

Superior safety solution for gas station PV systems



- ▶ Israel
- ▶ Installation Date: 2015-2016
- ▶ multiple 50-55kWp
- ▶ Installed by: Golan Solar

Dor Alon, owner of more than 200 gas stations across Israel, wanted to improve their energy balance and reduce their carbon footprint by installing PV systems on top of some of their gas stations. They chose Golan Solar, one of the most experienced PV advisory and project management companies in Israel, as their consultants for the project.

Generation of PV power on top of gas stations requires strict fire and electricity safety precautions. The importance of safety was one of the main reasons why Golan Solar recommended installing SolarEdge systems on the roof of Dor Alon's gas stations.

In the first phase of the project, starting January 2016, ~20 SolarEdge systems will be installed on Dor Alon gas stations.



“We have been working with the SolarEdge solution for commercial systems for a long time, and when we were asked as advisors for Dor Alon gas stations to recommend a PV solution, SolarEdge was the obvious choice, not only for the added yields it provides, but also because of the comprehensive safety solution it offers, which is particularly important in this kind of installation.”

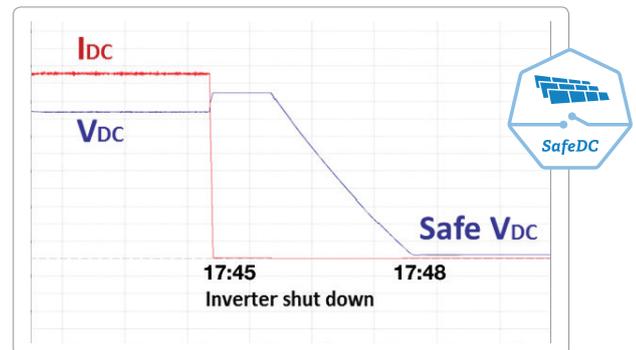
> Eyal Baharav, Owner, Golan Solar

Best-in-Class Safety

SolarEdge systems have a built-in safety feature that minimizes safety risks. When power optimizers are connected, modules continue in “operation mode” only as long as a signal from the inverter is constantly renewed. If there is no signal from the inverter or if the inverter is not operating, SolarEdge’s SafeDC™ feature is designed to automatically shut down the DC current as well as voltage in module and string wires. In safety mode, the output voltage of each module equals 1V.

In addition, shutdown will occur when the thermal detectors of the power optimizers detect a temperature above 85°C.

The SolarEdge SafeDC™ feature is certified in Europe as a DC disconnect according to the standards VDE 2100 and IEC 60947.

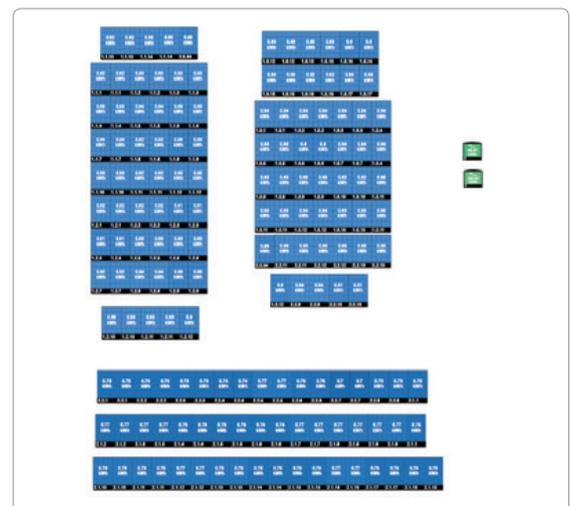


This graph represents an automatic string shutdown. As demonstrated, the current is shut down immediately once AC power or Inverter is turned off. The string voltage is reduced to safe voltage in 180 seconds.

Enhanced fleet management

The real-time remote monitoring at the module, string, and system levels acts as a strategic fleet management tool. The ability to monitor all gas station systems from one dashboard in parallel to receiving performance information at module resolution helps Golan Solar to reduce operation and maintenance (O&M) expenses and increase systems uptime. The SolarEdge monitoring platform provides clear tracking of each system’s performance through a variety of features:

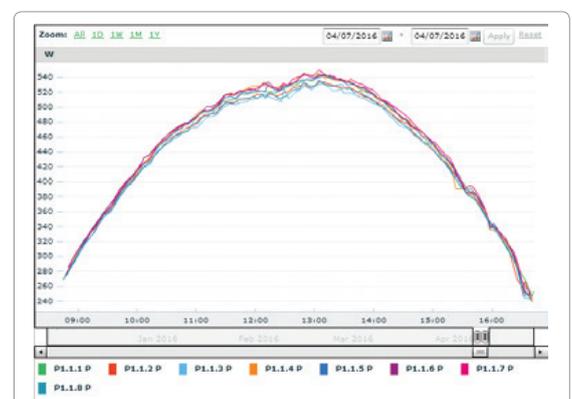
- Comparative performance analysis of multiple sites
- Push reports of energy yield, system uptime, and financial performance for a single or multiple systems
- Pinpointed and automatic alerts for quick and easy fault detection and resolution



The layout view shows system performance in high resolution. Any module issue is alerted and pinpointed to the physical location of the module on the roof for quick and easy resolution

Increased Energy Yield through Module-Level MPPT

The SolarEdge DC optimized inverter solution performs per module maximum power point tracking (MPPT) and therefore allows each module to generate its own maximum possible energy. This eliminates power losses due to module mismatch and increases energy yield of the entire system.



This graph shows 10W mismatch between weakest and strongest modules in a 3-month old installation. Module-level optimization by power optimizers guarantees that each module is producing maximum power, independently of other modules in the string