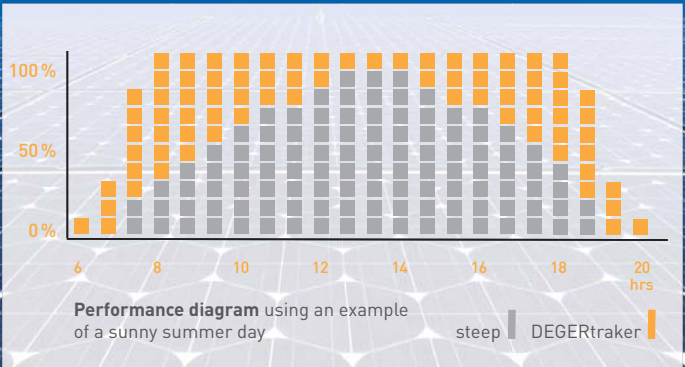


# CONVINCING ADVANTAGES



- OPTIMUM EFFICIENCY**
- ▶ maximum yield: up to 45% more energy
  - ▶ optimum energy use in all weathers for all seasons
  - ▶ minimum internal consumption because of self-sufficient, intelligent control
  - ▶ individual control – every single DEGERtraker in the solar park reacts to changes of the light intensity in its surroundings

- MAXIMUM EFFICIENCY**
- ▶ quick amortization with little capital expenditure
  - ▶ extreme short assembly times
  - ▶ minimum maintenance effort with high service life
  - ▶ no networking necessary
  - ▶ high availability, more than 99.9%
  - ▶ peripheral control with emergency program

- UNIVERSAL AND SAFE**
- ▶ appropriate for all standard solar modules
  - ▶ application also in desert and equatorial regions
  - ▶ TÜV tested and certified, UL/CSA certified
  - ▶ up to 25 years guarantee



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**FUTURE ORIENTED.**  
**EFFICIENT.**  
**STRONG YIELD.**

# INNOVATIVE IDEAS FOR MORE YIELD

How is it done to maximally use the power of every single ray of sunlight? That's the question that drives the high tech company **DEGERenergie** every day. The patented result of our research work is quite satisfying: An impressive energy gain of up to 45 percent.

Today solar energy is considered the most important energy concept of the future. Already today innovative technologies secure a high efficiency with comparatively little capital expenditure by optimizing the photovoltaic's effectiveness.

**DEGERenergie** equips solar plants worldwide with patented innovative solar tracking systems. A technology that pays off for small scale plants as well as for solar power plants.

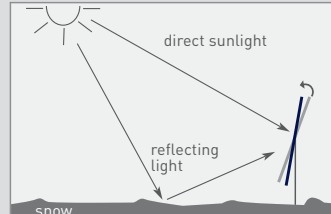
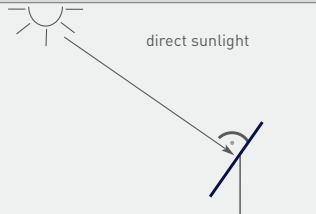
**Reflecting the intelligence of the natural world.** The principal of **DEGERenergie's** solar tracking system is ingenious like the natural world. A patented control system – the **DEGERconector** identifies the strongest light source at any time of the day. It is possible to attach every common photovoltaic module to the single- or dual-axis systems – to the **DEGERtrakers** or the **DEGERTOPtrakers**. The **DEGERconector** then aligns the solar modules exactly to the most intense light source – no matter, if the sun is shining or if there is heavy cloudiness. That way it is possible to increase the solar plant's yield for up to 45 percent.

Contrary to the traditional control systems only movements are performed that result immediately in a yield increase.

There is no doubt that the tracking systems save energy extremely. The internal consumption is around 0.2 percent of the yield increase. Such an efficient use of energy does not only result in higher yields, but also quickens the "Return on Invest" leading to a beneficial environment/energy-balance.

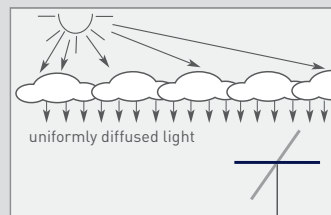
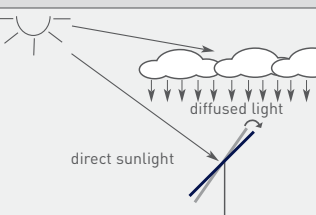
# THE INTELLIGENT CONTROL

The effectiveness of the solar plant depends essentially on how much energy the solar cells are able to collect. The intelligent control of the **DEGERenergie** tracking systems guarantees the optimum utilization of all incidental light energy.



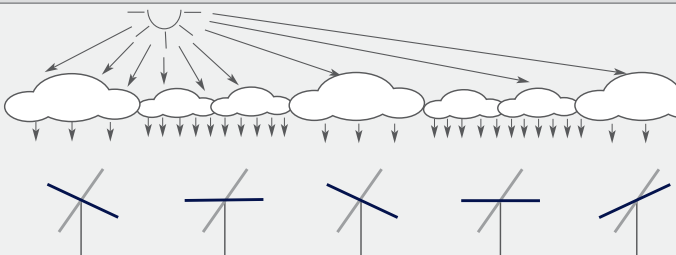
**With bright sunshine:** The DEGERtraker aligns itself with the brightest point in the sky.

**Snow:** The DEGERenergie tracking system uses direct light irradiation as well as the energy of reflected light.



**Scattered clouds:** beside direct solar radiation also diffuse light is used optimally.

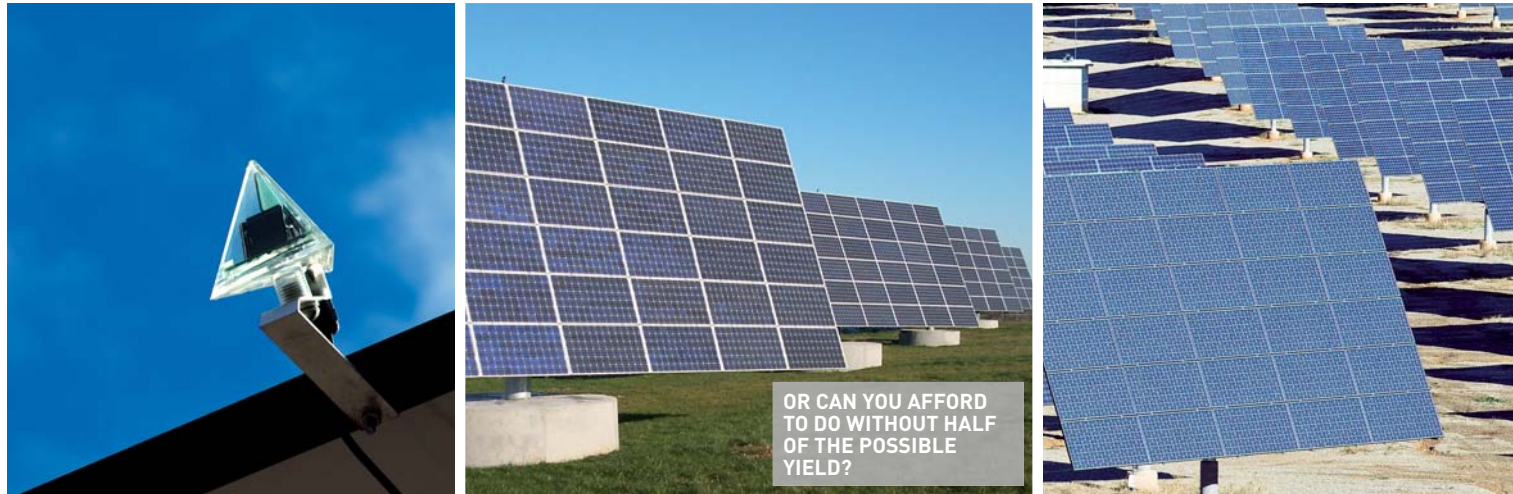
**Overcast sky:** the system detects the brightest spot and directs itself towards the spot.



**Varying lighting conditions:** In solar parks the lighting conditions vary for each single DEGERtraker because of different clouds. The individual control aligns every DEGERtraker optimally to the brightest light source and guarantees therefore the biggest possible energy gain.

standard control | DEGERconector control

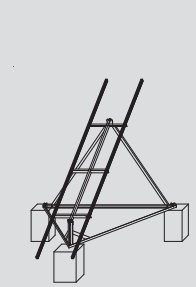
# TECHNICAL DATA



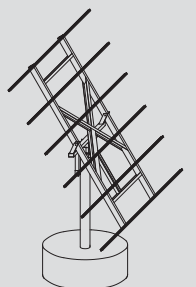
Technical data	Single-axis, active tracking systems			Dual-axis, active tracking systems				
	TOPtraker 8.5	TOPtraker 25HD	TOPtraker 40NT	3000HD	5000HD	3000NT	5000NT	7000NT
For Solar Power	500 ... 1.290 Wp	2.000 ... 3.800 Wp	4.000 ... 6.400 Wp	2.000 ... 3.800 Wp	4.000 ... 6.400 Wp	2.000 ... 3.800 Wp	4.000 ... 6.400 Wp	6.000 ... 9.000 Wp
Module area up to	96 sqft	269 sqft	430 sqft	269 sqft	430 sqft	269 sqft	430 sqft	645 sqft
Control	DEGERconector			DEGERconector				
Power consumption:								
Control mode	0,1 Watt			1 Watt				
with running drive approx.	5 Watts	7 Watts	9 Watts	7 Watts			9 Watts	
Internal consumption per year approx.	1 kWh	2 kWh	2,5 kWh	8 kWh	9 kWh	7 kWh	8 kWh	9 kWh
Mast length	--	13,12 ft / optional 16,40 ft			10,9 ft ... 18 ft			
max. allowed wind speed	81 ... 186* mph	106 ... 186* mph	63 ... 186* mph	106 ... 186* mph		63 ... 186* mph		
Weight (without mast)	254 pound	1235 pound	1433 pound	1102 pound	1874 pound	1058 pound	1433 pound	2403 pound
Service	maintenance-free			maintenance-free				
Area of use / geographical position	Equator ... 60th parallel			25° ... 60° / optional equator up to 90th parallel				

**Scope of delivery:** Complete tracking system, mast, aluminium solar module carrier system to fit the respective module type, DEGERconector control electronics with energy converter for extremely economical operation, foundation plan, installation manual. \* designed with planning tool.

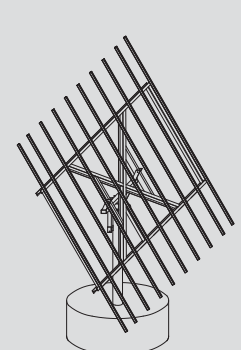
# JUST FOLLOWING THE SUN



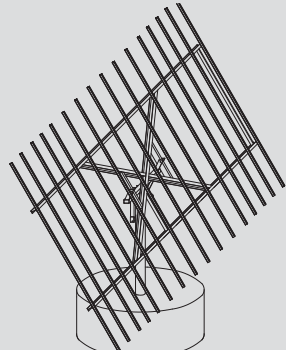
DEGER TOPtraker® 8.5HD



DEGERtraker® 3000NT



DEGERtraker® 5000NT



DEGERtraker® 7000NT

The automatic control increases the yield and saves costs.

That is so thanks to the centerpiece of the intelligent control – by **DEGERenergie** developed control module DEGERconector. Its development was distinguished with the Innovator Award of the State Baden-Wuerttemberg in the year 2001.

The DEGERconector continually measures the intensity and angle of the incident light rays and aligns the solar modules accordingly. The DEGERconector thereby takes into account not only the radiation of the sun but also (for example) light that is reflected off snow, water or rock or diffuse radiation that penetrates through the clouds. This allows the connected solar module to always receive the greatest possible amount of energy and to emit the energy as usable power.