

PV Fact Sheet

11 | Pressure compensating element (DAE)

This fact sheet focuses on photovoltaic installations in solar parks worldwide. One essential part of such an installation is the PV combiner box. These boxes are used to combine several strings and to protect against overvoltage and feature many more functions.

What is a DAE and how does it work?

DAE is the acronym from the German word Druckausgleichselement, that means Pressure Compensating Element. Regularly the air creates a vacuum in the enclosure, when it cools down can suck moisture through the seal into the housing, so IP protection is no longer guaranteed. The DAE it's used to compensate these pressure fluctuations caused by temperature differences. When installed, protection classes IP 66, IP 68 (0.2 bar, 60 min), and IP 69 can be achieved.



Image 1. Drawing of a DAE.



Image 2. Photo of a DAE.

If the enclosure is not equipped with pressure compensation, the interaction of temperatures with the effects of water and moisture can result in moisture being drawn in through the seal and getting into the enclosure. To solve this, every combiner box provided by Weidmüller it's equipped with DAE.



Image 3. Example of a combiner box with DAE equipped.