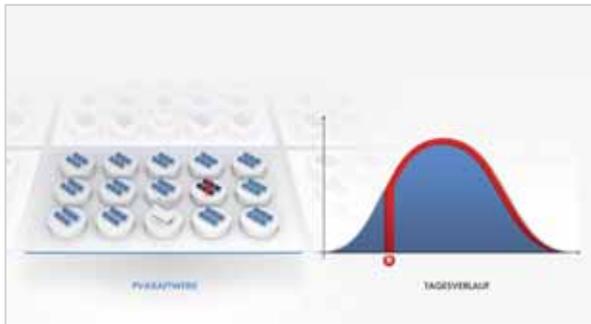


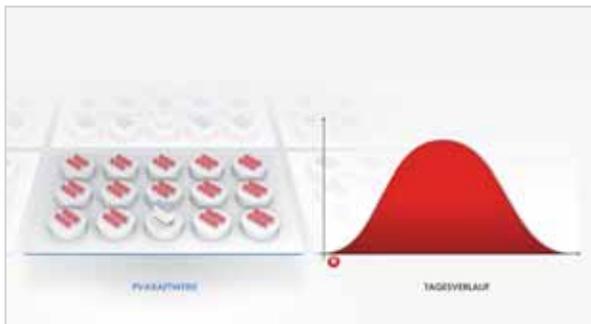
Optiprotect not only guarantees maximum PV yields, but also maximum PV plant availability. This technology uses circuit breakers to disconnect any defective substrings from the inverter so that the rest of the PV plant can remain in operation.

PV Plant with SMA Optiprotect



Ground fault in a substring: Once the error message is received the circuit breakers disconnect the defective substring from electricity production. The result: minimal yield loss.

PV Plant without SMA Optiprotect



Ground fault in a substring: The entire PV plant shuts down because the inverter stops all electricity production until service personnel have eliminated the problem. The result: complete yield loss for the plant operator.

- ✔ Use of an intelligent algorithm
- ✔ No configuration or parameterization
- ✔ Reliable distinction between temporary errors and permanent errors
- ✔ Automated error processing
- ✔ No unnecessary service calls
- ✔ No data cables or other cables in the PV field
- ✔ Maximum plant yields

Sonnenallee 1
34266 Niestetal, Germany

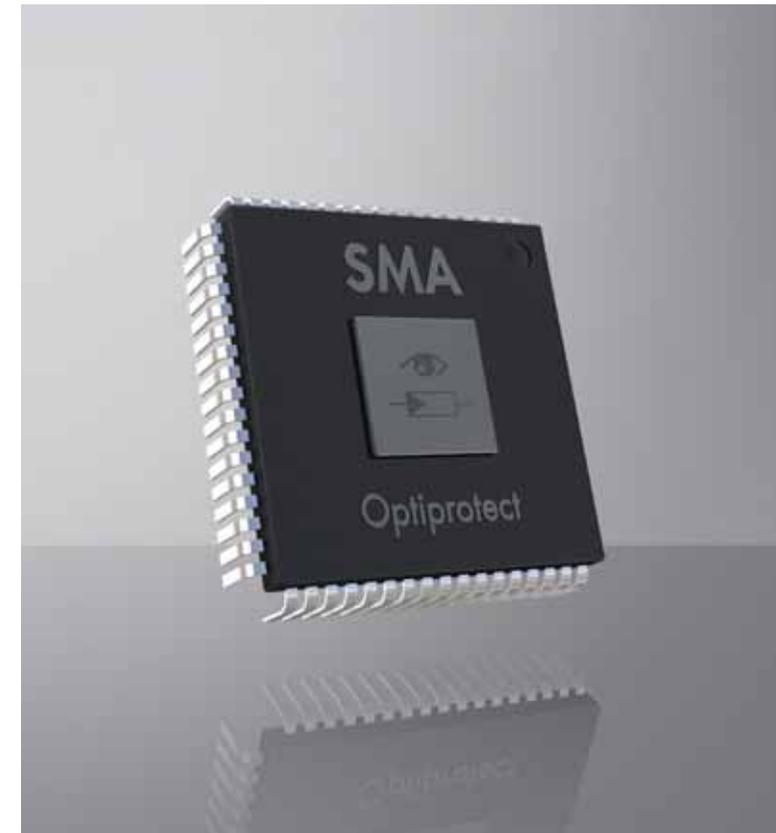
Tel: +49 561 9522-0
Fax: +49 561 9522-100

E-mail: Powerplants@SMA.de
www.SMA.de/power-plants



OPTIPROTECT

Intelligent error management for higher plant yields



Central Monitoring of all Strings

PV power plants in the two or three-digit megawatt range are becoming more common today. While power-optimized inverters and medium-voltage components make planning, installation and operation easier, the rapidly increasing number of modules is making plant monitoring more difficult.

With Optiprotect, SMA has developed a technology that is able to reliably detect and handle errors in the PV field. Optiprotect uses an intelligent algorithm to monitor and analyze string failures.

If insulation faults occur, the circuit breakers will disconnect substrings from electricity production so as to avoid having to shut down the entire PV array.



4,9 MW Power Plant Leutkirch, Allgäu, Germany.
Realized by ALPINE ENERGIE Deutschland, operator EnBW.
(Inverters: 6 SUNNY CENTRAL 800 CP with Optiprotect)

Optiprotect Detects Temporary Errors



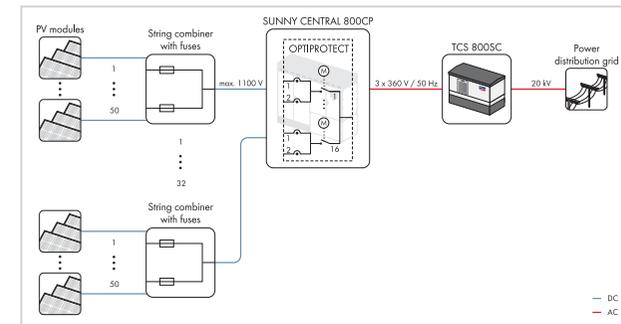
Optiprotect can detect temporary shading based on previous plant data. This makes it possible to distinguish between temporary disturbances and actual errors. False alarms are avoided.

Optiprotect Reports Permanent Errors



Optiprotect can reliably detect and report string failures. Only when a failure is reported will a service call be necessary.

Layout of a PV Plant with Optiprotect



The SMA String-Combiner can be used to combine all of the strings in a secure manner. Once combined, the strings are then connected to 16 motorized circuit breakers in the DC input range of the central inverter.

All error messages are forwarded to the Sunny Central Communication Controller via the data logger, which is installed by default.



DC-Terminal inside SUNNY CENTRAL CP with cage clamps.