

A UPS system based on aqueous sodium ion batteries

Abstract

The present invention discloses a UPS system based on aqueous sodium ion batteries, comprising an energy storage module, a UPS host, and a control device. The energy storage module comprises two battery packs, each of which uses aqueous sodium ion battery as energy storage module. The two battery packs are battery pack B1 and battery pack B2, respectively; The control device includes a microcontroller, two choppers, and four switches. The two choppers and four switches communicate with the microcontroller respectively; The UPS host includes a rectifier and an inverter connected to it; The microcontroller monitors the voltage status of the power grid and controls the working status of two choppers and four switches based on the voltage status of the power grid. The UPS system based on aqueous sodium ion batteries of the present invention utilizes existing UPS hosts and the advantage of wide voltage range of choppers to solve the problem of mismatched operating parameters between aqueous sodium ion batteries and existing mainstream UPS hosts. It can fully utilize the capabilities of aqueous sodium ion batteries and reduce user costs.

Figure 2