

Installation Instructions – 28500-03 Solar Panel

210W Flexible

1. General Overview

This guide covers the installation of the Modul-System flexible monocrystalline PERC solar panel (210W) on light commercial vehicles (LCVs), with recommended practices for secure mounting, cabling, and long-term performance.

2. Installation Preparation

- Panel Type: Flexible 210W Monocrystalline PERC
- Fixing Method: VHB tape (3M) and optionally bonding glue (non-removable)

3. Mounting the Panel

3.1 Surface Preparation

- Clean the vehicle roof thoroughly.
- Ensure the roof is dry and free from grease or debris.

3.2 Tape Application

- Apply 3M VHB tape:
 - On all four sides of the panel.
 - Two longitudinal center stripes for added adhesion.
- If the roof has ribs or indentations:
 - Focus tape on high points (flat areas).
 - Leave indentations open to allow breathing except the front edge, which should be secured along a rib.

3.3 Additional Fixing (Optional)

- Ultra-strong bonding glue may be used to ensure permanent fixing.
 - Note: This makes the panel non-removable without damaging it.

4. Cabling and Routing

4.1 Cable Routing

- Preferred method: Drill through roof and seal with a cable gland.
- Alternative method: Use OEM grommet in the rear door shut area with a drip loop.

4.2 Cables

- Use only Modul-System supplied cables (e.g., 28501-03) for plug-and-play connection.

5. Placement on Roof

- Mount the panel where the roof is flattest to ensure best adhesion.
- Avoid heavily ribbed or grooved areas if possible.

6. Cleaning and Maintenance

- Cleaning: Use soft brush and water. Clean regularly to maintain output.
- Avoid: Harsh chemicals or abrasive materials.
- Car Washes: Panels are believed to withstand standard car washes (with rollers/brushes).

7. Dos and Don'ts

DO:

- Clean regularly.
- Check for visible damage or performance issues.
- Install in full sunlight and avoid shading.

DON'T:

- Modify or repair panels yourself.
- Use abrasive cleaners or tools.

8. Technical Specifications

- Pmax: 210W

- Efficiency: $\geq 21.5\%$
- Vmp: 33.2V | Imp: 6.45A
- Voc: 38.6V | Isc: 6.75A
- Max System Voltage: 600V
- IP Rating: IP67
- Cell Count: 36
- Connector Type: MC4
- Service Life: ~10 years