

Control of Photovoltaic and Diesel Hybrid System

December 22, 2016

Group 731

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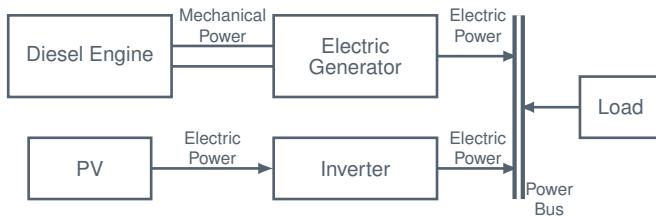
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- ▶ Power delivery in remote areas
- ▶ Gensets
- ▶ Carbon footprint
- ▶ Photovoltaic systems
- ▶ Hybrid power plant
- ▶ Test plant by DEIF



- ▶ Parallel operation
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- ▶ 60 kVA/48 kW Gensets
 - ▶ Power
- ▶ 20 kW inverter
 - ▶ Voltage and frequency



Genset description

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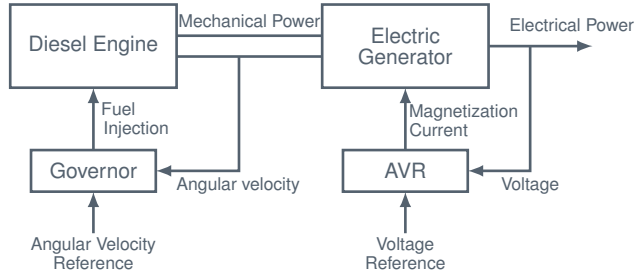


Figure: Picture of genset and SMA STP25000 inverter (yellow box)

Genset description

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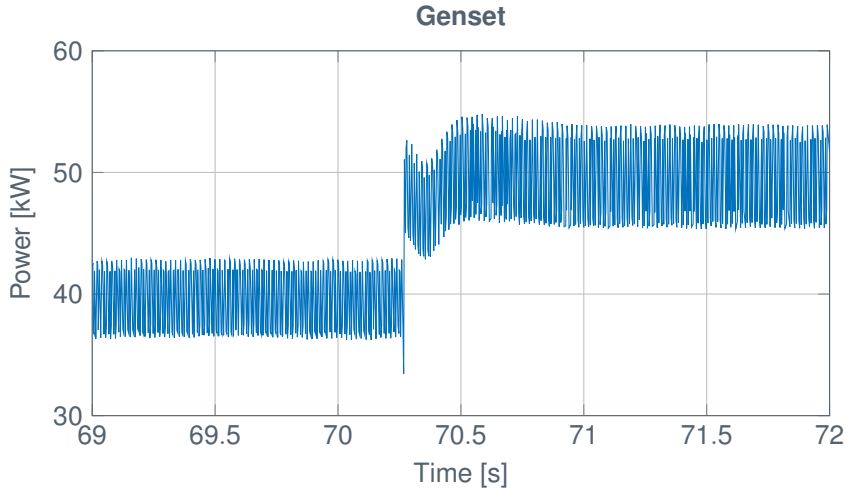


Figure: Step response of a 10 kW load step on the genset, giving a load change from 40 to 50 kW.

Inverter description

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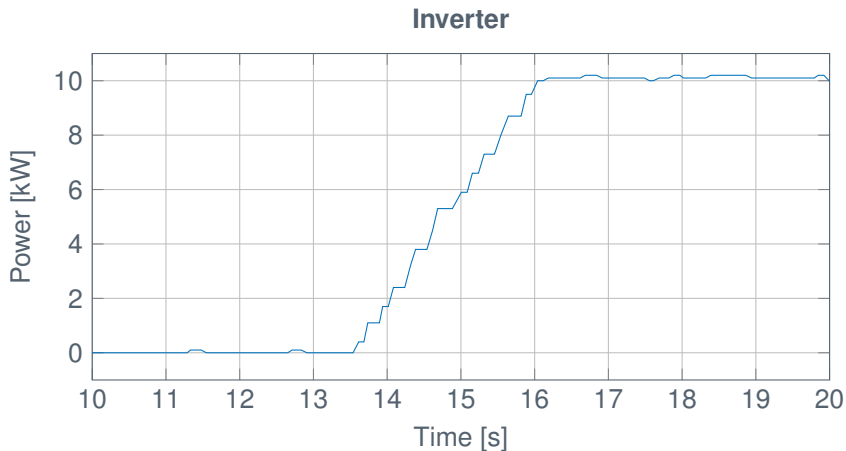


Figure: Block diagram illustrating the hybrid power plant.

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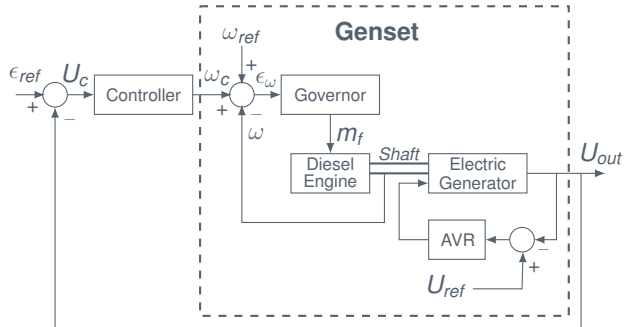


Figure: Block diagram illustrating the genset with an added controller.

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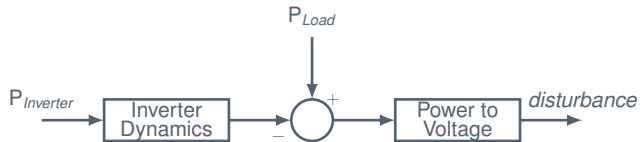
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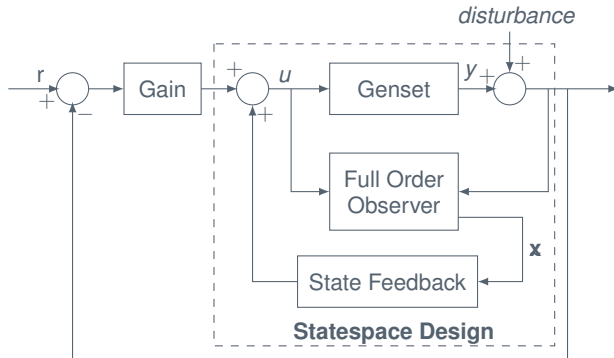
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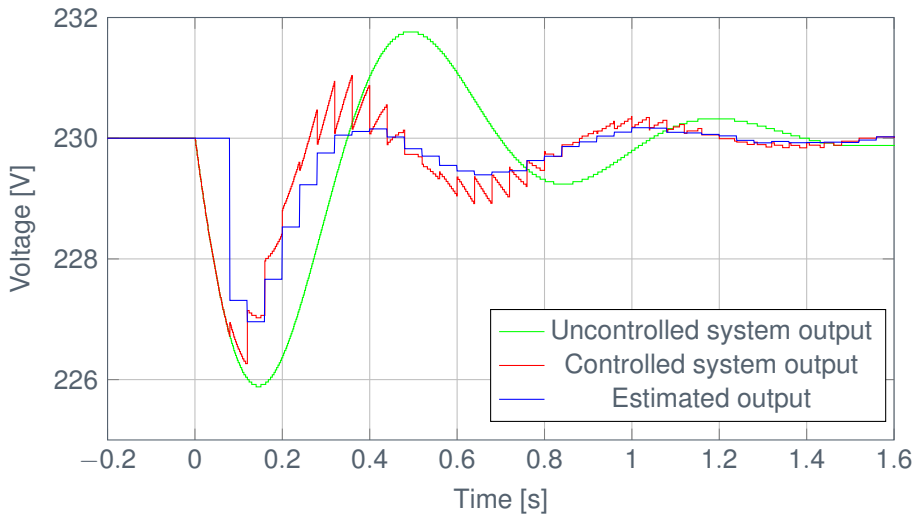
Results

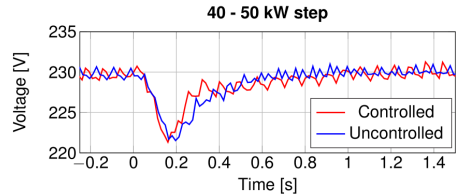
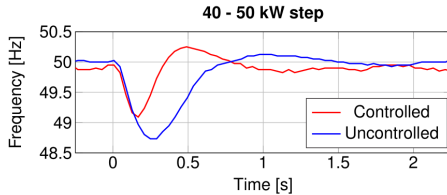
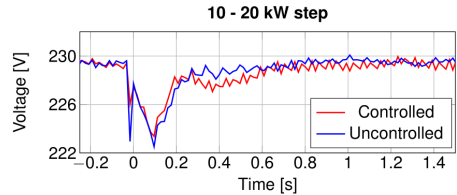
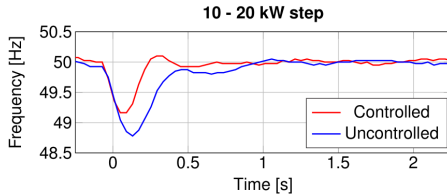
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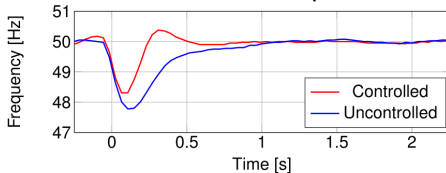
Figure

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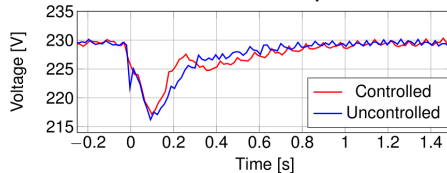




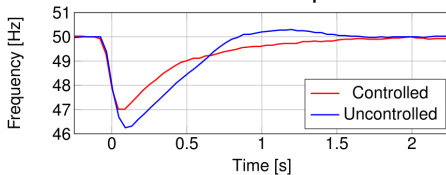
10 - 30 kW step



10 - 30 kW step



10 - 50 kW step



10 - 50 kW step

