

Installation Instructions – Flexible Solar Panel 160W

1. General Overview

This guide covers the installation of the Modul-System Flexible Solar Panel 160 W on light commercial vehicles (LCVs), including recommended practices for secure mounting, cable routing, and long-term performance.

2. Installation Preparation

- Panel Type: Flexible 160 W Solar Panel
- Fixing Method: 3M VHB tape and
- Cable Entry: PG9 cable glands

Required Parts

- 28501-03 Cables 7m for Solar Panel
- 28502-03 3M VHB™ Black Foam Tape, 25.0mm x 33.0m, 0.60mm Thick
- 39236 Sika Cleaner P
- Gland & Nut (Right Angle), 13 mm Nominal Size, PG9
- Sealant
- All-purpose cleaner

3. Mounting the Panel

3.1 Positioning

- Fit the required number of 160W solar panels to the front or rear section of the vehicle exterior roof.
- Ensure the panel location does not interfere with roof-mounted accessories such as:
 - Flettner ventilators
 - Warning lights
 - Work lights
 - Roof racks or other equipment
- Position the panel so that the connector is located towards the front or rear N/S or O/S side of the vehicle, as required for cable routing.

3.2 Surface Preparation

- Clean the vehicle roof thoroughly first using All-purpose cleaner and then Sika Cleaner P.

- Ensure the roof surface is dry and free from grease, wax, dirt, and debris.
- Verify that the mounting area is suitable for adhesive fixing.

3.3 Tape Application

Apply 3M VHB tape:

- Around the perimeter of the panel.
- In longitudinal strips across the center of the panel to provide additional support.

If the roof contains ribs or indentations:

- Apply tape primarily to the high points of the roof.
- Leave low sections open where appropriate.
- Ensure the leading edge of the panel is fully supported.

3.4 Securing the Panel

- Secure the panel using 28502-03 3M VHB Tape.
- Apply firm pressure across the entire panel to ensure proper adhesion.
- Apply a continuous bead of sealant along the front leading edge of the panel to prevent wind and water ingress.

4. Cabling and Routing

4.1 Cable Routing

Route the solar panel cables into the vehicle using:

- Gland & Nut (Right Angle), PG9

Ensure all cable entry points are properly sealed to prevent water ingress.

4.2 Cable Protection

- Secure all cables to prevent movement and chafing.
- Avoid sharp edges and moving components.
- Maintain suitable bend radii throughout the cable route.

4.3 Connecting Multiple Solar Panels

When installing more than one 160 W solar panel, the panels must be **connected in parallel**.

- Connect all positive (+) cables together and all negative (–) cables together.
- A parallel connection keeps the system voltage at the required level while increasing the available current as additional panels are added.

Important: Always verify correct polarity before connecting the solar panels to the system.

5. Placement Considerations

- Mount the panel on the flattest practical section of the roof.
- Avoid heavily ribbed or uneven areas where possible.
- Ensure the panel is not shaded by roof-mounted accessories.

7. Dos and Don'ts

DO

- Clean the roof thoroughly before installation.
- Check that all cable entries are properly sealed.
- Ensure the panel is securely bonded to the roof.
- Inspect the installation periodically.

DON'T

- Install the panel on contaminated or wet surfaces.
- Route cables where they may be damaged.
- Attempt to modify the panel or connectors.
- Use abrasive cleaning products on the panel surface.