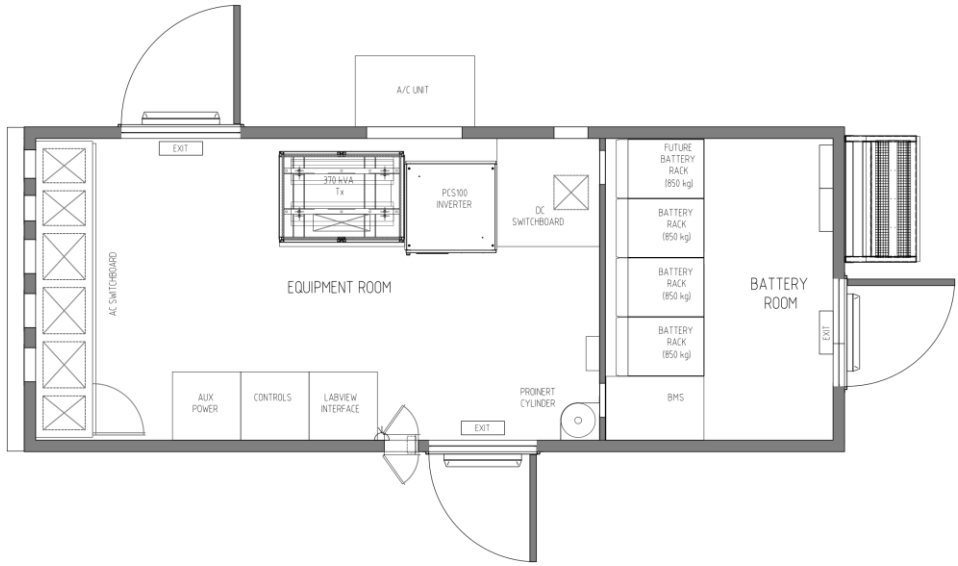
Requirements

Shelter Layout



Electrical System: General Configuration and Specifications

3x LG Chem R800 racks (total **273 kWh**).

- Expandable to 364 kWh.

3x ABB PCS100 inverter modules (total **270 kVA**).

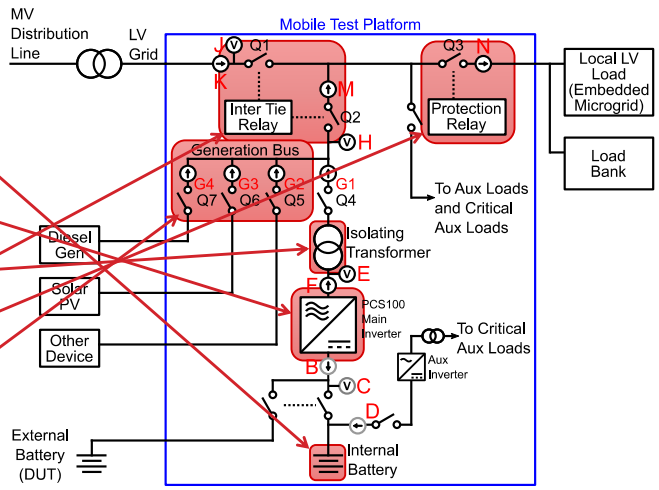
- Expandable to 360 kVA.

350 kVA isolating transformer.

SEL700GT grid-tie relay.

SEL751A feeder relay.

Flexible connection options.



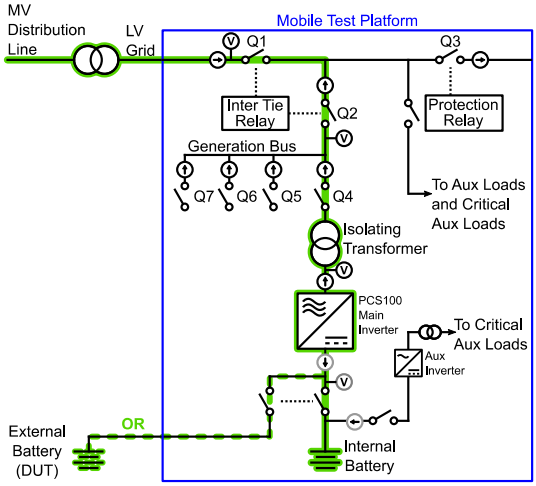
Electrical System Applications: Parallel to Mains

Typically used to provide network support:

- **Peak shaving**.
- **Voltage support**.

Feeder optimisation Example:

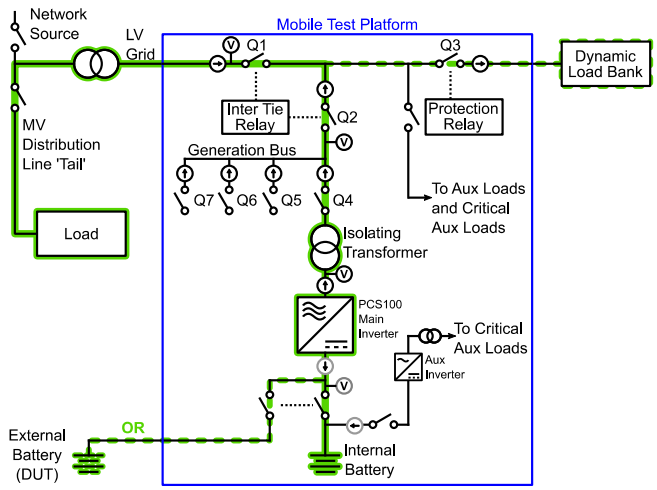
- Step up transformer.
- Remote V and I measurements.
- Controller decides real and reactive power injection.



Electrical System Applications: Parallel to Mains, MV islanding

Parallel to MV segment (via step up transformer).

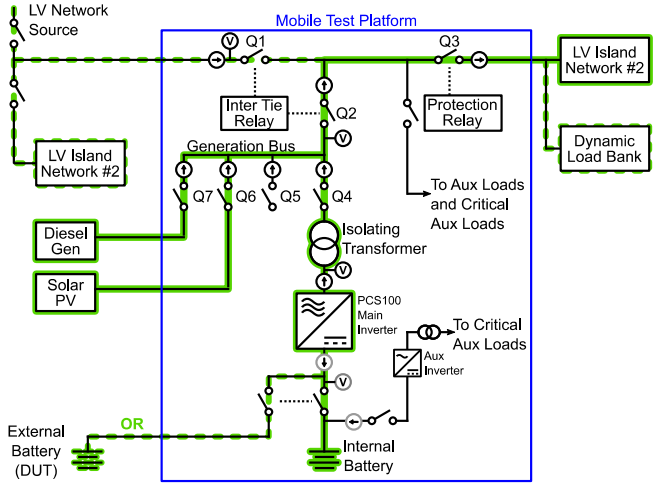
- **Network support**.
- **Islanding** of tail MV segment.
- **Grid forming** of islanded MV microgrid.



Electrical System Applications: Parallel to Mains, LV islanding

Can be **inserted in series** with a LV network segment.

- **Network support**.
- **Islanding** of tail LV segment.
- **Grid forming** of islanded LV microgrid.
- **Bump-less** segregation and reintegration.

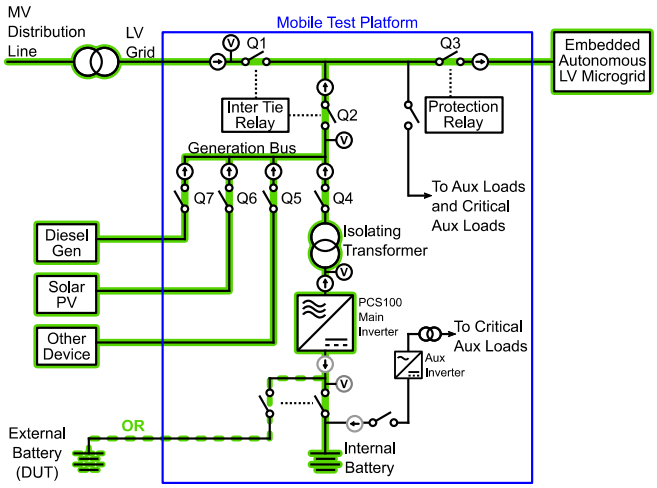


Electrical System Applications: Embedded LV Microgrid

Can facilitate trials of microgrids embedded in networks.

Examples:

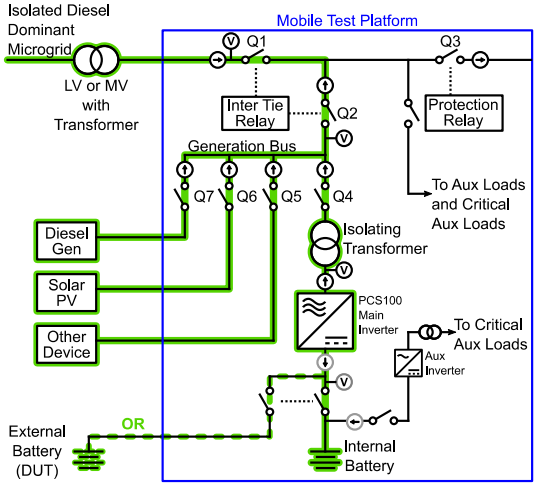
- **Trial of control schemes** for grid support (peak shaving, voltage support).
- **Maximising PV array** yield and **output** of a trial, when connected to a weak feeder.



Electrical System Applications: Isolated Diesel Microgrid

Synchronise to an existing isolated microgrid.

- **PV curtailment to maintain load** on diesel generator (DG) power station.
- **Reduction of step loads** on diesel power station.
- **Ramp rate control** for loads on the microgrid.



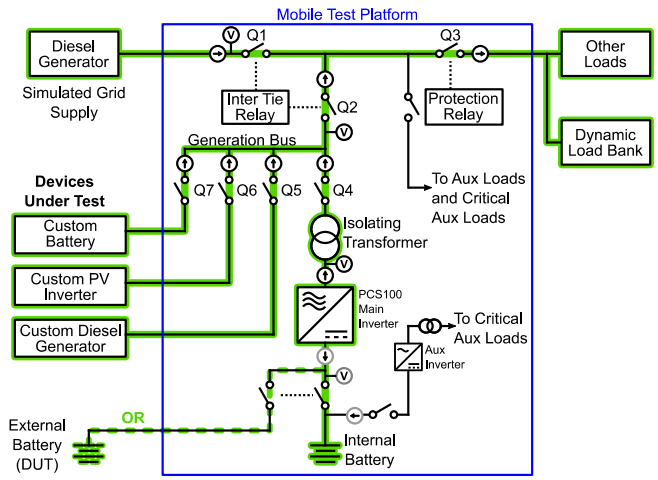
Electrical System Applications: Testing Energy Storage Systems

Standalone testing of:

- An **entire microgrid** under test.
- **Individual** energy storage system **components** (inverters, batteries, PV, novel generation devices).

PCS Inverter can provide:

- **Simulation of load** profile.
- **Simulation of PV** output profile.



Mobile Test Platform

Mobile Test Platform