Circuit Description

There are three important parts: control part, current measure part and wireless part.

The control part is a MCU (Micro Control Unit). It makes control the current measure part to measure the current of user’s power supply system to get that information, write this information down to the EEPROM (Electrically Erasable Programmable Read-Only Memory) and send it to the wireless part to transform that information into wireless signal that can pass through the air.

The current measure part contains a current transformer and a channel of amplifier. Once the current transformer grips a wire, and a strong enough current goes through the wire. By the phenomenon of electromagnetic induction just like ordinary transformer the current transformer will generate a weaker current. The stronger current goes through the wire, the stronger current will be generated. The amplifier makes the generated current stronger enough that can be detected by MCU. Then the built-in A /D converter of the MCU translates it into useful information. In order to measure the three-phase power supply system there are three channels of current measure part.

The wireless part is a module. It cat receive data from MCU through a serial port and transform it into wireless signal at the frequency of 433.89MHz.

The LDO (Low Dropout Regulator) regulate the power supply of the product at 3.0 voltages. The LED (Light Emitting Diode) flashes while sending wireless signal shows that the product works fine. The button is used to change speed of sending wireless signal.