

# Workshop DC grid

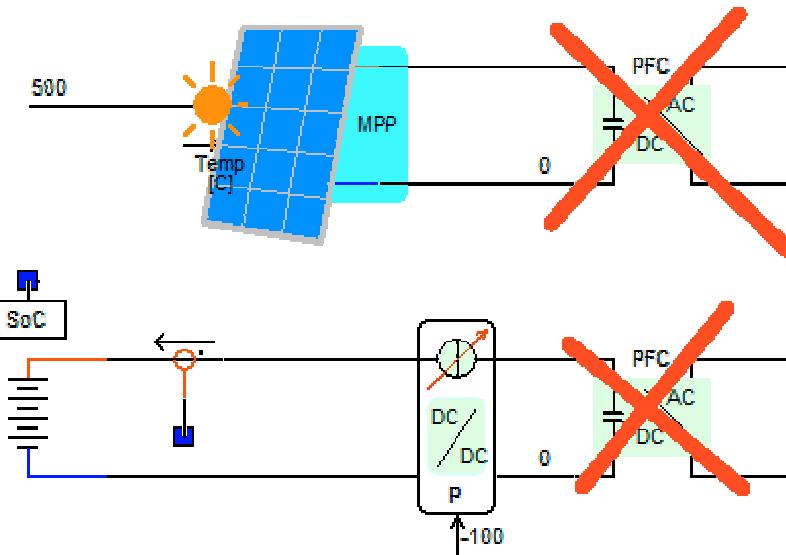
dr ir P.J.van Duijsen

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info@caspoc.com

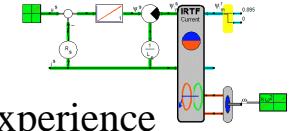
Learning by Simulation

TU DELFT DCE&S  
Simulation Research  
The Netherlands

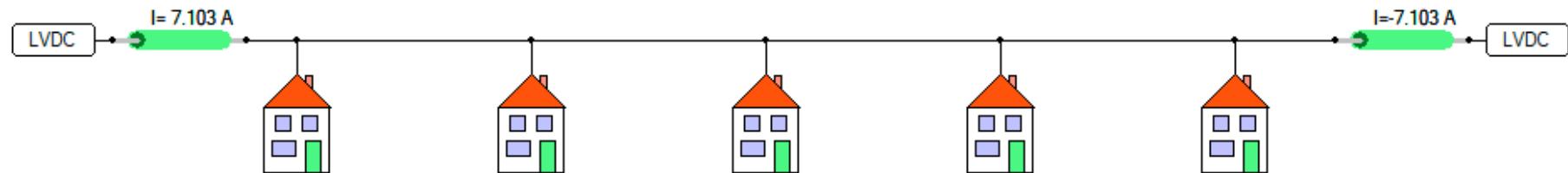
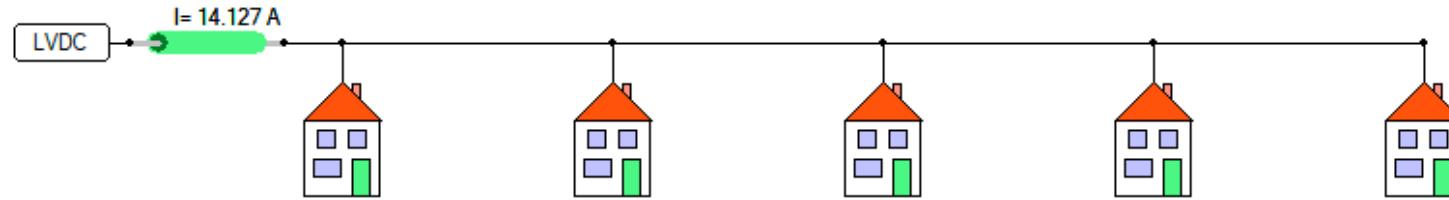


- Verschil AC en DC grid
- Kabelberekening/verliezen in kabel
- Vermogensverdeling in DC grid
- Droop control
- Verbinding AC-DC via AFE, berekening spanningen stromen, vermogen

# Microgrid Radial



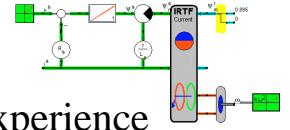
A simulation Experience



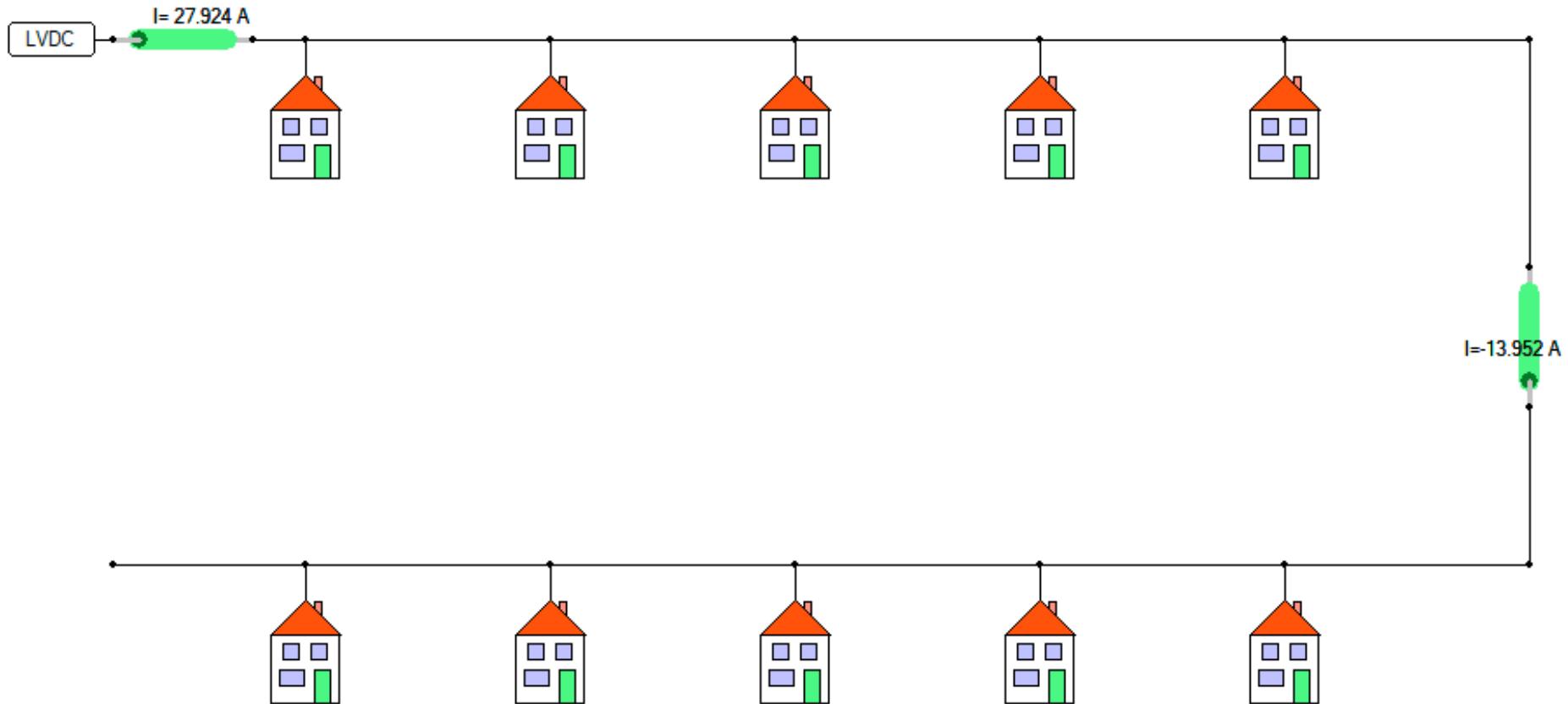
19 juni 2019  
1931 Congrescentrum 's-Hertogenbosch

**POWER**  
**ELECTRONICS** 2019

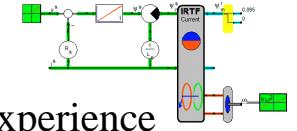
# Microgrid Radial Series



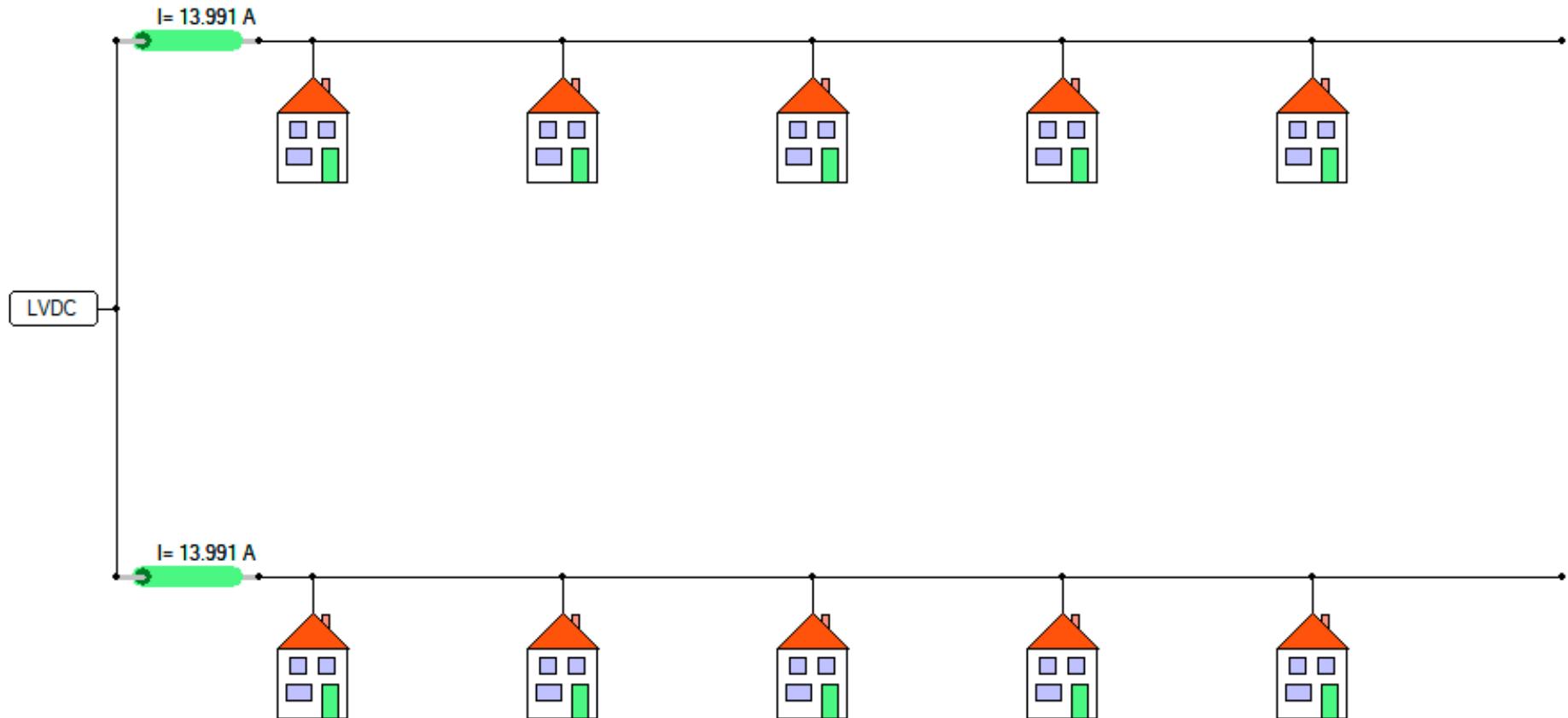
A simulation Experience



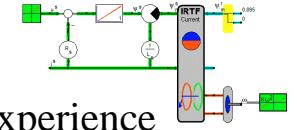
# Microgrid Radial parallel



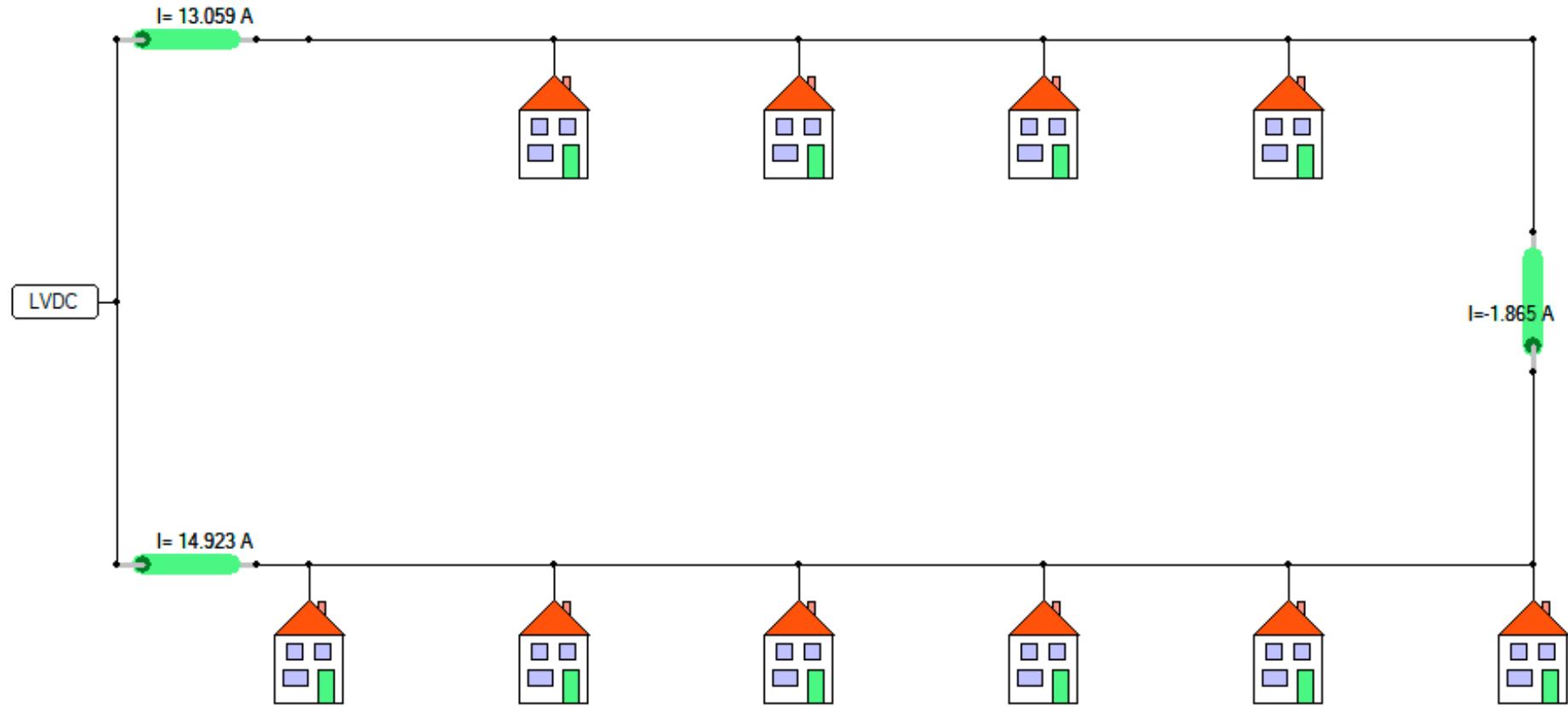
A simulation Experience



# Microgrid Radial Ring

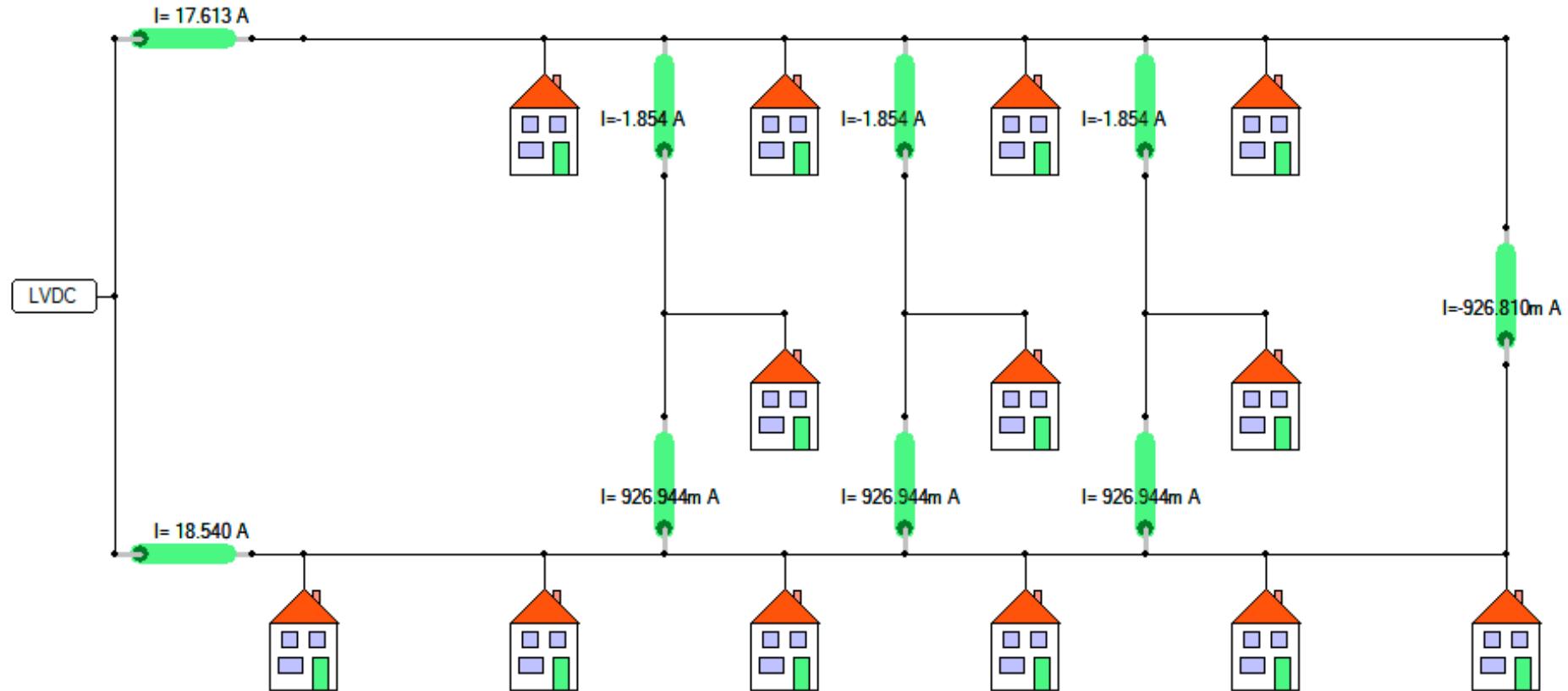
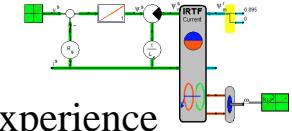


A simulation Experience

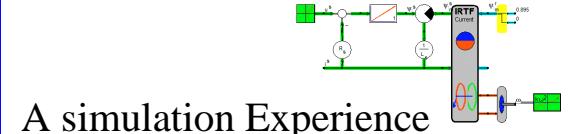


# Microgrid Radial Mesh

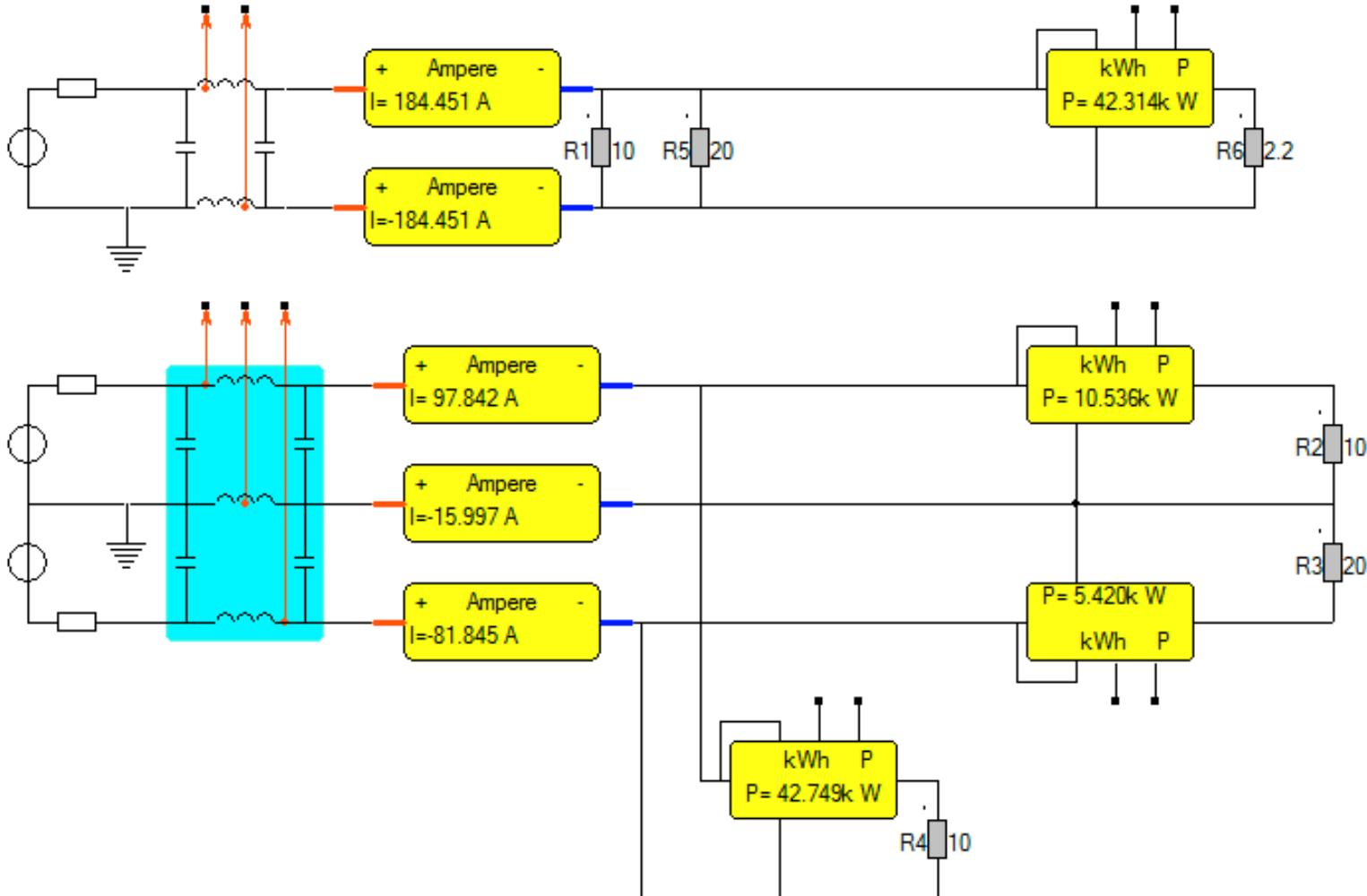
A simulation Experience



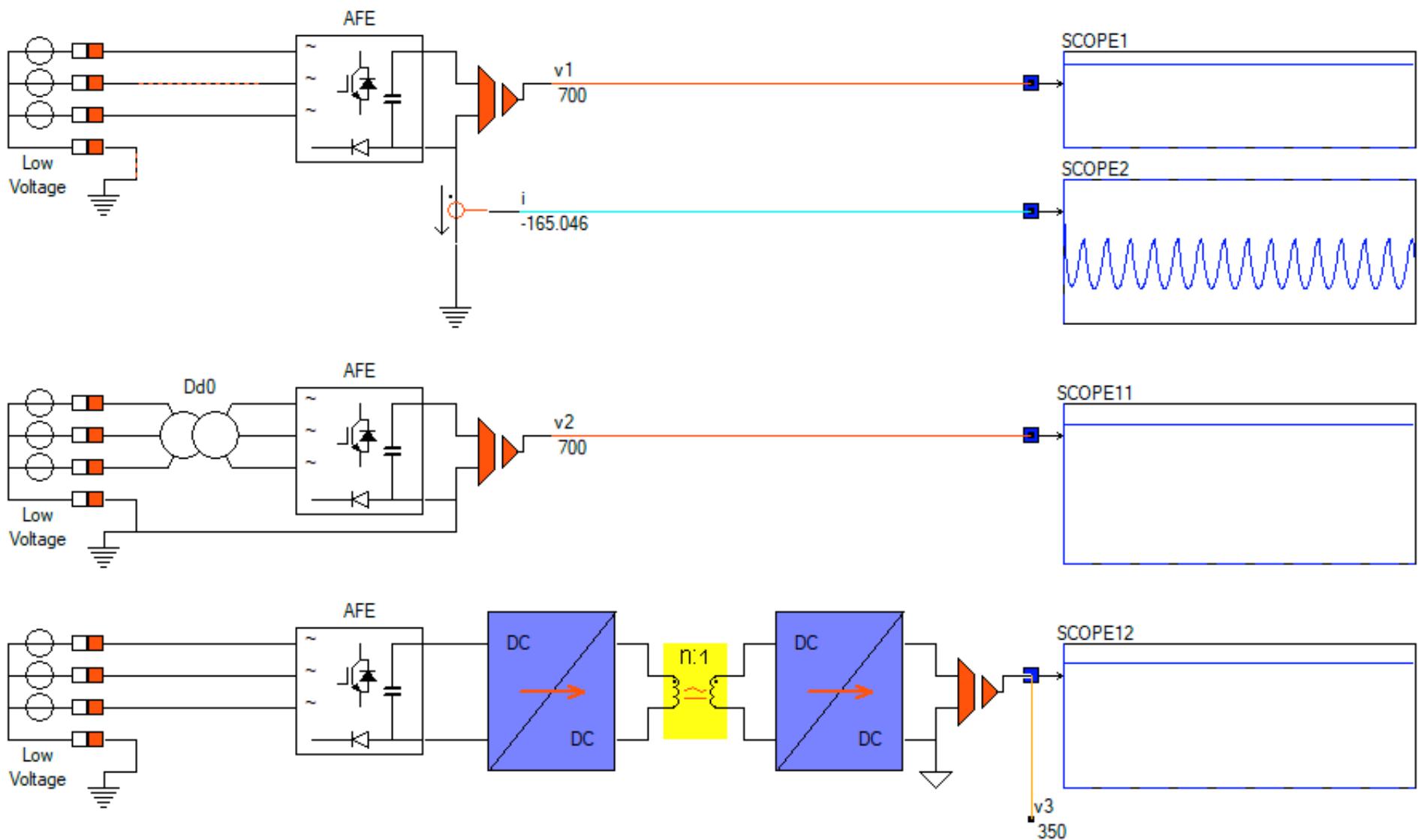
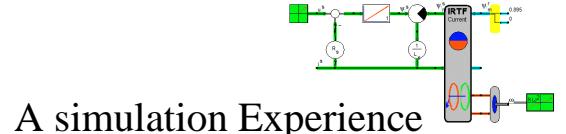
# Bipolar and Unipolar



A simulation Experience

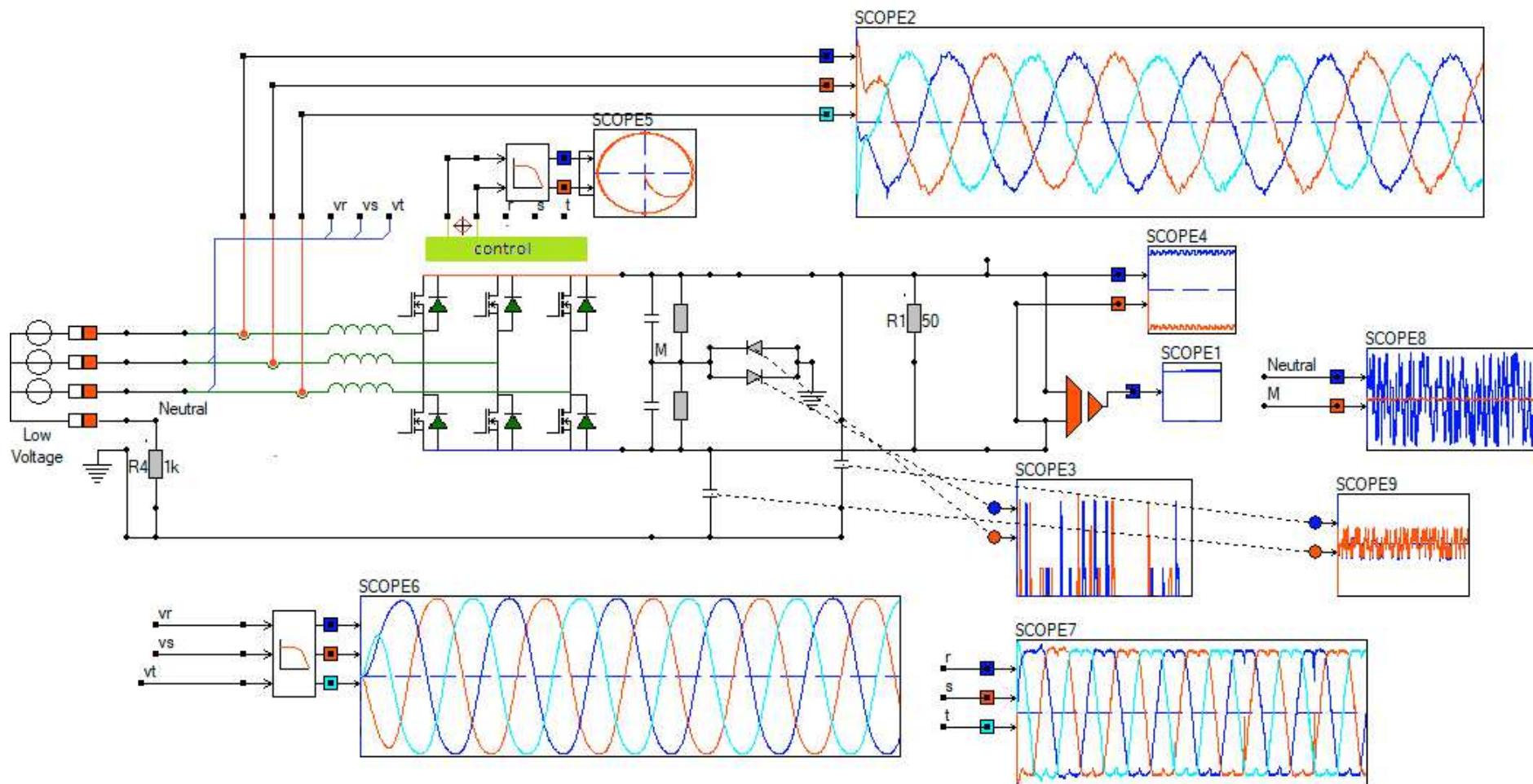


# Isolation

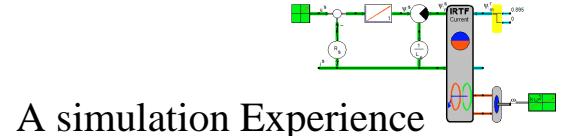


# Active Front End

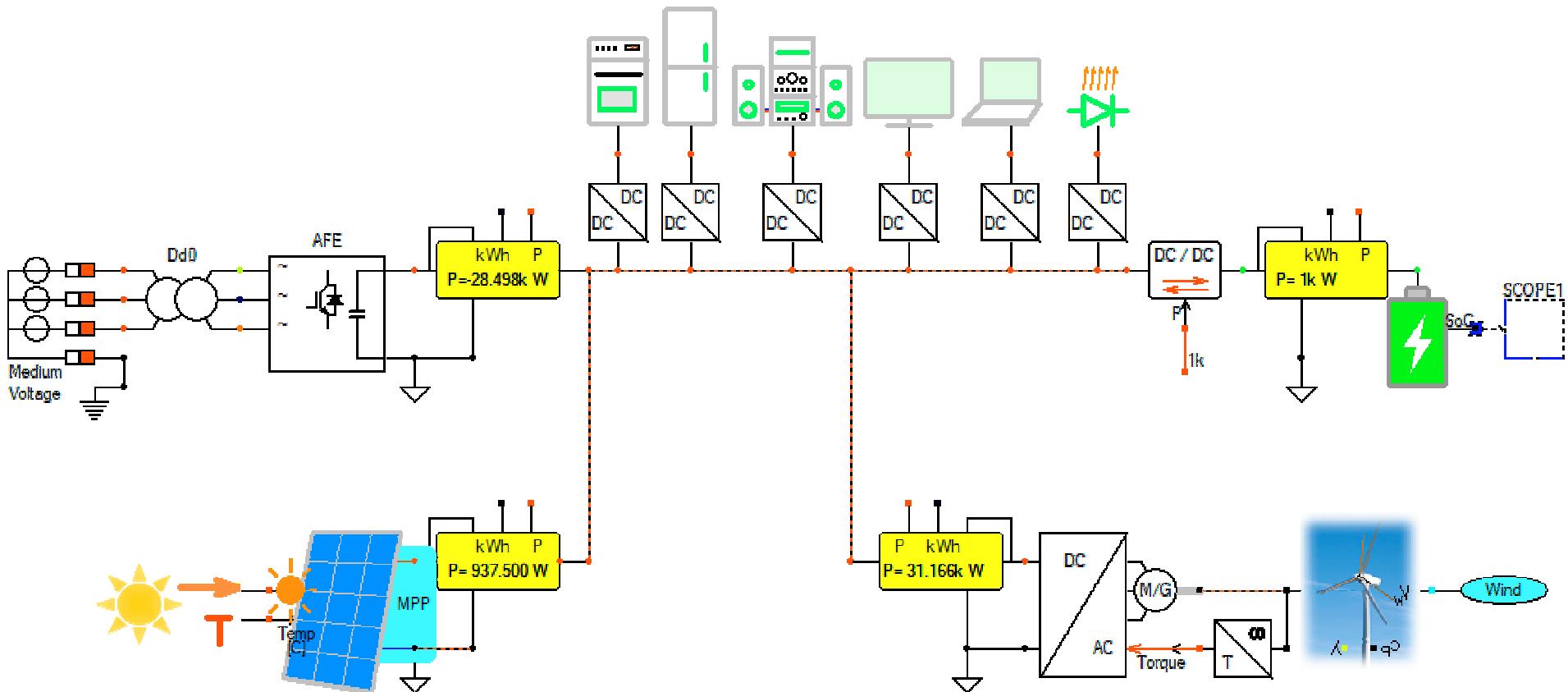
A simulation Experience



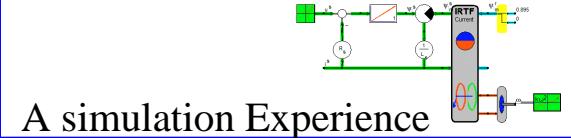
# Radial grid



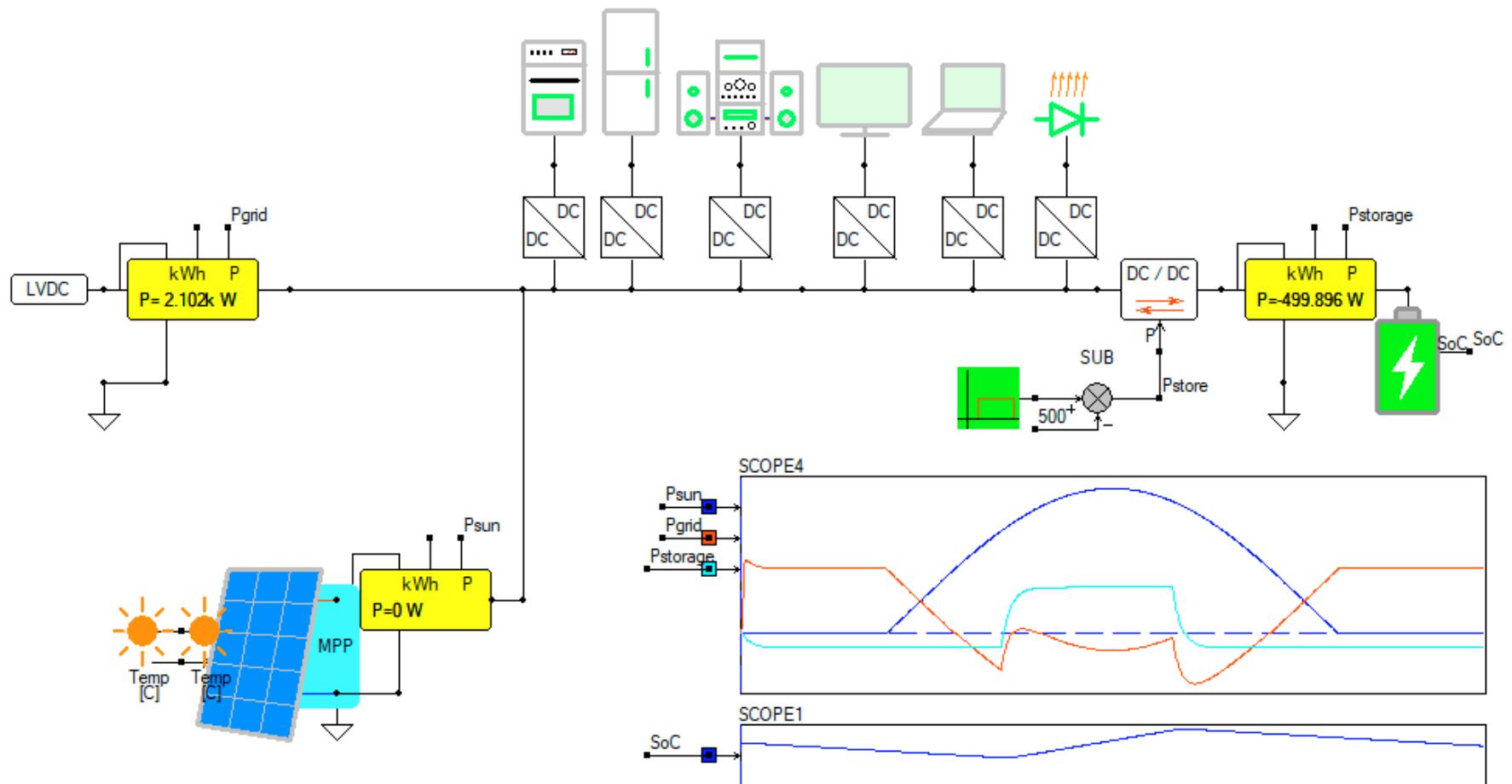
A simulation Experience



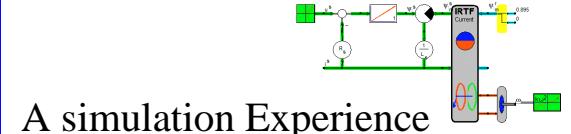
# Radial 24 hours



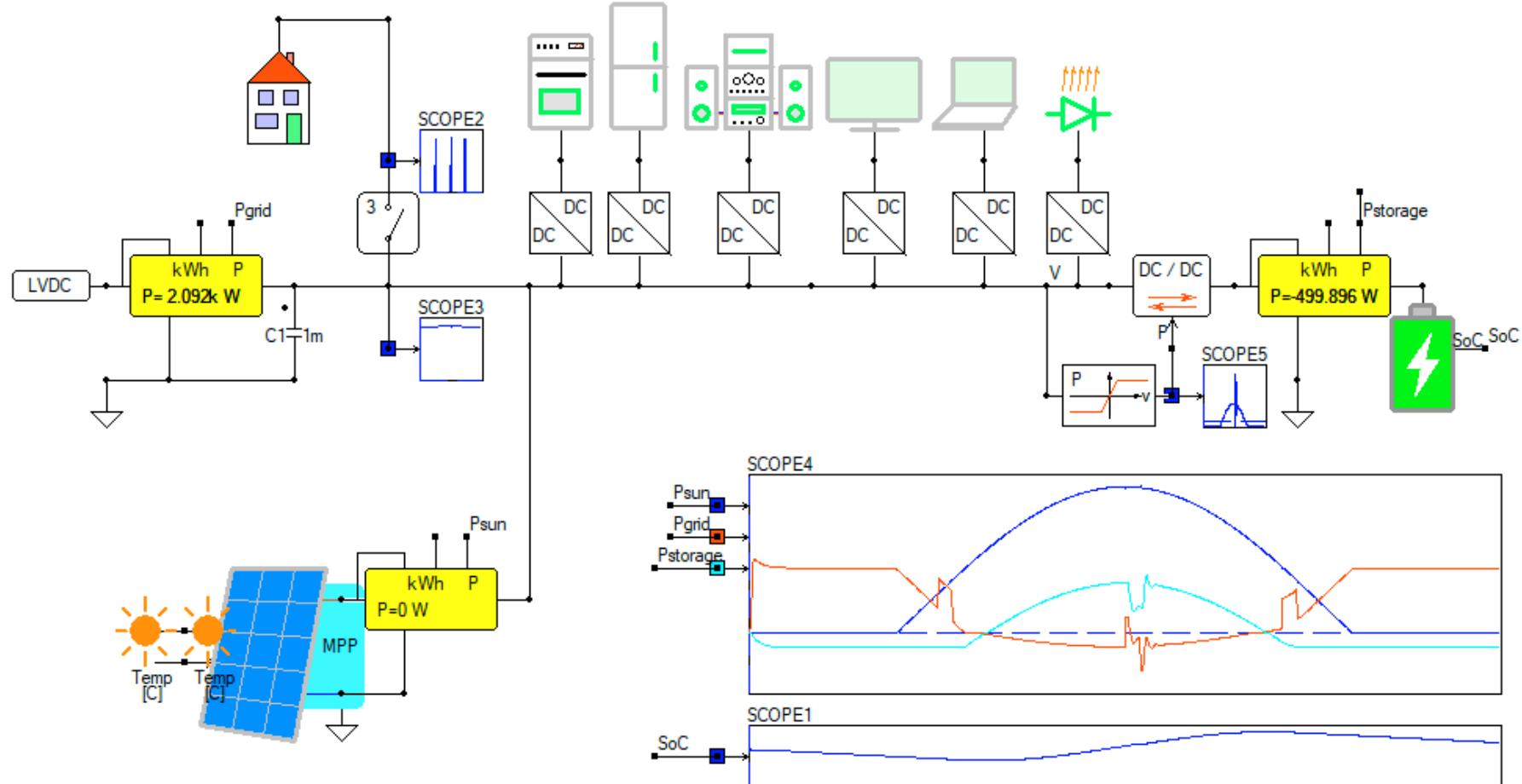
A simulation Experience



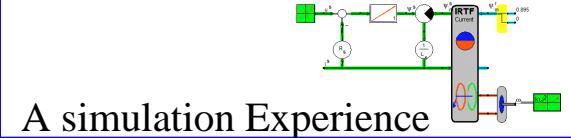
# Radial 24 hours droop control



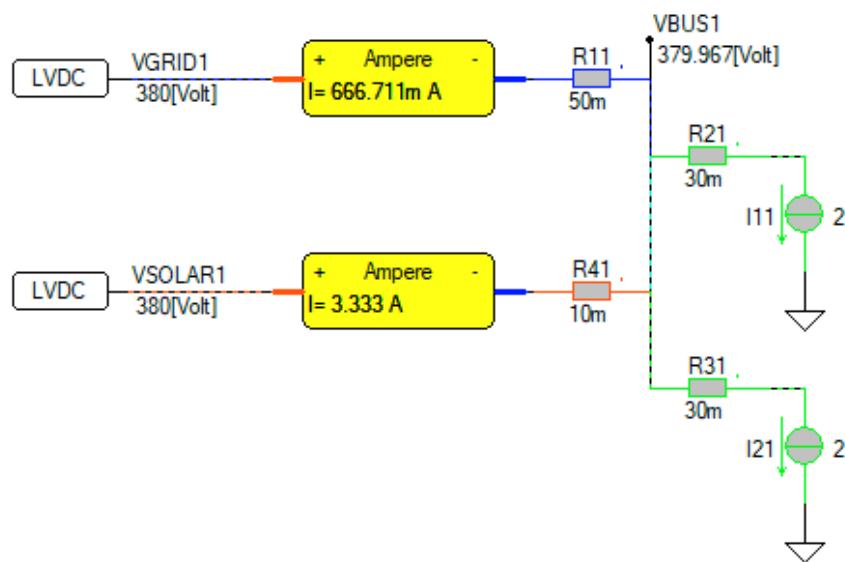
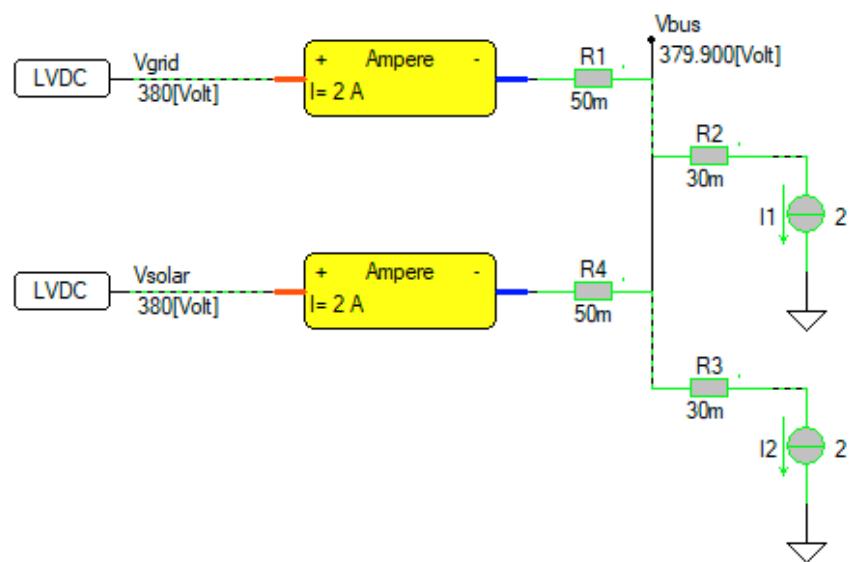
A simulation Experience



# Droop control resistor

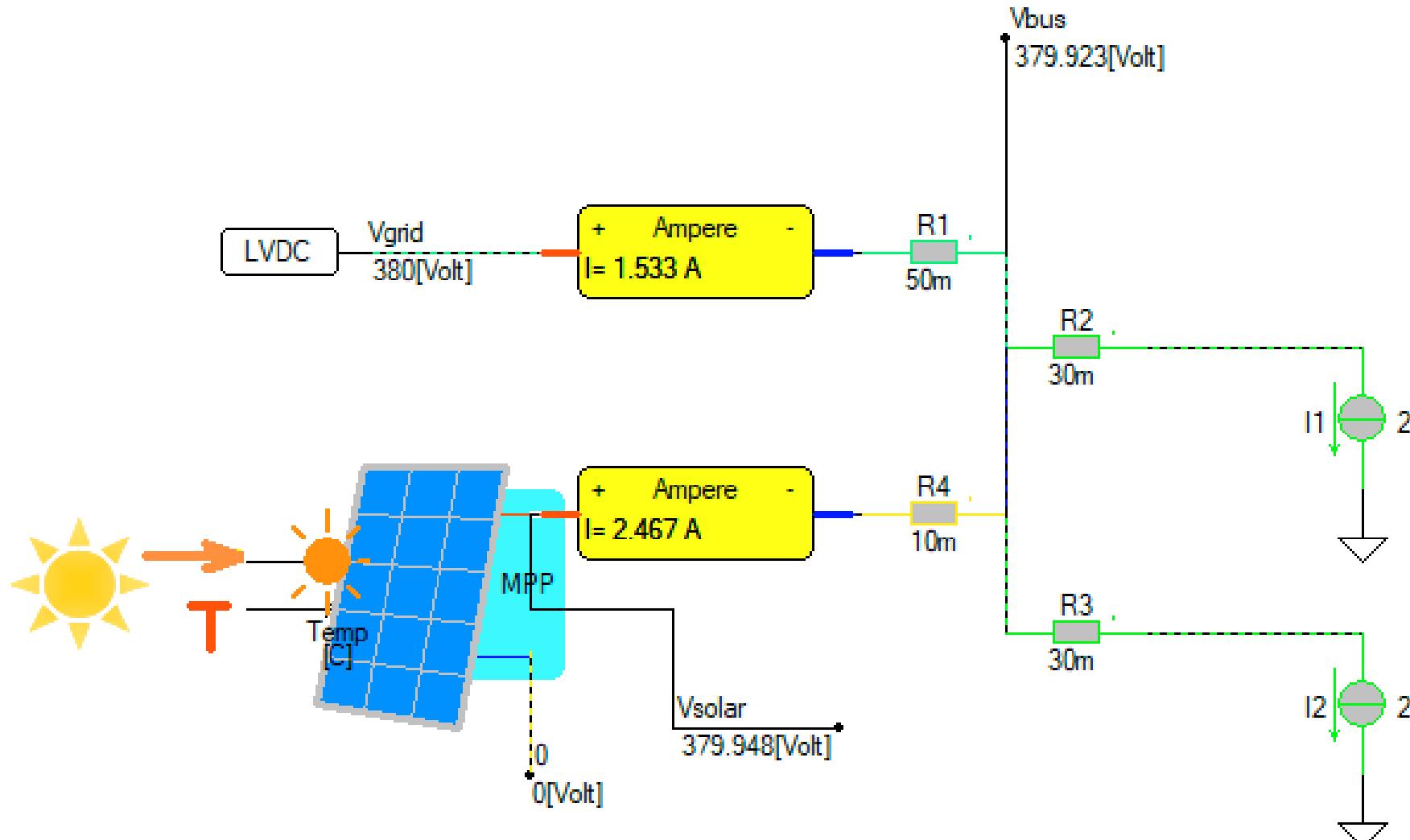
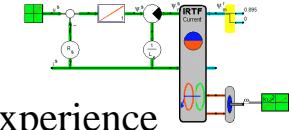


A simulation Experience



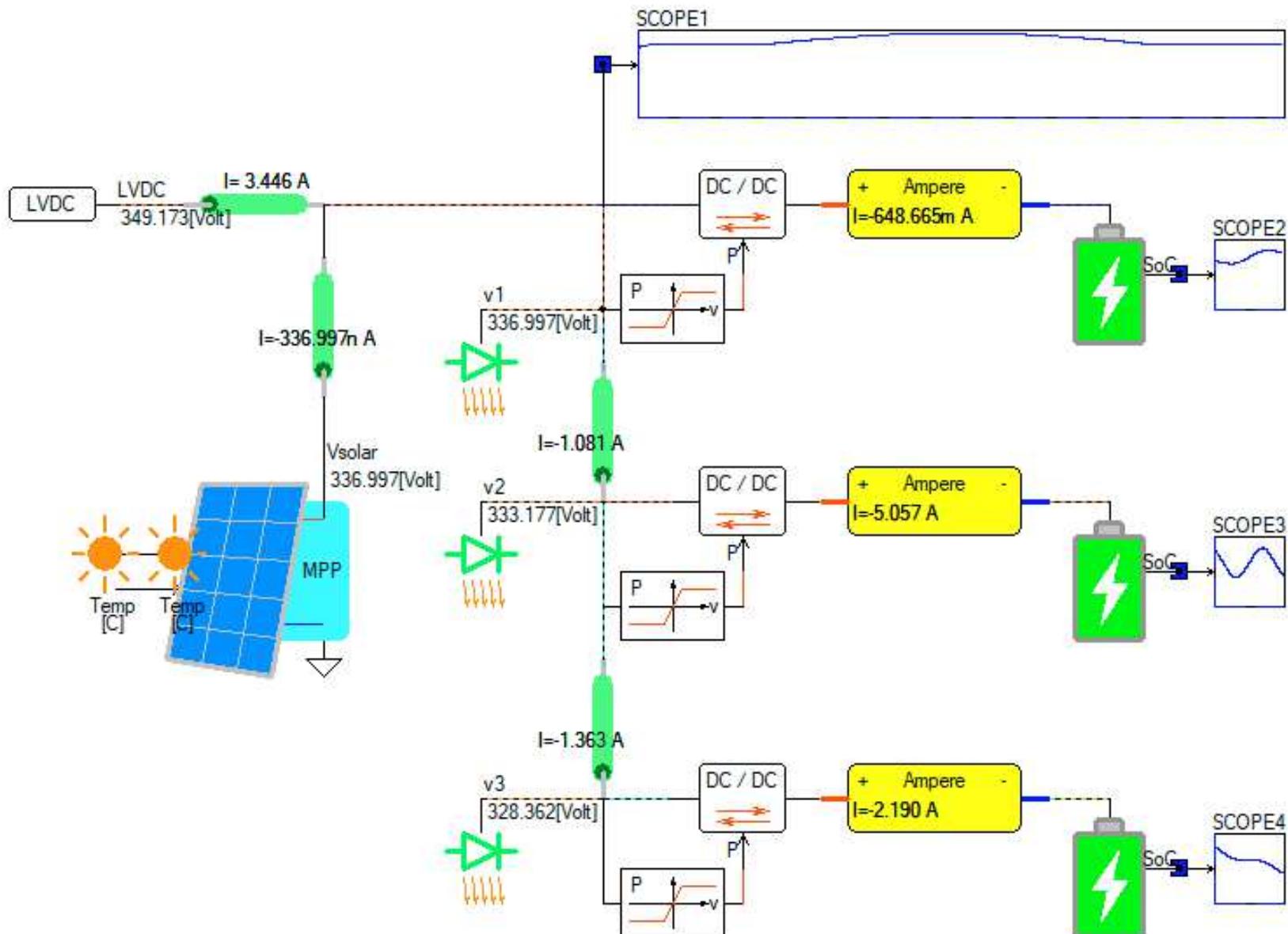
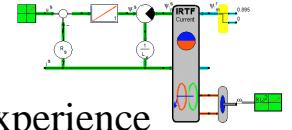
# Droop control slack voltage

A simulation Experience

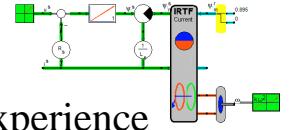


# Droop control solar charging

A simulation Experience



# Conclusie



A simulation Experience

- Architecture
- Droop control
- Vragen?

