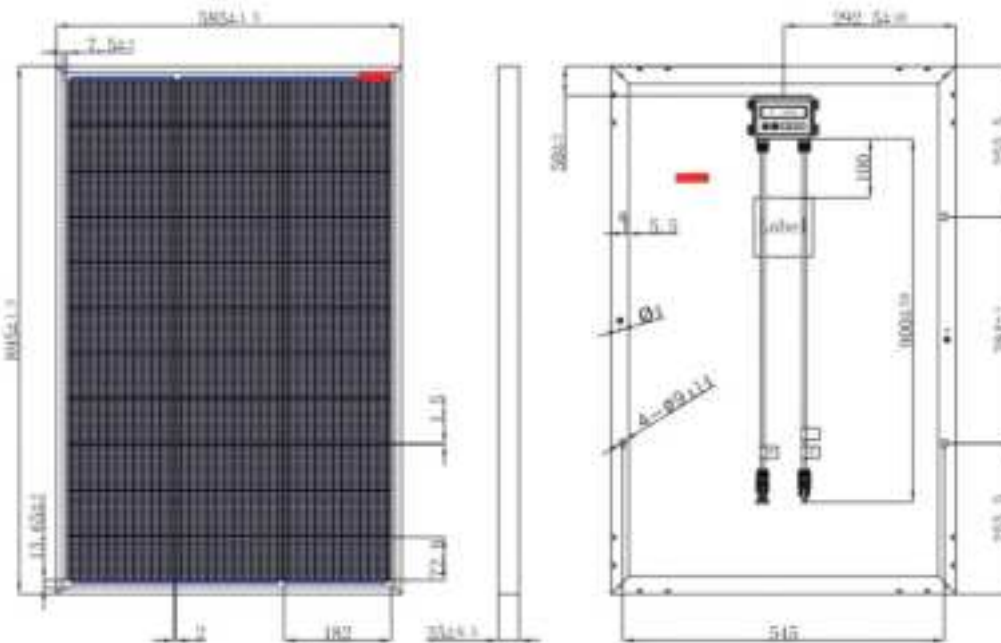
# 100W 18V

## Mono-Solarmodul



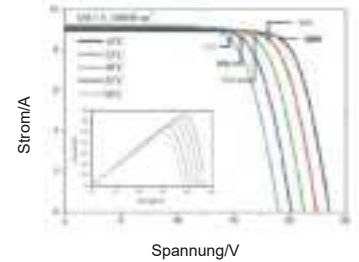
# ECO-WORTHY

## Moduldiagramm:

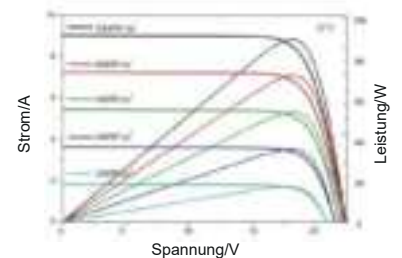


## I-V-Kurven:

I-V-Kurven des PV-Moduls(100W)



P-V-Kurven des PV-Moduls (100W)



Mechanische Parameter	
Zelltyp	MMono PERC
Zellenzahl	36(3*12)
Frontglas	3,2 mm, hohe Transmission, AR-beschichtetes gehärtetes Glas
Rahmen	Rahmen aus eloxierter Aluminiumlegierung
Anschlussdose	IP67
Anzahl der Dioden	3
Schutzklasse	Klasse II
Brandschutzklasse	Klasse C
Anschlusstyp	MC4
Ausgangskabel	4 mm <sup>2</sup> , 900 mm (mit Anschlüssen)
Abmessungen	960 x 670 x 35 mm/37,8 x 26,4 x 1,4 Zoll
Gewicht	7,00 kg/15,43 lbs
Betriebstemperatur	-40 °C ~ +85 °C

Elektrische Eigenschaften	
Modultyp	ECOM100W
Maximale Leistung - Pmax [W]	100 W ±3 %
Maximale Leistungsspannung - Vmp [V]	22,7 V ±3 %
Maximaler Leistungsstrom - Imp [A]	19,5 V ±3 %
Leerlaufspannung - Voc [V]	5,13 A ±3 %
Kurzschlussstrom - Isc [A]	5,55 A ±3 %
Modulwirkungsgrad STC [%]	22,83 %
Leistungstoleranz	±3 %
Temperaturkoeffizient von Pmax	-0,35 %/°C
Temperaturkoeffizient von Voc	-0,23 %/°C
Temperaturkoeffizient von Isc	+0,05 %/°C
Testbedingung (STC)	Alle technischen Daten bei STC:AM=1,5 Bestrahlung- sstärke=1000w/m <sup>2</sup> Tc=25°C
Maximale Systemspannung	1000Vdc
Maximale Nennleistung der Seriensicherung	10A

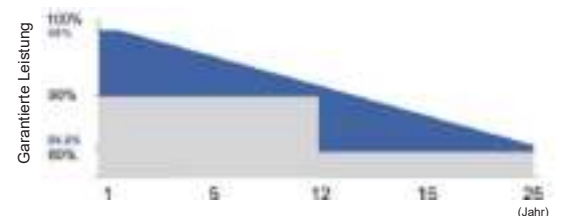


## 120W 18V MONO Solarmodul

Hocheffiziente Monokristalline  
PERC PV Module



- ▶ IP65 wasserdicht
- ▶ Langlebiger Aluminiumrahmen
- ▶ Über 25 Jahre Lebensdauer
- ▶ Eingebaute Diode zur Vermeidung von Rückstrom
- ▶ Hohe Tragfähigkeit durch gehärtetes Glas



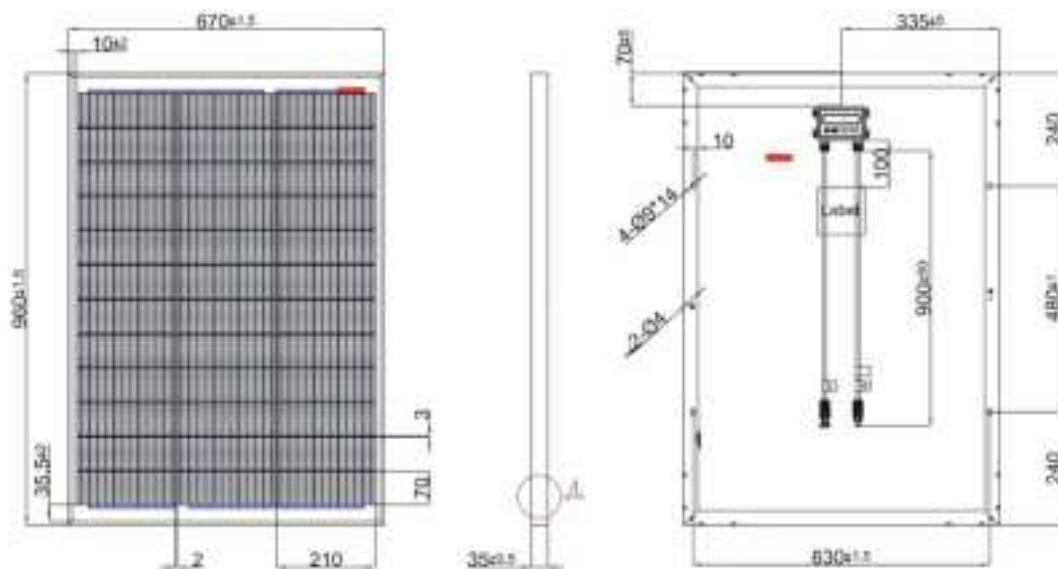
# 120W 18V

## Mono-Solarmodul



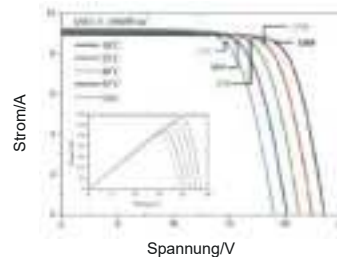
# ECO-WORTHY

## Moduldiagramm:

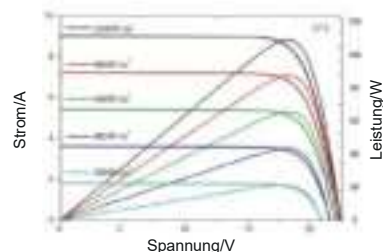


## I-V-Kurven:

I-V-Kurven des PV-Moduls (120 W)



P-V-Kurven des PV-Moduls (120 W)



Mechanische Parameter	
Zelltyp	Mono PERC
Zellenzahl	36(3*12)
Frontglas	3,2 mm, hohe Transmission, AR-beschichtetes gehärtetes Glas
Rahmen	Rahmen aus eloxierter Aluminiumlegierung
Anschlussdose	IP67
Anzahl der Dioden	3
Schutzklasse	Klasse II
Brandschutzklasse	Klasse C
Anschlussstyp	MC4
Ausgangskabel	4 mm <sup>2</sup> , 900 mm (mit Anschlüssen)
Abmessungen	960 x 670 x 35 mm/37,8 x 26,4 x 1,4 Zoll
Gewicht	7,00 kg/15,43 lbs
Betriebstemperatur	-40 °C ~ +85 °C

Electrical Characteristics	
Modultyp	ECOM120W
Maximale Leistung - Pmax [W]	120 W ±3 %
Maximale Leistungsspannung - Vmp [V]	24,5 V ±3 %
Maximaler Leistungsstrom - Imp [A]	20,2 V ±3 %
Leerlaufspannung - Voc [V]	5,94 A ±3 %
Kurzschlussstrom - Isc [A]	6,24 A ±3 %
Modulwirkungsgrad STC [%]	22,83 %
Leistungstoleranz	±3 %
Temperaturkoeffizient von Pmax	-0,35 %/°C
Temperaturkoeffizient von Voc	-0,23 %/°C
Temperaturkoeffizient von Isc	+0,05 %/°C
Testbedingung (STC)	Alle technischen Daten bei STC:AM=1,5 Bestrahlung- sstärke=1000w/m <sup>2</sup> Tc=25°C
Maximale Systemspannung	1000Vdc
Maximale Nennleistung der Seriensicherung	10A

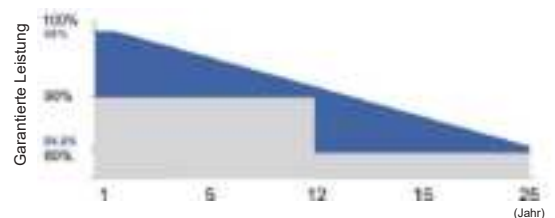


## 170W 18V MONO Solarmodul

Hocheffiziente Monokristalline  
PERC PV Module



- ▶ IP65 wasserdicht
- ▶ Langlebiger Aluminiumrahmen
- ▶ Über 25 Jahre Lebensdauer
- ▶ Eingebaute Diode zur Vermeidung von Rückstrom
- ▶ Hohe Tragfähigkeit durch gehärtetes Glas



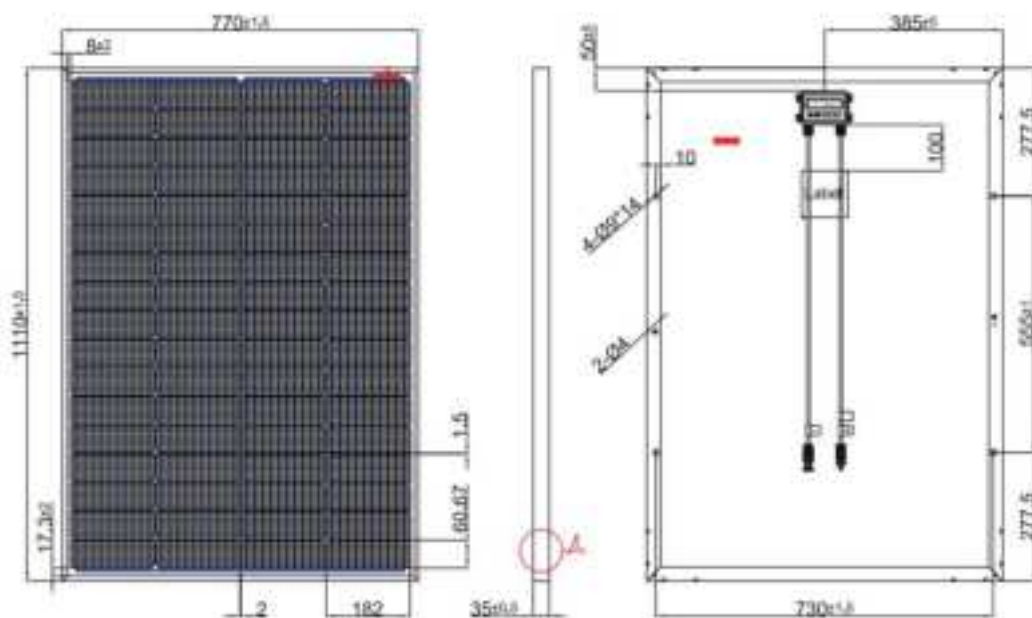
# 170W 18V

## Mono-Solarmodul



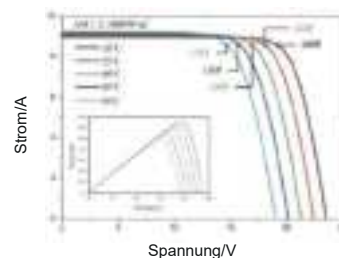
# ECO-WORTHY

## Moduldiagramm:

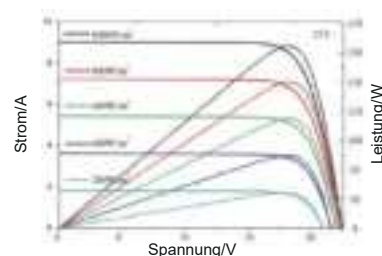


## I-V-Kurven:

I-V-Kurven des PV-Moduls (170 W)



P-V-Kurven des PV-Moduls (170 W)



### Mechanische Parameter

Zelltyp	Mono PERC
Zellenzahl	68 (4*17)
Frontglas	3,2 mm, hohe Lichtdurchlässigkeit, AR-beschichtetes gehärtetes Glas
Rahmen	Rahmen aus eloxierter Aluminiumlegierung
Anschlussdose	IP67
Anzahl der Dioden	2
Schutzklasse	Klasse II
Brandschutzklasse	Klasse C
Anschlussstyp	MC4
Ausgangskabel	4 mm <sup>2</sup> , 900 mm (mit Anschlüssen)
Abmessungen	1110*770*35 mm/43,7*30,3*1,4 Zoll
Gewicht	8,90 kg/19,62 lbs
Betriebstemperatur	-40 °C ~ +85 °C

### Elektrische Eigenschaften

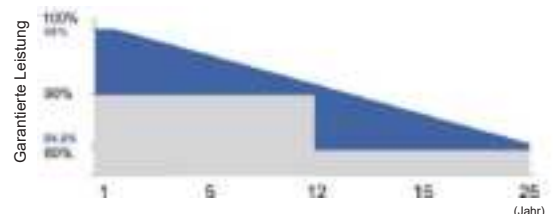
Modultyp	ECOM170W
Maximale Leistung - Pmax [W]	120 W ±3 %
Maximale Leistungsspannung - Vmp [V]	23,0 V ±3 %
Maximaler Leistungsstrom - Imp [A]	19,0 V ±3 %
Leerlaufspannung - Voc [V]	8,95 A ±3 %
Kurzschlussstrom - Isc [A]	9,39 A ±3 %
Modulwirkungsgrad STC [%]	22,83 %
Leistungstoleranz	±3 %
Temperaturkoeffizient von Pmax	-0,35 %/°C
Temperaturkoeffizient von Voc	-0,23 %/°C
Temperaturkoeffizient von Isc	+0,05 %/°C
Testbedingung (STC)	Alle technischen Daten bei STC:AM=1,5 Bestrahlung- sstärke=1000w/m <sup>2</sup> Tc=25°C
Maximale Systemspannung	1000Vdc
Maximale Nennleistung der Seriensicherung	15A



## 195W 18V MONO Solarmodul

Hocheffiziente Monokristalline  
PERC PV Module

- ▶ IP65 wasserdicht
- ▶ Langlebiger Aluminiumrahmen
- ▶ Über 25 Jahre Lebensdauer
- ▶ Eingebaute Diode zur Vermeidung von Rückstrom
- ▶ Hohe Tragfähigkeit durch gehärtetes Glas



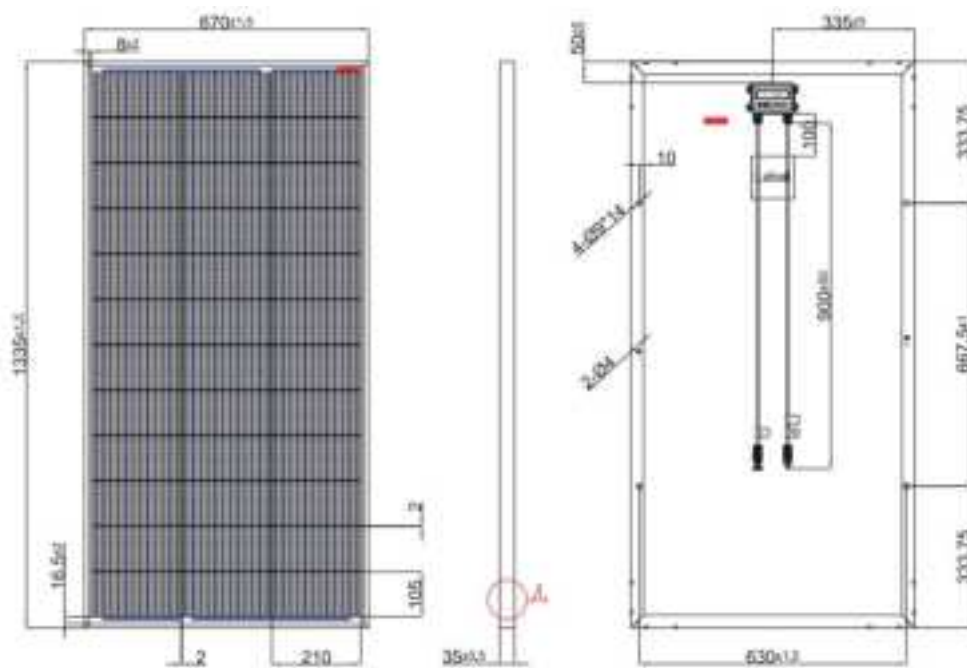
# 195W 18V

## Mono-Solarmodul



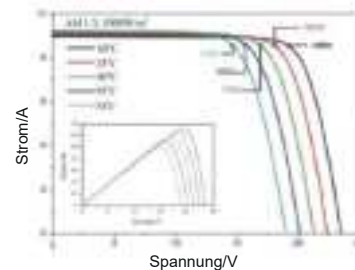
# ECO-WORTHY

## Moduldiagramm:

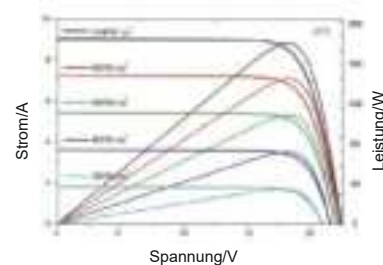


## I-V-Kurven:

I-V-Kurven des PV-Moduls (195 W)



P-V-Kurven des PV-Moduls (195 W)



Mechanische Parameter	
Zelltyp	Mono PERC
Zellenzahl	36 (3*12)
Frontglas	3,2 mm, hohe Lichtdurchlässigkeit, AR-beschichtetes gehärtetes Glas
Rahmen	Rahmen aus eloxierter Aluminiumlegierung
Anschlussdose	IP67
Anzahl der Dioden	3
Schutzklasse	Klasse II
Brandschutzklasse	Klasse C
Anschlussstyp	MC4
Ausgangskabel	4 mm <sup>2</sup> , 900 mm (mit Anschlüssen)
Abmessungen	1335*670*35 mm/52,6*26,4*1,4 Zoll
Gewicht	9,29 kg/20,48 lbs
Betriebstemperatur	-40 °C ~ +85 °C

Elektrische Eigenschaften	
Modultyp	ECOM195W
Maximale Leistung - Pmax [W]	195 W ±3 %
Maximale Leistungsspannung - Vmp [V]	24,5 V ±3 %
Maximaler Leistungsstrom - Imp [A]	20,2 V ±3 %
Leerlaufspannung - Voc [V]	9,65 A ±3 %
Kurzschlussstrom - Isc [A]	10,14 A ±3 %
Modulwirkungsgrad STC [%]	22,83 %
Leistungstoleranz	±3 %
Temperaturkoeffizient von Pmax	-0,35 %/°C
Temperaturkoeffizient von Voc	-0,23 %/°C
Temperaturkoeffizient von Isc	+0,05 %/°C
Testbedingung (STC)	Alle technischen Daten bei STC:AM=1,5 Bestrahlung- sstärke=1000w/m <sup>2</sup> Tc=25°C
Maximale Systemspannung	1000Vdc
Maximale Nennleistung der Seriensicherung	15A



## 1) Telefonnummern des Kundendienstes:

**Tel(DE):** +49 693-1090-113

**Tel(US):** 1-866-939-8222

**Tel(UK):** +44 20 7570 0328

## Anmerkung:

### Öffnungszeiten des Kundendienstes:

**US:** Mon-Fri 8:30 AM - 6:00 PM (CST)

**UK:** Mon-Fri 9 AM - 5 PM(GMT)

**DE:** Mon-Fri 9 AM - 5 PM(CET)

Wenn Sie uns telefonisch nicht erreichen, schicken Sie uns bitte eine E-Mail.

## 2) Firmenadresse: USA/Deutschland



**Address(US):** 4411 East State Hwy D Suite C Springfield, Missouri 65809



**Address(DE):** ECO-Worthy Europe GmbH Otto-Hahn-Str. 20  
61381 Friedrichsdorf - Köppern Germany

## 3) E-Mail des Kundendienstes:



**E-mail:** [customer.service@eco-worthy.com](mailto:customer.service@eco-worthy.com)

## 4) Offizielle Website-Adresse:



**Web:** <https://www.eco-worthy.com/>

## 5) Offizielle soziale Medien:



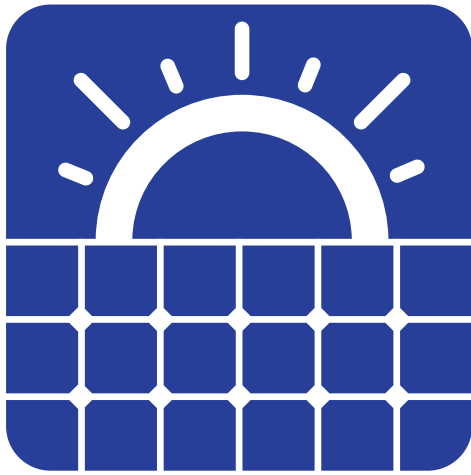
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