Solar Panel PV-12W

High-efficiency Waterproof Solar Panel, with Brackets for Easy Installation

Datasheet

V1.0

© Seeed Technology Co., Ltd. All rights reserved. www.seeedstudio.com

Content

1 Product Overview **1**

1.1 Appearance & Dimension **1**

1.2 Feature 2

1.3 Specification 2

1.4 Packing List 3

2 Installation Guide **4**

2.1 General Requirements **4**

2.2 Storage Requirements 4

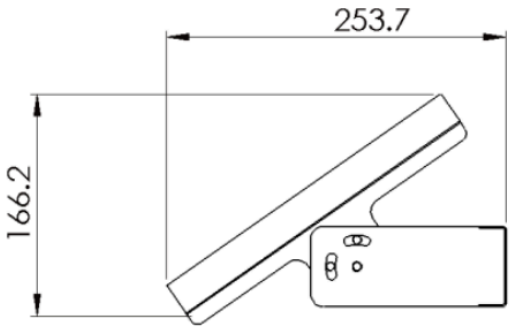
2.3 Bracket Installation 4

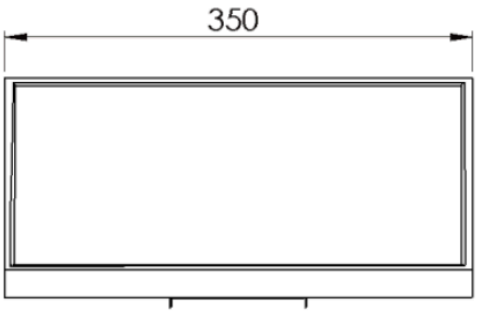
3 Version **5**

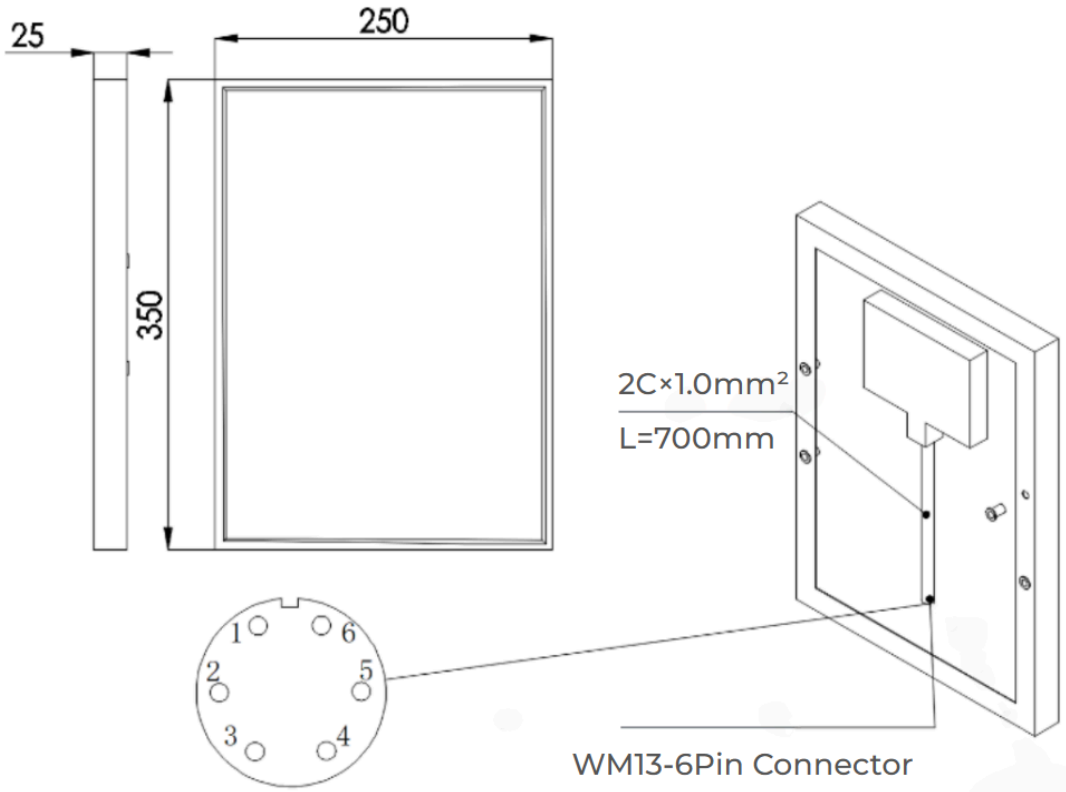
© Seeed Technology Co., Ltd. All rights reserved. www.seeedstudio.com

1 Product Overview

1.1 Appearance & Dimension







Pin No.	Name
2	VCC+
5	GND-

© Seeed Technology Co., Ltd. All rights reserved. www.seeedstudio.com

1.2 Feature

- **Independent Solar Power Supply:** Operates without external power input. Utilizes high-efficiency photovoltaic power generation to support flexible deployment, simplified installation, and continuous power output under suitable illumination conditions.
- **Optimized Circuit Design**: Employs an optimized circuit architecture with improved anti-shading characteristics. Reduces localized overheating risk and helps improve module operational stability and service life.
- **Enhanced Micro-Crack Resistance**: Designed with improved mechanical robustness. Each module undergoes 3-pass Electroluminescence (EL) inspection to ensure manufacturing quality and reduce potential micro-crack performance degradation.
- **Vibration-Resistant Mechanical Structure:** Mechanical structure optimized for vibration resistance, maintaining stable operation under tower or pole-mounted environments without affecting sensor or optical system stability and output quality.

1.3 Specification

Item		Specifications
Solar Panel	STC Peak Power	12W
	Optimum Operating Voltage	12V
	Optimum Operating Current	1A
	Open-Circuit Voltage	14V
	Short-Circuit Current	1A
	Module Efficiency	19.50%
	Operating Temperature Range	-20°C to +70°C
	Power Tolerance	± 6 %
	Product Dimensions	350 × 250 × 25 mm
	Weight	1.1 kg
	Maximum Power Temperature Coefficient	-0.38% / °C

© Seeed Technology Co., Ltd. All rights reserved. www.seeedstudio.com

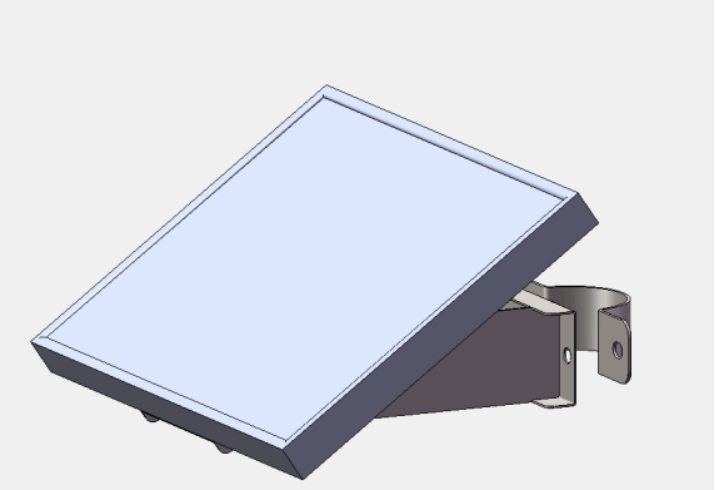
	Frame Material	Aluminum Alloy (Thickness: 1.0 mm)
	Cable Specification	RVV 2 × 1.0 mm², Length: 0.7 m, WM13-6 Pin Connector
General Specifications	Environmental Reliability	-20°C to +60°C, Relative Humidity < 90%; IP65 Rating
	EMC Reliability	TVS 4000V Lightning, Surge, and Transient Protection (Complies with GB/T17626.5 Class 4 Level)
	Bracket, Hoop & Screw Material	304 Stainless Steel
	Mounting Method	Pole hoop mounting, suitable for pole diameters of Φ70 mm
	Power Supply System Dimensions	350 × 254 × 166 mm
	Total Weight	3.2 kg
Certifications	Safety Compliance	CE
	Environmental Protection	RoHS 2.0

1.4 Packing List

No.	Name	Quantity
1	Solar Panel	1
2	Mounting Bracket	1
3	Pole Hoop Clamps	1
4	Installation Screw Kit	1

© Seeed Technology Co., Ltd. All rights reserved. www.seeedstudio.com

2 Installation Guide



2.1 General Requirements

- During transportation, storage, and installation, protection against impact, vibration, and surface damage shall be ensured.
- Installation shall comply with product technical documentation and relevant specifications.

2.2 Storage Requirements

- Store in a dry, ventilated environment with protection against rain, moisture, dust, and sand.
- Periodic inspection shall be performed during storage to maintain protective conditions.

2.3 Bracket Installation

- Components shall be inspected prior to installation; burrs, welding slag, and sharp edges shall be removed.
- Installation under rain or harsh conditions is not permitted. Surface coating shall not be damaged during handling or tightening.
- Fasteners shall be installed in correct sequence and torque; forceful installation or modification is not allowed.

© Seeed Technology Co., Ltd. All rights reserved. www.seeedstudio.com

3 Version

Version	Description	Date	Author
v1.0	First release	2026-06-17	Janet Zhang

© Seeed Technology Co., Ltd. All rights reserved. www.seeedstudio.com