ABSTRACT

The present disclosure provides a solar powered wastewater purification system, which includes a wastewater purification system, a photovoltaic module and a smart grid-tie inverter that is connected to the photovoltaic module and used to convert a direct current (DC) generated by the photovoltaic module into an alternating current (AC). The wastewater purification system is respectively connected to the smart grid-tie inverter and a municipal power grid through an automatic power switching device; the smart grid-tie inverter is further connected to a storage battery for storing electric energy. Powered by solar energy, the wastewater purification system can significantly reduce the energy consumption, so as to reduce the operating cost of wastewater treatment and achieve better sustainable development. When a photovoltaic system cannot generate power normally, the wastewater purification system can be connected to the municipal power grid through the automatic power switching device. In addition, the electric energy stored in the storage battery connected to the smart grid-tie inverter can be supplied as emergency power for the wastewater purification system to further ensure the normal operation of the wastewater purification system.

Fig 1 for publication