

Maximum energy output

Just about ten years ago, Artur Deger founded his company DEGERenergie. Today, DEGERenergie is world market leader in the area of solar tracking systems. No wonder: the patented sensor-controlled tracking solution developed by Artur Deger allows operators of solar systems to achieve the highest energy yields worldwide.



Tracking systems by DEGERenergie can be found all over the world (left).

The heart of DEGERenergie's controlling solution: the DEGERconector (background)

Photos: DEGERenergie

DEGERenergie sensor-controlled tracking solutions allow 46 % higher energy outputs compared to solar systems installed on rigid supports. This has been confirmed by the company's long-standing experience and recently also by an evaluation of Spanish solar park operator Picanda Solar: solar modules installed by Picanda Solar on rigid supports on the roof of an industry hall produced an energy yield of 1,501 kWh/kW_p. Identical modules controlled by DEGERtrakers of the type 5000NT in the same location achieved efficiencies of 2,203 kWh/kW_p.

Key factor for achieving these high energy yields that remain unmatched among tracking systems around the world is DEGERenergie's sensor-controlled technology.

Essentially, there are two different kinds of tracking solutions for solar systems:

- Tracking systems based on astronomical data. These systems rely on astronomical data meaning that the software has access to data on the sunrise and sunset hours as well as on the irradiation angles over the entire year. These tracking systems bring the solar modules in a position following the sun but take into account neither weather conditions nor other relevant parameters affecting the energy yield such as reflections due to snow, water or to light-coloured rocks.
- Sensor-controlled tracking systems. These systems take into account the actual conditions on site and orient the installed solar modules towards the brightest and therefore the most energy efficient point in the sky. At the heart of the intelligent con-

trolling solution is DEGERenergie's patented control module DEGERconector. The unit continuously measures the degree of intensity and angle of the local solar irradiation meaning that reflected light or diffuse irradiation breaking through the clouds is taken into account when positioning the modules.

The effect: the solar module in the installation always absorbs the highest possible energy levels to be converted into useful power. "In our experience, solar trackers equipped with our patented control module DEGERconector yield the highest efficiencies worldwide", explains Artur Deger, founder and CEO of DEGERenergie.

This opinion is confirmed by data of the Fraunhofer Institute for Solar Energy Systems (Fraunhofer ISE). According to the solar energy research institute, two-axis trackers that are positioned based on astronomical data achieve 28 % higher energy outputs than rigid solar modules. "If we compare these values with the yields that our systems achieve during operation, the surplus energy of the sensor-controlled tracking systems is about 70 % higher than with systems based on astronomical data," says Artur Deger.

By the way: DEGERenergie systems operate without central control unit as each system positions itself independently of others. This makes a network of data lines in the solar park superfluous and each system arrives at the highest possible yields on site. Another advantage: in case of failure of one control unit, only one tracker will be affected – the other systems installed will be able to continue their work self-sufficiently.

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