

PV-UPS system at TPM in Malaysia

Dipl.-Ing. Peter Kremer, Dipl.-Ing. Sebastian Schmitt
Siemens AG, Würzburger Straße 121, 90766 Fürth
Tel: +49 (911) 750 4050, Fax: +49 (911) 750 2246

Abstract:

Combining uninterruptible power supply (UPS) and PV power plants will enhance reliability and extend backup time, due to additional energy from the PV part of the system. PV power is available during the period with the highest energy needs and will enable normal operation for a longer time and help to save fuel.

This contribution describes an advanced PV-UPS system which is in operation at Technology Park Malaysia in Kuala Lumpur, Malaysia.

The modules installed on the flat roof of the main building produce 362 kWp in total. In normal operation, the PV plant feeds to the low voltage main grid of the building. In case of power failure of the main grid, the PV plant will feed to the secure part of the mains supply which is protected by the UPS. The main characteristics of this system are

- PV generator with 362 kWp mounted in a tilt angle of 15°
- PV power conditioner unit SINVERT solar with 400 kVA (Master/Slave)
- two UPS MASTERGUARD S 200 kVA in parallel operation
- two battery banks (276 cells OPzV) with total 3600 kWh
- two diesel gensets, each 1.2 MVA
- PLC SIMATIC S7 control
- low voltage distributions

