

## An Improved Photovoltaic System Balancer Architecture

**Authors :** Chih-Chiang Hua, Yi-Hsiung Fang, Cyuan-Jyun Wong

**Abstract :** An improved PV balancer for photovoltaic applications is proposed in this paper. The proposed PV balancer senses the voltage and current of PV module and adjusts the output voltage of converter. Thus, the PV system can implement maximum power point tracking (MPPT) independently for each module whether it is under shading, different irradiation or degradation of PV cell. In addition, the cost of PV balancer can be reduced due to the low power rating of converter. To assess the effectiveness of the proposed system, two PV balancers are designed and verified through simulation under different shading conditions. The proposed PV balancers can provide more energy than the traditional PV balancer.

**Keywords :** MPPT, partial shading, PV System, converter

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