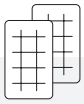
Barrel

barrel.solar

KIT
BALCONY SOLAR

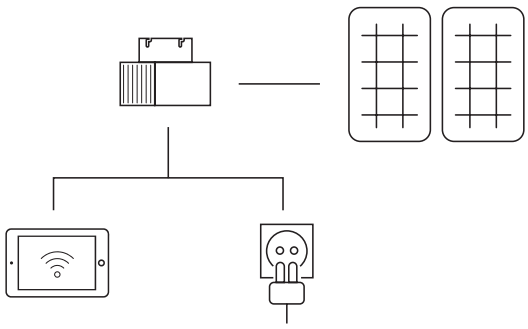
TABLET

INVERTER



ULTRA LIGHT & FLEXIBLE SOLAR PANEL

Assembly instructions



The proposed Barrel Balcony Solar kit is composed of 2 super lightweight and semi-flexible modules of 310 Wp, a micro inverter, and railing/balcony mounting structures, cables, and a Shuco plug.

The proposed photovoltaic kit is an innovative solution for solar energy, easy to install on balconies and terraces. With a standard length of 200 x 88 x 2 cm, lightweight design, and a maximum power of 600 W, it offers a practical and lightweight alternative to heavy traditional modules. The kit's intuitive approach makes it similar to a household appliance, simplifying installation and usage. It is an accessible solution for self-generating clean energy and reducing environmental impact. An ideal choice for those who want to embrace solar energy in a simple and effective way.

The system is designed for balconies and is lightweight, weighing less than 20 kg. It is easy to install, with a required installation time of under 45 minutes, and only one or two unskilled workers are needed.

The solar panel is made with mono-crystalline silicon cells and has a junction box with IP68 classification. It is certified for safety and environmental compatibility and comes with a 10-year warranty.
The inverter has a high efficiency rate of 95.5% CE/CEI 021 can be mounted on a frame or rail.
It is also equipped with Wi-Fi and has an enclosure rating of NEMA-6/IP-66/IP-67, making it safe and easy to install.
The kit includes several options for mounting the solar panels, offering a simple, safe and suitable mounting method for different types of balconies.
The module has 12 anchor points, but not all of them are necessary for a safe installation.
A universal kit is available for installation on most metal or glass/metal railings, on masonry and simple metal railings. All methods are quick, safe and easy to install.

CAUTION: read installation manual before using the product.

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1. Lightweight advantage:

Our balcony solar panels are incredibly light, weighing only 5.5 kg. This makes them easy to handle and safe to install on balconies. Unlike heavier panels, which can weigh up to 28 kg, our panels minimise the risk of detachment and structural problems. You can enjoy peace of mind knowing that your balcony is equipped with lightweight, reliable panels.

2. Reduction of energy costs:

With our Balcony Photovoltaic Panel Kit, you can generate energy at an unbelievably low cost as low as 0.032€ per kWh*. This price is considerably lower than what the grid operator charges you. Thanks to this convenience, you can pay back your investment in less than three years. Even with the limited sun exposure in the Veneto region, our panels allow you to make considerable savings on your energy bill.

3. Ease of installation:

Installation of our kit is simple and straightforward. No complex permits or costly aluminium structures are required. You can easily install solar panels on your balcony without making permanent structural changes. This feature also makes it perfect for renters. In addition, thanks to the recent authorisation with a simple notification to the grid operator, the installation of the kit is even quicker and smoother.

4. Long life and energy yield:

The lifespan of our photovoltaic panels is 30 years, guaranteeing reliable energy production over time. You can count on a constant flow of solar energy over an extended period, optimising your long-term investment. The energy yield of our panels is optimised to guarantee outstanding performance and maximise solar energy generation.

5. Emission reduction and environmental impact:

Every photovoltaic panel installed contributes to a reduced environmental impact, allowing you to reduce CO2 emissions. Choosing to use clean solar energy helps preserve the environment and promote a sustainable lifestyle. A simple act like installing our solar panels can have a significant impact on reducing harmful emissions.

6. Elegant and discreet design:

Our balcony solar panels are designed to be aesthetically pleasing and elegant. Their discreet design fits perfectly on your balcony, without compromising its style and appearance. You can enjoy solar energy without sacrificing the aesthetics of your outdoor space.

7. Local service and comprehensive support:

Our balcony solar panels are designed to be aesthetically pleasing and elegant. Their discreet design fits perfectly on your balcony, without compromising its style and appearance. You can enjoy solar energy without sacrificing the aesthetics of your outdoor space.

ATTENZIONE: leggere il manuale di installazione prima di utilizzare il prodotto.

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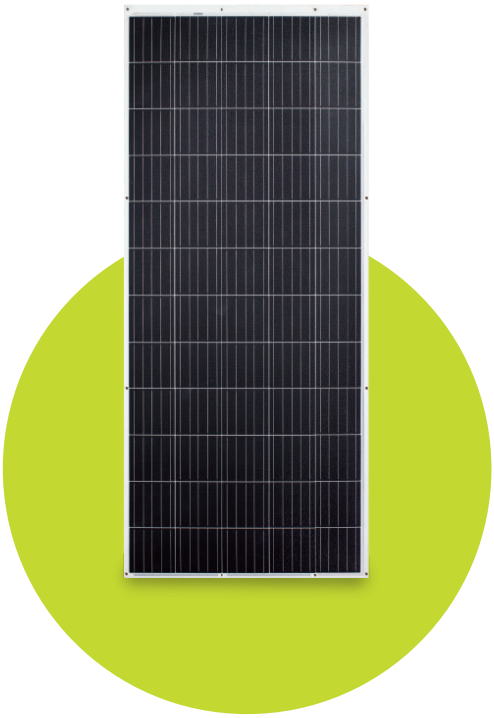


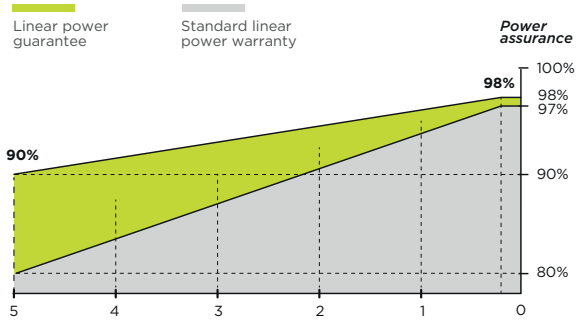
KIT
BALCONY SOLAR

ULTRA LIGHT
& FLEXIBLE SOLAR PANEL

310 Watt
60 Cell Monocrystalline Module

Power output range	305~310 w
Power tolerance	0~5 w

Linear performance warranty



Warranties:

5 YEARS
LINEAR POWER

Ultra-light

Glass free module weighs 5.0 kg, 70% lighter than conventional glass modules.

Aesthetic

Seamless integration with underlying installation surface.

Fast-Installation

It does not require heavy structures for installation and is easily removable.

Durable

eArc is the first glassless module to pass the same durability tests as conventional glass modules, including IEC 61215:2016, IEC61730:2016 and UL 1703 (USA). eArc has also passed PID, salt mist and ammonia corrosion tests.

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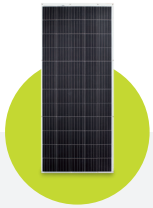
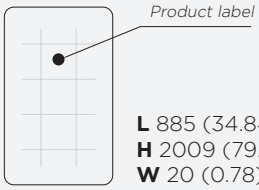


ULTRA LIGHT &
FLEXIBLE SOLAR PANEL

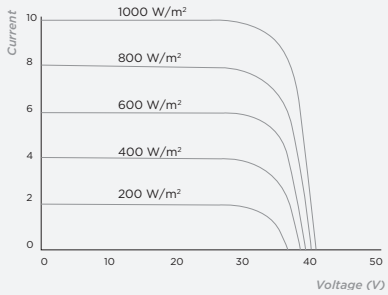
310 Watt
60 Cell Monocrystalline Module

Dimensions



L 885 (34.84)
H 2009 (79.09)
W 20 (0.78)

I-V Curve (310)



Temperature characteristics

Nominal Module Operating Temperature (NOMT)	41±2°C
Temperature Coefficient of P_{max}	-0.38 %/°C
Temperature Coefficient of V_{oc}	-0.28 %/°C
Temperature Coefficient of I_{SC}	0.020 %/°C

Electrical characteristics

STC	305	310
Maximum Power (P_{max})	305	310
Maximum Power Voltage (V_{mp})	33.0	33.3
Maximum Power Current (I_{mp})	9.25	9.31
Open-circuit Voltage (V_{oc})	40.3	40.5
Short-circuit Current (I_{sc})	9.74	9.81
Module Efficiency (%)	17.2	17.4
Operating Temperature	-40 °C to 85 °C	
Maximum System Voltage	1000 V DC (IEC)	
Maximum Series Fuse Rating	20 A	
Application Class	Class A	
Power Tolerance	0/+5 W	

STC: Irradiance 1 000 W/m² , Cell temperature 25 °C, AM=1.5

Tolerances of P_{max}, V_{00} and I_{sc} are with in ±5%

NMOT	305	310
Maximum Power (P_{max})	229	233
Maximum Power Voltage (V_{mp})	30.5	30.7
Maximum Power Current (I_{mp})	7.51	7.59
Open-circuit Voltage (V_{oc})	37.4	37.6
Short-circuit Current (I_{sc})	7.96	8.04

NMOT: Irradiance BOOW/m 2 , Ambient temperature 2o°C ,AM=1.5, Wind speed 1 m/s.

Mechanical characteristics

Solar Cell	Monocrystalline silicon (158.75mm)
N° Cells	60 (5x12)
Module Dimensions	2009x885x2 mm
Weight	5.0 kg
Backsheet	White
Frame	Frameless
J-box	IP 68 rated
Output Cables	Photovoltaic technology cable 4.0 mm 2, (+)450 / (-)450 mm
Connector	MC4 compatible

Packaging configuration

	20'GP	40' HC
Module per pallet	66+10	66+11
Pieces per container	710	1617

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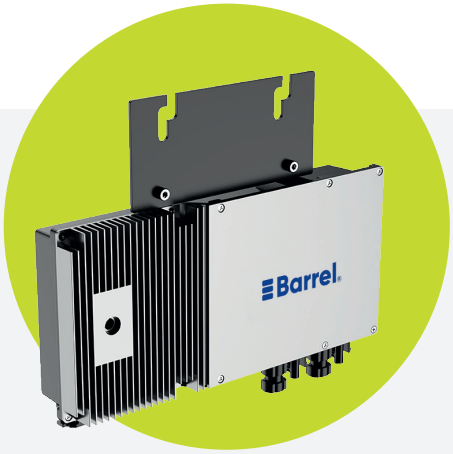

KIT

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INVERTER

NEP microinverters convert the current generated by the photovoltaic modules (DC) into alternating current (AC) to deliver it to the electrical grid.

Dimensions

10.91" * 5.20" * 1.97"

Weight

6.4 lbs

Input DC

Recommended Max PV Power (Wp)	450 x 2
Recommended Max DC Open Circuit Voltage (Vdc)	60
Max DC Input Current (Adc)	14 x 2
MPPT Tracking Accuracy	>99.5%
MPPT Tracking Range (Vdc)	22-55
Isc PV (absolute maximum) (Adc)	18 x 2
Maximum Inverter Backfeed Current to the Array (Adc)	0

Output AC

Peak AC Output Power (Wp)	550
Rated AC Output Power (Wp)	500
Nominal Power Grid Voltage (Vac)	240 / 208 / 230
Allowable Power Grid Voltage (Vac)	211V-264* / 183V-229* / configurable*
Allowable Power Grid Frequency (Hz)	59.3 a 60.5* / configurable*
THD	<3% (at rated power)
Power Factor (cos phi, fixed)	>0.99 (at rated power)
Rated Output Current (Aac)	2 / 2.40 / 2.17
Current (inrush)(Peak and Duration)	24A, 15us
Nominal Frequency (Hz)	60 / 50
Maximum Output Fault Current (Aac)	4.4A peak
Maximum Output Overcurrent Protection (Aac)	10
Maximum Number of Units Per Branch (20A) (All NEC adjustment factors have been considered)	7 / 6 / 7

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Syistem efficiency

Weighted Averaged Efficiency (CEC)	95.50%
Night Time Tare Loss (Wp)	0.11

Protection functions

Over/Under Voltage Protection	Yes
Over/Under Frequency Protection	Yes
Anti-Islanding Protection	Yes
Over Current Protection	Yes
Reverse DC Polarity Protection	Yes
Overload Protection	Yes
Protection Degree	NEMA-6 / IP-66 / IP-67
Ambient Temperature	-40°F to +149°F (-40°C to +65°C)
Operating Temperature	-40°F to +185°F (-40°C to +85°C)
Display	LED LIGHT
Comunications	Power Line
Environment Category	Indoor and outdoor
Wet Location	Suitable
Pollution Degree	PD 3
Overvoltage Category	II(PV), III (AC MAINS)
Product Safety Compliance	UL 1741 CSA C22.2 No. 107.1 IEC/EN 62109-1 IEC/EN 62109-2
Grid Code Compliance* (Refer to the label for the detailed grid code comliance)	IEEE 1547 VDE-AR-N 4105* VDE V 0126-1-1/A1 G83/2, CEI 021 AS 4777.2 & AS 4777.3,EN50438

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