DC Micro Grid Control System for optimized usage of renewable energy in buildings
With the presented **DC Micro Grid Control System** a complete plug-and-play solution for managing battery based local DC grids in buildings is available. The DC Micro Grid Control System combines the entire power electronics to generate, store and use renewable energy from two independent PV-strings with very high efficiency in only 3HU of a 19” system. The control system can be easy installed within the rack of a high voltage battery. Moreover, for safety reasons the entire DC grid, what means as well the PV strings and the HV battery, is galvanically isolated from the AC mains. Usage of locally generated renewable energy together with the DC Micro Grid Control System gives the following benefits:

- **Efficiency advantages of local DC grids**
- **Size of local energy storage (battery) can be optimized**
- **New features: e.g. faster charging of electric cars without additional effort for AC mains infrastructure**

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### Features

- **Galvanic isolation of local DC grid from AC mains**
- **1x 3.7 kW bidirectional AC/DC**
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- **1x 7.4 kW bidirectional DC/DC for battery connection**
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- **Over current protection**
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- **EMI filters for each port**
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### Typical DC grid architecture

- **Bidirectional isolated AC/DC**
- **HV DC Grid Equipment**
- **Multiport DC/DC**
- **PV**

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[www.e2sg-project.eu](http://www.e2sg-project.eu)