TESTING & MAINTENANCE – PHOTOVOLTAIC SYSTEMS

WHY PV INSPECTION?

PV systems are a long-term investment in a sustainable energy future. Their continuous performance, safety and maximum yield are essential.

Yield Security

- Only regular inspections ensure that your PV system delivers maximum performance and prevent yield losses.

Long Service Life

- Professional upkeep significantly extends the lifetime of your modules and components, protecting your investment.

Safety

- A properly functioning PV system minimizes fire hazards and electrical risks and ensures safe operation.

ADVANTAGES OF REGULAR INSPECTION AND MAINTENANCE

At Ohmega Energy, we offer comprehensive service packages for PV system maintenance – tailored to your individual requirements and always executed to the highest standards.

Maximized Yield

- Our detailed analyses detect performance deficits, increasing your energy output and financial return.

Early Detection of Defects

- Preventive diagnostics identify problems before they lead to costly damage.

Increased Safety

- Risks such as fire hazards or electrical faults are minimized through early remediation.

Asset Preservation

- Preventive measures protect your investment and maintain the value of your PV system over long periods.

Comprehensive Documentation

- You receive a detailed inspection report as proof for insurers, warranty claims and regulatory requirements.

OUR MAINTENANCE SCOPE

Our maintenance scope ensures maximum operational safety and maximum yield of your photovoltaic systems. Through standards-compliant inspections and precise visual checks, we prevent failures – ensuring maximum performance and long system life.
We take a holistic view of the system: in addition to module and component inspection, we also check the feed-in point – from the sub-distribution to the grid connection. This ensures safe, efficient and standards-compliant feeding.

MAINTENANCE ACCORDING TO MANUFACTURER REQUIREMENTS & STANDARDS

- *Visual Inspection of PV Modules* – Inspection for damage (cracks, hotspots, delamination), contamination, shading and correct frame seating.
- *Inspection of Mounting System* – Verification of proper fastening, corrosion, damage and correct alignment of the substructure.
- *Inspection of Cabling (DC/AC)* – Visual inspection for damage, UV resistance, insulation, correct routing and strain relief; checking connectors for secure seating.
- *Inverter Function Test* – Reading error codes and operating parameters, checking performance values, grid connection and ventilation.
- *Electrical Measurements (DC Side)* – Measurement of open-circuit voltage (Uoc) and short-circuit current (Isc) per string or module to assess performance.
- *Insulation Resistance Measurement* – Checking insulation resistance of the entire PV system to ensure electrical safety and prevent fault currents.
- *Documentation* – Preparation of a detailed inspection report with measurement results, identified defects and recommended actions.
- *Ventilation Inspection* – Ensuring sufficient airflow to prevent gas accumulation.

Preventive rather than reactive.
Predictable yields.

RECOMMENDED MAINTENANCE SCOPE

- *Thermographic Inspection* – Identification of hotspots, cell damage, bypass diode malfunctions or faulty connections not visible to the naked eye.
- *IV Curve Measurement* – Detailed measurement of current-voltage characteristics of individual strings or modules for precise performance evaluation and module-level diagnostics.
- *Performance Ratio Calculation* – Determination of the performance ratio to assess system efficiency and compare with design data and other systems.
- *Module Cleaning* – Professional cleaning of module surfaces to remove dirt and ensure maximum light absorption and yield.
- *Monitoring System Check* – Verification of monitoring functionality, data transmission and alarm functions.
- *Maintenance of Sub- Distribution/Protection Components* – Inspection of DC isolators, AC protection switches and surge protection devices.
- *Consulting & Optimization* – Expert consulting on optimization measures, efficiency improvements or required modernizations of your PV system.