

enjoy solar 110B200

enjoy solar Monocrystalline Solar Panel 200W 12V (Model 110B200) - Instruction Manual

Model: 110B200 | Brand: enjoy solar

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1. INTRODUCTION

This manual provides essential information for the safe and efficient use of your enjoy solar Monocrystalline Solar Panel 200W 12V, Model 110B200. This high-efficiency solar panel is designed for various applications, including motorhomes, power plants, balcony installations, garden sheds, and boats. It features advanced PERC technology for improved performance, especially in low-light conditions, and a durable full black design.

Please read this manual thoroughly before installation and operation. Keep it for future reference.

2. SAFETY INSTRUCTIONS

WARNING: ELECTRICAL SHOCK HAZARD. This photovoltaic module produces electricity when exposed to light. Follow all applicable electrical safety precautions.

- Always wear appropriate personal protective equipment (PPE) during installation, including insulated gloves and safety glasses.
- Do not attempt to disassemble or modify the solar panel. This can cause damage and void the warranty.
- Avoid touching live electrical parts. Ensure all connections are secure and properly insulated.
- Do not install the panel in areas prone to excessive shading, as this can reduce efficiency and potentially damage the panel.
- Ensure the mounting structure is robust enough to support the panel's weight and withstand local wind and snow loads.
- In case of fire, use appropriate fire extinguishing agents for electrical fires.
- Keep children and unauthorized personnel away from the installation area.





Image: Front view of the enjoy solar 200W Monocrystalline Solar Panel, highlighting its sleek full black design.

3. SETUP & INSTALLATION

3.1 Unpacking

Carefully remove the solar panel from its packaging. Inspect the panel for any signs of damage during transit. If damage is found, contact your supplier immediately.

3.2 Site Selection

Choose an installation location that receives maximum direct sunlight throughout the day, free from obstructions like trees or buildings that could cause shading. The panel is designed for outdoor use and is resistant to various weather conditions.

3.3 Mounting

The panel features an anti-corrosion aluminum frame with pre-drilled mounting holes for easy installation. Ensure the mounting system is compatible with the panel's dimensions and weight (10.9 kg). Secure the panel firmly to prevent movement due to wind or other environmental factors.

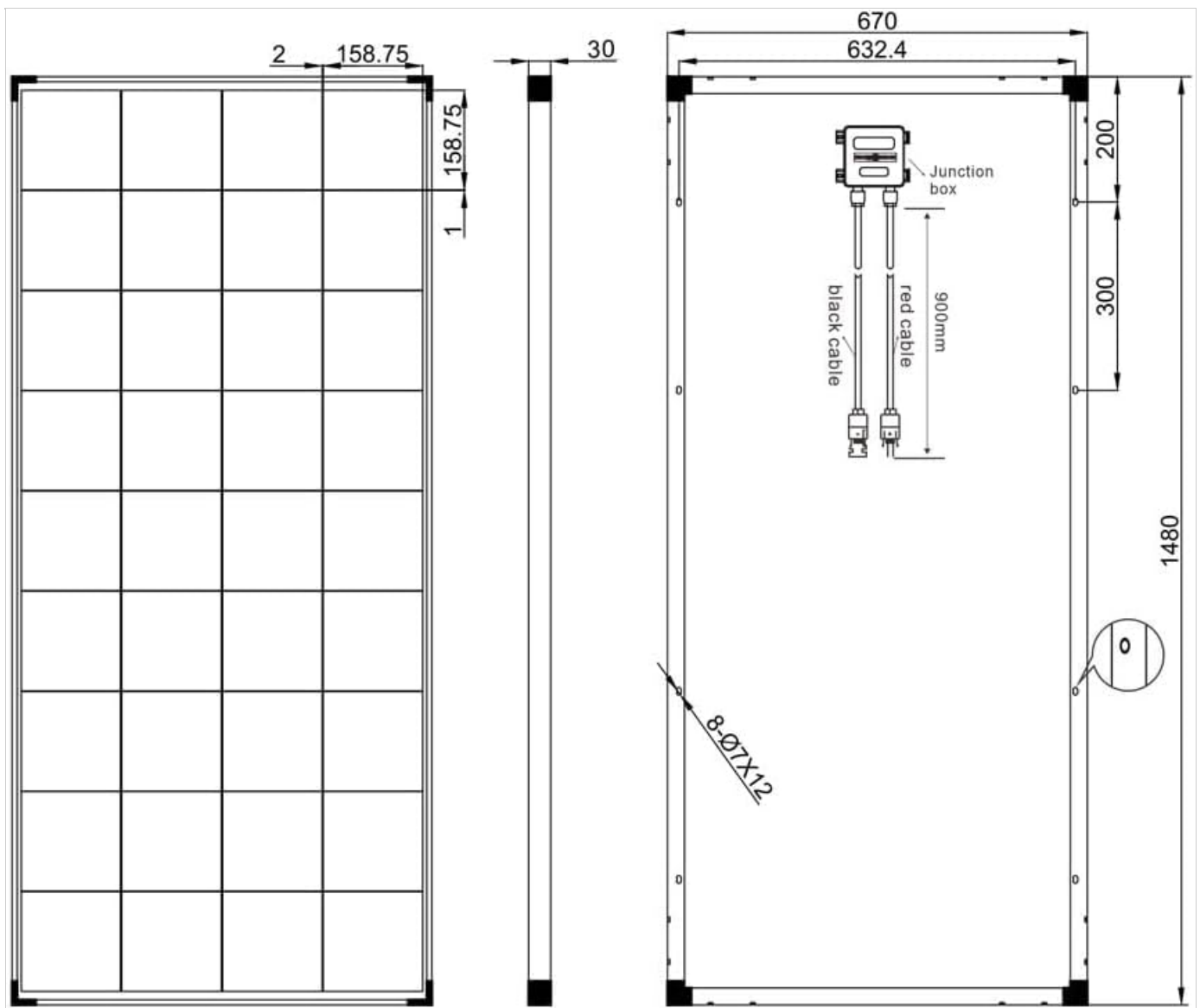


Image: Technical drawing showing the dimensions (1480x670x30mm) and layout of the solar panel, including the junction box and cable lengths (900mm red and black cables).

3.4 Electrical Connections

The panel is equipped with an integrated bypass diode (2 pcs) to minimize power loss in case of partial shading. Connect the panel to a charge controller and battery system appropriate for a 12V, 200W solar input. Ensure correct polarity (+ to + and - to -) when making connections. Refer to the specifications section for detailed electrical parameters.





Image: Rear view of the solar panel, displaying the junction box, red and black output cables, and product label with electrical specifications.

4. OPERATING INSTRUCTIONS

Once installed and connected to a compatible charge controller and battery bank, the solar panel will automatically begin generating electricity when exposed to sunlight. The charge controller will regulate the power flow to the battery, preventing overcharging.

- **Monitoring:** Regularly monitor your charge controller's display or associated app (if applicable) to ensure proper power generation and battery charging.
- **Shading:** While the panel has bypass diodes to mitigate partial shading effects, prolonged or significant shading will reduce power output. Optimize placement to minimize shading.
- **Temperature:** The panel operates efficiently within a temperature range of -40°C to +85°C. Extreme temperatures outside this range may affect performance.

5. MAINTENANCE

Regular maintenance ensures optimal performance and longevity of your solar panel.

- **Cleaning:** Periodically clean the surface of the solar panel with a soft cloth and water to remove dust, dirt, leaves, or other debris that may accumulate and reduce efficiency. Avoid abrasive cleaners or harsh chemicals.
- **Inspection:** Annually inspect the panel for any physical damage, such as cracks in the glass, loose frames, or damaged cables. Check electrical connections for corrosion or loosening.
- **Shading Check:** Regularly check for new obstructions (e.g., growing trees, new structures) that might cause shading.

6. TROUBLESHOOTING

If your solar panel system is not performing as expected, consider the following common issues:

Problem	Possible Cause	Solution
Low or no power output	• Panel is shaded • Dirty panel surface • Loose or corroded electrical connections • Faulty charge controller or battery • Insufficient sunlight	• Remove obstructions or reposition panel • Clean the panel surface • Check and secure all connections • Test charge controller and battery • Ensure adequate sun exposure
Panel is physically damaged	Impact, extreme weather	Contact support for replacement options. Do not attempt to repair.
Overheating	Poor ventilation, direct sunlight on back of panel	Ensure adequate airflow around the panel. The full black design is engineered to prevent significant overheating.

7. TECHNICAL SPECIFICATIONS

The following table details the technical specifications of the enjoy solar Monocrystalline Solar Panel 200W 12V (Model 110B200).

Model: Eco Line ES200M36



SKU	110B200
Rated Max Power	P_{max} [W] 200
Power Tolerance Range	[%] 0/+3
Voltage at Pmax	V_{mp} [V] 18.1
Current at Pmax	I_{mp} [A] 11.06
Open-circuit Voltage	V_{oc} [V] 20.25
Short-circuit Current	I_{sc} [A] 12.68
Normal Operating Cell Temp	NOCT [°C] 50
Maximum System Voltage	VDC [V] 1000
Dimension	[mm] 1480x670x30
Cell quantity and array	36(4x9)



All technical data at STC: AM=1.5 E=1000W/m² Tc=25°C



**WARNING-ELECTRICAL
SHOCK HAZARD**

This photovoltaic module produces electricity when exposed to light.
Follow all applicable electrical safety precautions.



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Image: Product label with detailed electrical specifications, including Rated Max Power (P_{max}): 200W, Voltage at Pmax (V_{mp}): 18.1V, Current at Pmax (I_{mp}): 11.06A, Open-circuit Voltage (V_{oc}): 20.25V, Short-circuit Current (I_{sc}): 12.68A, Normal Operating Cell Temp (NOCT): 50°C, Maximum System Voltage: 1000VDC, and Dimensions: 1480x670x30mm.

Parameter	Value
Model Number	110B200
Rated Max Power (P_{max})	200W
Max Power Voltage (V_{mp})	18.1V
Max Power Current (I_{mp})	11.06A
Open Circuit Voltage (V_{oc})	20.25V
Short Circuit Current (I_{sc})	12.68A
Maximum System Voltage	1000VDC
Operating Temperature	-40°C to +85°C
Dimensions (L x W x H)	1480 x 670 x 30 mm
Weight	10.9 kg

Parameter	Value
Cell Type	Monocrystalline Silicon (PERC 9BB)
Bypass Diodes	2 pcs
Protection Degree	IP65
Certifications	TÜV certified according to IEC61215 and IEC61730

Note: All technical data at STC (Standard Test Conditions): AM=1.5 E=1000W/m² Tc=25°C.

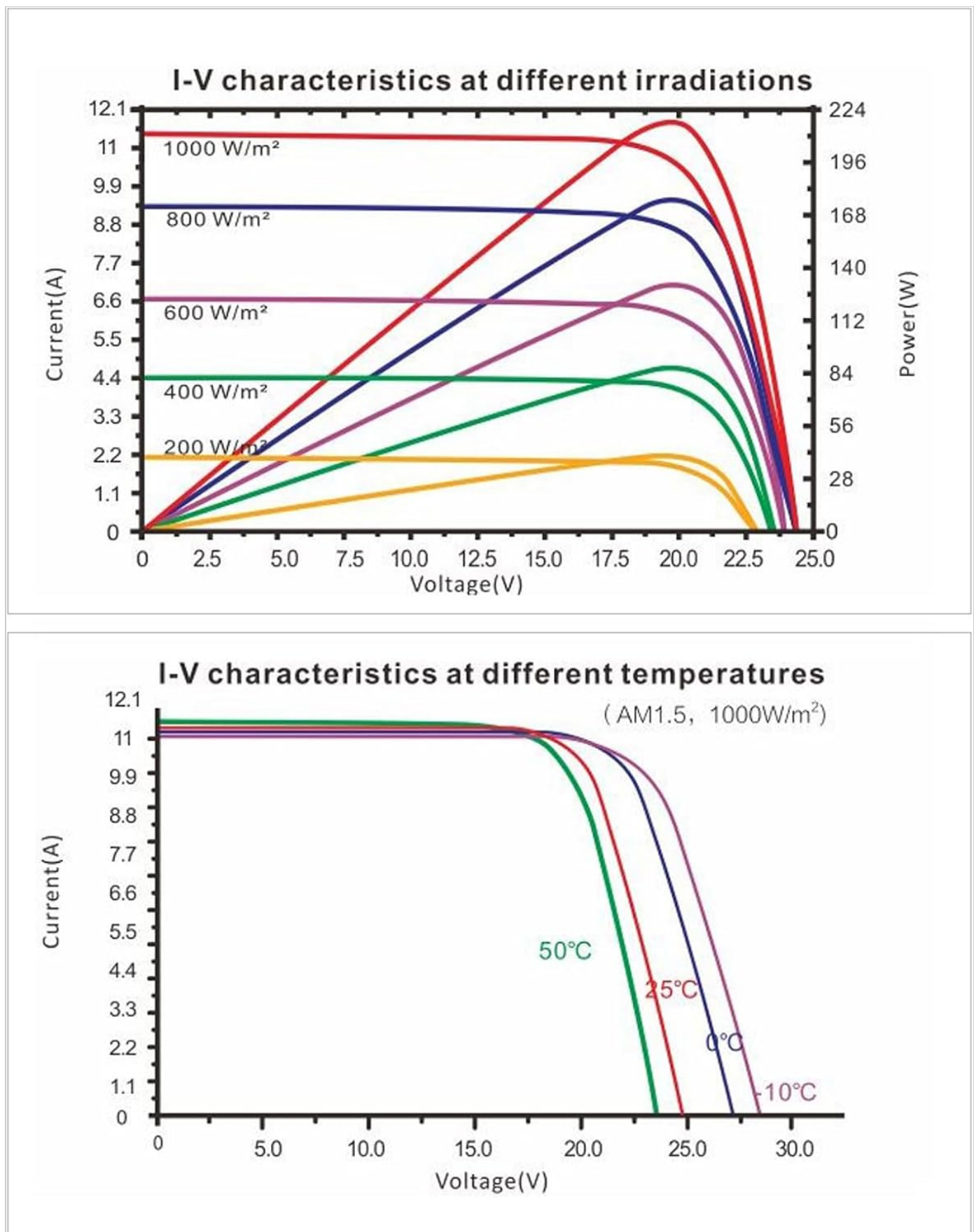


Image: Graphs illustrating the current-voltage (I-V) characteristics of the solar panel under varying irradiation levels (1000 W/m², 800 W/m², 600 W/m², 400 W/m², 200 W/m²) and different temperatures (-10°C, 0°C, 25°C, 50°C).

8. WARRANTY & SUPPORT

8.1 Performance Warranty

The enjoy solar Monocrystalline Solar Panel 200W 12V comes with a guaranteed positive power tolerance (+3%).
Performance warranty: 90% after 10 years, 80% after 25 years.

8.2 Customer Support

For technical assistance, warranty claims, or any questions regarding your solar panel, please contact SolarV GmbH:

- **Website:** www.solarv.de
- **Email:** info@solarv.de

