

AC smart microgrid structure diagram

What is smart microgrid concept based AC DC & Hybrid mg architecture?

Smart microgrid concept-based AC,DC,and hybrid-MG architecture is gaining popularity due to the excess use of distributed renewable energy generation(DRE). Looking at the population demand and necessity to reduce the burden,appropriate control methods,with suitable architecture,are considered as the developing research subject in this area.

How a microgrid is adapted to a smart building?

The references of active power demand of the ac microgrid and the dc microgrid are obtainable for timely operating detection and control. The IMC strategy is adapted in the proposed architecture of smart building, which has simpler control structure, faster response speed and stronger robustness comparing with existing PI and PR control strategies.

Is ac/dc microgrid a good choice for smart building?

There are ac,dc,and hybrid ac/dc microgrid. However,the single form of dc or ac microgrid cannot realize the efficient utilization of DGs and cannot meet the diversified demand. Therefore,the hybrid ac/dc microgrid architecture is of more value for smart building than single ac or dc forms.

What is hybrid ac/dc microgrid?

The hybrid ac/dc microgrid. The output stage of the MMC-SST can be regarded as an interlinking converter(IC) between ac microgrid and dc microgrid. The ac bus and the dc bus are connected to the ac interface and the dc interface at this stage,respectively.

What are the components of microgrid control?

The microgrid control consists of: (a) micro source and load controllers, (b) microgrid system central controller, and (c) distribution management system. The function of microgrid control is of three sections: (a) the upstream network interface, (b) microgrid control, and (c) protection, local control.

What is grid-connected mode of ac/dc microgrid?

In the grid-connected mode,the ac microgrid and the dc microgrid are connected to the medium voltage distribution network via the MMC-SST. In this mode,the ac microgrid and dc microgrid are considered as a whole,i.e. the hybrid ac/dc microgrid.

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