

## Photovoltaic OLED Driver for Low-Power Stand-Alone Light-to-Light Systems - DTU Orbit (09/11/2017)

### Photovoltaic OLED Driver for Low-Power Stand-Alone Light-to-Light Systems

Photovoltaic (PV) stand-alone systems need to achieve multiple energy conversion modes. I.e. the energy conversion from PV to a local energy storage as well as energy conversion from the energy storage to the load. This paper documents the practical design considerations for the development of a three-port-converter for this purpose optimized for the specifications for driving an Organic Light Emitting Diode (OLED) panel intended for lighting purposes. By using a three-port-converter, featuring shared components for each conversion mode, the converter reaches 97 % efficiency at 1.8 W during conversion from photovoltaic panel to the battery, and 97 % in the area 1.4 W to 2 W for power delivery to the OLED.

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