

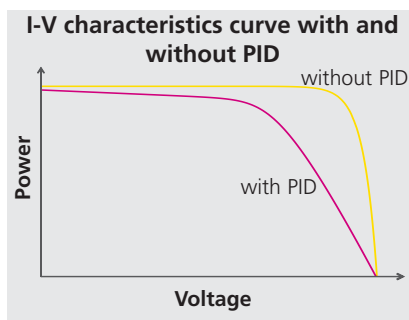
# PID: INVISIBLE DANGER FOR SOLAR PANELS

**CENTROSOLAR  
Solar panels:**

**100%  
PID SAFE**

## What is potential-induced degradation?

Potential-induced degradation, PID for short describes the gradual loss of performance of PV panels and systems. The high voltages between the frame and the cell drive charges into the active cell layer and prevent the transport of charges generated.



## When and where does PID occur?

This mainly affects photovoltaic systems where the modules and mounting system are grounded but the inverter isn't. The effect is

exacerbated by humid panel surfaces as is the case after rainfall. Furthermore, not every cell is equally susceptible to PID.

## What does PID mean in practice?

The advancing loss of performance detracts from the profits achieved by the operator and often leads to several complaints to solar panel manufacturers and installers. Producing evidence of PID is very complex and cost intensive.

## What does Centrosolar do against PID?

Our solar panels are made of up to 100% PID-resistant cells. This was confirmed by the TÜV in extensive test procedures. The panels are exposed to a negative voltage of 1,000 V with a humid surface for 168 hours and may still not experience a performance loss of over 5%. Our solar panels were way below this level. Our cells were

also subject to constant cell input controls at the plant in Wismar. Centrosolar modules can therefore certainly be considered as PID safe.

## Centrosolar modules are 100% PID safe due to:

- constant cell input controls
- exclusive use of PID-resistant cells
- extensive internal qualification tests
- Certification by TÜV Rheinland



- Qualified, IEC 61215
- Safety tested, IEC 61730
- Heavy Snow Load tested
- Ammonia resistance tested
- Salt corrosion resistance tested
- ANSI/UL 1703 listed
- Periodic inspection