

## 333Designs RV2100

# 333Designs Shark AI Robot Vacuum Cliff Sensor Set Instruction Manual

For RV2000 AI Series Models: RV2001WRUS, RV2001WD, RV2000WRUS, RV2002WXUS, RV2001WRCA,  
RV2011DRUS, RV2211WRUS

## 1. INTRODUCTION

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This instruction manual provides detailed guidance for the installation, operation, maintenance, and troubleshooting of the 333Designs Shark AI Robot Vacuum Cliff Sensor Set. This set is designed as a replacement part for specific Shark AI Robot Vacuum models to ensure continued safe and efficient operation of your device. Please read this manual thoroughly before attempting any installation or maintenance.

## 2. PRODUCT OVERVIEW

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### 2.1 Package Contents

- 3 x Infrared Distance Sensors
- 1 x Wiring Harness with Connectors

### 2.2 Compatibility

This cliff sensor set is compatible with the following Shark AI Robot Vacuum models:

- RV2001WRUS
- RV2001WD
- RV2000WRUS
- RV2002WXUS
- RV2001WRCA
- RV2011DRUS
- RV2211WRUS

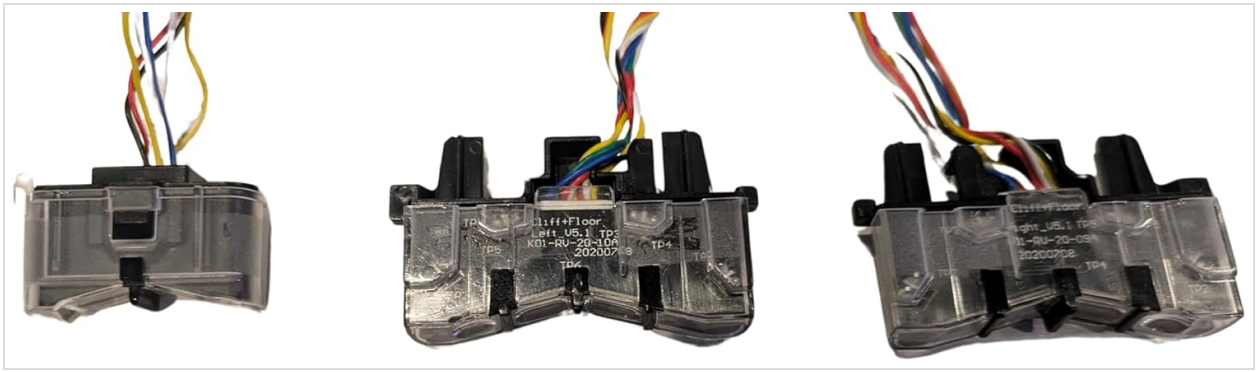


Image 1: Overview of the three cliff sensors and their wiring harnesses.

### 3. INSTALLATION GUIDE

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The cliff sensors are critical for preventing your robot vacuum from falling down stairs or off ledges. Replacement typically involves accessing the underside of the robot vacuum. It is recommended to consult your specific Shark AI Robot Vacuum's service manual or a qualified technician if you are unsure about any steps.

#### 3.1 Safety Precautions

- Always power off and unplug your robot vacuum before beginning any installation or maintenance.
- Remove the battery if possible to prevent accidental power-on.
- Use appropriate tools and work in a well-lit area.
- Handle electronic components with care to avoid damage from static electricity.

#### 3.2 Sensor Replacement Steps (General)



Image 2: Detailed view of one cliff sensor, highlighting the wiring and connector.

1. **Prepare the Robot:** Place the robot vacuum upside down on a clean, soft surface to prevent scratches. Ensure it is powered off and the battery is disconnected.
2. **Access Sensors:** Locate the screws that secure the bottom cover of your robot vacuum. Carefully remove these screws and detach the bottom cover to expose the internal components, including the existing cliff sensors.
3. **Disconnect Old Sensors:** Identify the wiring connected to the old cliff sensors. Gently disconnect the wiring harness from the main board or junction point. Note the orientation and connection points for reassembly.
4. **Remove Old Sensors:** The sensors are typically held in place by clips or small screws. Carefully unclip

or unscrew the old sensors and remove them from their housing.

5. **Install New Sensors:** Position the new 333Designs cliff sensors into the designated slots. Ensure they are securely seated and oriented correctly.
6. **Connect New Sensors:** Connect the new wiring harness to the appropriate connection points on the main board or junction, matching the connections noted in step 3. Ensure all connections are firm.
7. **Reassemble:** Carefully replace the bottom cover and secure it with the screws removed in step 2.
8. **Test Functionality:** Reinstall the battery and power on the robot vacuum. Perform a test run to ensure the sensors are functioning correctly and the vacuum avoids drops.

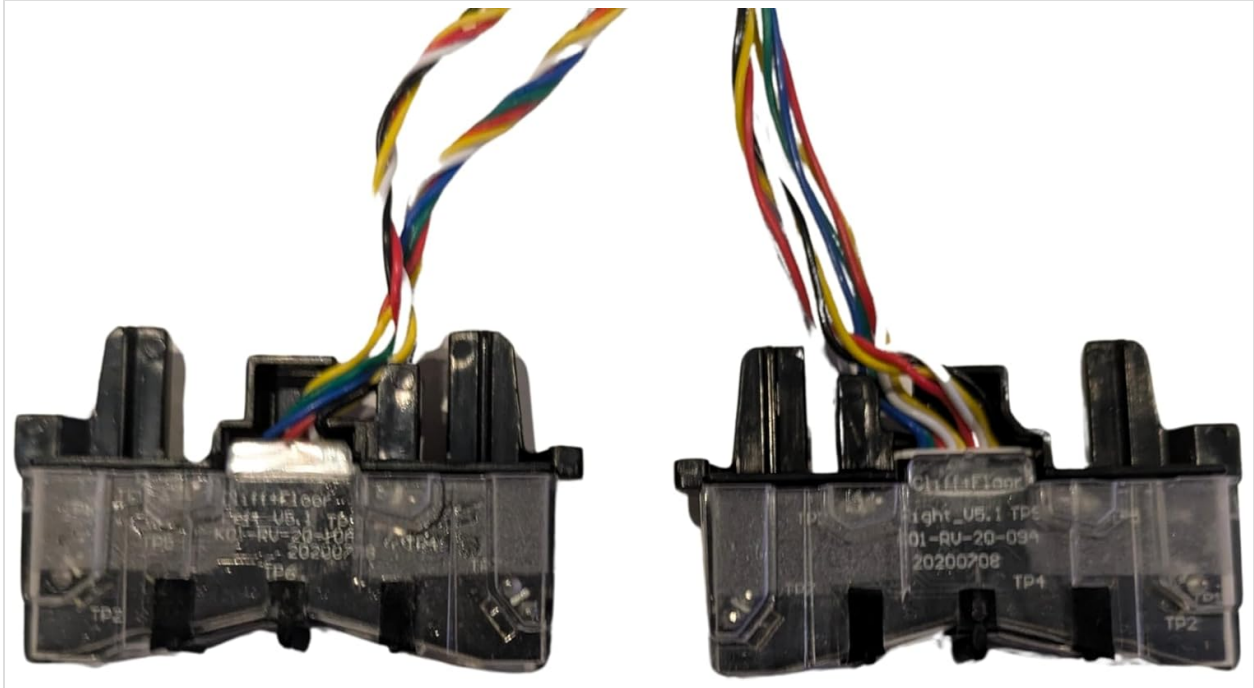


Image 3: The complete set of three cliff sensors, illustrating the wiring harness length and connectors.

## 4. OPERATION

Once properly installed, the 333Designs Cliff Sensor Set will restore the essential safety function of your Shark AI Robot Vacuum. These infrared sensors continuously monitor the floor ahead, detecting drops such as stairs or ledges. When a drop is detected, the robot vacuum's system will automatically adjust its path to prevent falls, ensuring safe navigation throughout your home. No direct user interaction is required for the sensors to operate once installed correctly.

## 5. MAINTENANCE

To ensure optimal performance and longevity of your cliff sensors, regular maintenance is recommended:

- **Cleaning:** Periodically inspect the sensor windows located on the underside of your robot vacuum. Dust, dirt, or debris can accumulate on these windows, obstructing the infrared beam and impairing sensor functionality.
- **Cleaning Procedure:** Gently wipe the sensor windows with a clean, dry microfiber cloth. Avoid using abrasive materials or harsh cleaning chemicals, as these can scratch or damage the sensor surface.
- **Inspection:** During cleaning, visually inspect the sensor units and their wiring for any signs of damage, such as cracks, frayed wires, or loose connections.

## 6. TROUBLESHOOTING

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If your Shark AI Robot Vacuum exhibits issues related to cliff detection after installing the new sensor set, consider the following:

- **Robot Not Moving or Stopping at Edges:** If the robot stops or reverses frequently without an actual drop, the sensors might be overly sensitive or obstructed. Ensure the sensor windows are clean (refer to Maintenance section).
- **Robot Falling Down Stairs:** This indicates a critical failure of the cliff sensors. Immediately power off the robot. Recheck all wiring connections to ensure they are secure and correctly installed. Verify that the sensors are properly seated in their housings. If the issue persists, the sensors may be faulty, or there could be an issue with the robot's main control board.
- **Error Codes:** Refer to your Shark AI Robot Vacuum's main user manual for specific error codes related to cliff sensors. These codes can help diagnose the exact problem.
- **Loose Connections:** Ensure the wiring harness connectors are fully seated and locked into place. A loose connection can cause intermittent or complete sensor failure.

If troubleshooting steps do not resolve the issue, contact customer support for further assistance.

## 7. SPECIFICATIONS

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<b>Brand</b>	333Designs
<b>Model Name</b>	AI
<b>Special Feature</b>	Infrared
<b>Color</b>	Black
<b>Product Dimensions</b>	6"L x 4"W x 1.2"H (Approximate, for the set)
<b>Included Components</b>	3 Sensors, Wiring Harness
<b>Power Source</b>	Battery Powered (via robot vacuum)
<b>Form Factor</b>	Round (for compatible robot vacuum)
<b>UPC</b>	781490496558
<b>Item Model Number</b>	RV2100

## 8. WARRANTY AND SUPPORT

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For warranty information or technical support regarding your 333Designs Shark AI Robot Vacuum Cliff Sensor Set, please refer to the product packaging or contact the manufacturer directly. Keep your purchase receipt as proof of purchase for any warranty claims.

Manufacturer: 333Designs

