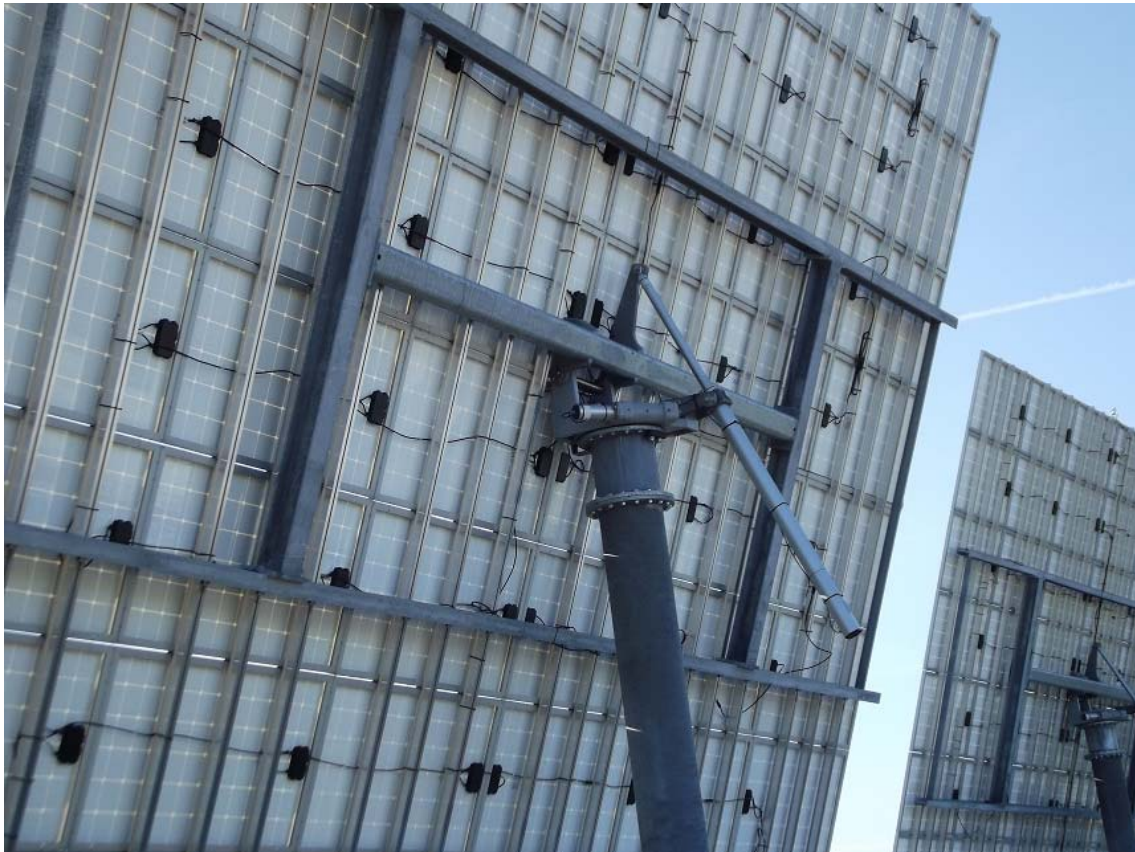


All you need to know about the new D-Series from DEGER

The new systems DEGERtracker D60H, D80 and D100 will come up with many improvements, in which the key aspects of the new development have been quality improvement und yield increase.

Of course there will arise questions with such a change, which we will answer in this overview.



New DEGERtracker improved construction

- Retracted elevation motor in Save position
- Higher elevation from 10 to 90°
- Compact rotating head and gear box
- Base frame elements for on-site assembly

Improvements for easy installation

- Pre-wired rotating head and Energy Converter 6
- Installation of the modules with head bolts

Comparable with previous systems

- The maximum permitted module surface has not been changed.
- The maximum permitted wind load has not been changed.

How should the type term be read?

The 'D' stands for 'Dual', i.e. dual-axis tracking. The 'H'-sign stands for systems, which are suitable for installations in regions with high wind load conditions (H='heavy duty'). The numeric component in type name correlates with the approx. PV power which can be installed in regard to the type of modules which will be installed.

What should you be aware of?

With the launch of the new D60H, D80 and D100 series we released a new version of the DEGER planning tool for the calculation of the maximum permitted module surface. For error-free operation it is strictly recommended only to use **DEGERenergie-Planningtool-V-5.3**.

The new rotating head



What is the advantage of the new rotating head?

Due to the unique geometry design of the rotating head we accomplished an ideal load balance, which exonerates bearings, motors and gears and increases the long-life cycle of the complete system significantly. In addition through the new combination of gear and frame support resources could have been saved.

Are there special bearings utilized?

Moving parts will be housed in new dry bearings made of high-tech engineering polymers.

Which cables are pre-wired?

The DEGER control unit and the motors are completely pre-assembled, which means saving time and avoiding errors and costs. In addition there are prepared screw-on connections provided for all cables like communication, inverter, all sensors including wind & snow sensor in the gear box cover.

The new elevation motor (EMO)



Compared to the previous elevation motor the new EMO no longer uses a harmonica type cover. Now the EMO is a complete closed system, by what the intrusion of dirt and water will be avoided and the life-cycle of the motor will be significantly increased.

Why is the EMO in Save position retracted?

Due to the fact that in Save position (=storm) the biggest forces affect the elevation motor, it makes statically more sense to have the EMO retracted.

Which advantage has the bigger elevation of 10 to 90°?

Through the higher elevation angle of 10 to 90° the yield will be increased at sunrise and sunset.

Which advantage has the pre-assembled central pipe?

The central pipe is pre-adjusted through specialized DEGER staff before leaving the factory. Therefore there will be no misalignment between the base frame and the rotating head. Also the EMO will be equilibrated and the long-term usability of the parts significantly increased.

What should you be aware of?

For the installation of the EMO you will need a **battery pack** with 14 VDC. With the battery pack you can move the EMO to the required position without being connected to the standard power supply.

The new base frame



Why is the new base frame delivered in parts?

With the delivery in parts a better packing density and a much easier loading and unloading of the trucks can be achieved, which will save costs. As an additional benefit shipments can be done in standard containers now.

How many single parts are in the scope of delivery?

According to the type of tracker the base frame consists of up to nine single parts.

How much time do I need for the assembly of the base frame?

Is there the possibility that the parts could be assembled in the wrong way?

There is no possibility to make a mistake at the installation of the base frame, because every screwed joint has its own hole pattern to avoid mistakes. In addition only one type of screws is needed.

What should you be aware of?

The **yellow tension belt** around the gear is a transport and installation protection and should not be removed by no means before the EMO has been installed.

The new mast

Why the drilled hole in the mast?

For your convenience the drilled hole in the mast offers the possibility to lead the cabling outside the mast and distribute from there.

Why are the mast lengths different than before?

The masts needed to be longer, because the distance between the bottom edge of the module surface and the ground has become smaller with the higher elevation of 10 to 90° and the new compact rotating head. From now on solely the length of the delivered masts will be indicated to avoid vagueness. You will find the height of the system in save position respectively the maximum system height to the top edge in the module layout drawings provided by us.

What should you be aware of?

Due to the increased elevation angle the gap between mast and module surface is significantly shortened. Therefore it is necessary to respect a defined exclusion zone when **installing an inverter** at the mast. Further information can be found in the installation manual.

The new mounting system



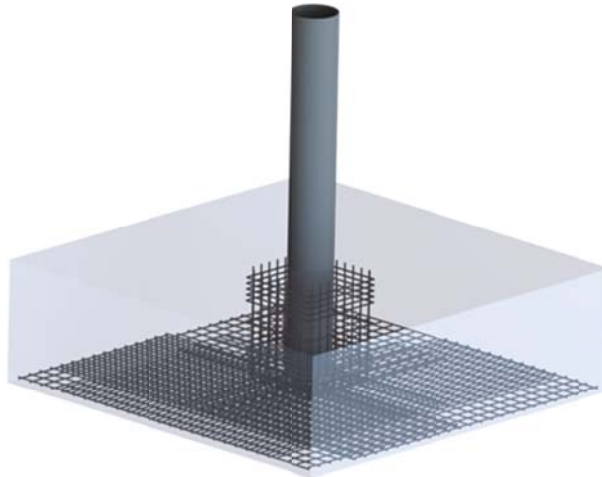
With the combination of new aluminum profile F-Set-D and the new hammer head screws we achieved a significantly simplified installation of the modules. Now it's possible to fasten the module clamp to the aluminum directly from the top. You don't need to mount the module clamp from the end of the aluminum profile any more.

Despite a slight excess length over the module surface you don't have to worry about any loss because of shadowing with the new mounting system. Shadowing can't occur due to our MLD sensor based control. The module surface will be positioned in a 90° angle to the brightest point in the sky at every time.

Why isn't it allowed to mount aluminum profiles over the rotating head?

Due to the higher elevation angle of 10 to 90° there might occur collisions between the aluminum beams and gear. To avoid this effect you should take care that no profiles will be mounted in this area. Further information can be found in the installation manual.

The new foundation



Why do we have new reinforcement drawings?

To make the construction of the foundations easier and therefore to save time and money we simplified the reinforcements of the foundation for the tracking systems. With the launch of the new D-series we will only need two different reinforcements. Further information can be found in our technical documentation.

Installation Requirements

Onsite you need the following items for the installation:

- Lifting gear for unloading (fork lift, crane)
- Sufficient racking for assembly of the base frame
- Crane for the installation of the base frame
- Battery pack min. 14 V
- Ladder, raised platform or cherry picker (Please secure yourself while working in heights according to local safety regulations)
- GPS device or compass
- Torque wrench, Screw driver, cordless drill, cordless screw driver