Structural diagram of AC microgrid

How does an AC microgrid work?

In an AC microgrid, distributed generators and energy storage systems are connected to an AC bus through power electronics devices, as shown in Figure 1. Through on/off control at the point of connection (PC), the microgrid can be switched into either grid-connected mode or islanded mode. Figure 1 Typical structure of an AC microgrid. DC Microgrid

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.

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 is a dc microgrid?

Figure 2 Typical structure of a DC microgrid. In a DC microgrid, distributed generators are connected to the DC bus only through a single-stage voltage transformation device. This structure is more economical in cases where there are many DC power sources and loads, such as PV systems and fuel cells. Hybrid AC-DC Microgrid

How are microgrids classified?

Microgrids are classified in three categories based on the characteristics of power they inject into a distribution networkand briefly described in the following subsections. AC microgrids: AC microgrids represent the ac power supply in a distribution network.

What is droop characteristic of dc microgrid?

Droop characteristic of dc microgrid. In the proposed hybrid power droop control strategy,the power transmittingbetween the ac microgrid and dc microgrid is codetermined by the states of both microgrids. The frequency of ac bus and the voltage of dc bus can reflect the real-time power demand of the ac microgrid and the dc microgrid,respectively.

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