



MIMOS Smart Power Monitor and Switch (Mi-SWITCH)

MIMOS Mi-SWITCH enables electrical appliances and machines to be switched on and off, as well as monitor their real-time energy consumption from anywhere in the world. Its over-current and ground fault protection features ensure the appliances and machines are automatically protected from electrical damages.

Overview

MIMOS Mi-SWITCH is a smart wall switch and plug that allow users to switch on/off and monitor real-time power consumption of electrical appliances in homes and offices from remote locations. In addition, the device can detect over-current, as well as ground faults and will automatically switch off the power to protect the appliances. User interfaces with each Mi-SWITCH device via a specially designed mobile application.

Mi-SWITCH uses 6LowPAN, which is a low-power wireless network technology where each device has its own IP address. This allows the device to easily exchange data with remote hosts over the Internet or wireless local area network through a gateway. Communication between device and gateway uses sub-GHz ISM radio band (919-923MHz). This enables longer communication range with less RF interference compared to 2.4GHz band. The Mi-SWITCH device is also capable of forming ad-hoc mesh network with other Mi-SWITCH devices to further extend the communication range.

Features

Mi-SWITCH comprises the following features:

- **Rated for 110-240 VAC, 50/60Hz**
Support supply voltage of 110 to 240 VAC and maximum load current of 10A.
- **Over-Current and Ground Fault Protection**
Automatically switches off power to the appliances upon over-current and ground fault detection. Users are then alerted of the fault via mobile apps.
- **Energy Consumption Monitoring**
Monitor real-time energy consumption of each appliance for power budgeting.
- **Remote and Scheduled On/Off Control**
Users can remotely switch on/off their appliances from remote locations over the Internet. Users can also set pre-determined on/off schedule for each device.

Technology Benefits

The benefits of Mi-SWITCH are:

- **Long Range Communications**
Mi-SWITCH operates at sub-GHz frequency where signal absorption by the environment is less compared to its higher frequency counterpart. Thus, long range communication over difficult terrain and non-LoS condition is possible.
- **Reduced RF Interference**
Compared to the 2.4GHz ISM band, the sub-GHz band is less crowded and relatively interference-free.
- **IP-Based Low Power Wireless Mesh Network**
Mi-SWITCH is a low power embedded device that can form an ad-hoc wireless mesh network and able to communicate over the Internet via gateway. This allows the device to send and receive data with the cloud, as well as eases OTA firmware update.

Technology Summary

Mi-SWITCH

A smart wall switch and plug that controls electrical appliances and monitors their energy consumption in real-time from remote locations. It automatically protects appliances from over-current and ground faults.

Industries: Enterprise (Smart Homes, Buildings & Factories)

Features

- Rated for 110-240VAC, 50/60Hz, 10A
- Over-current and ground fault protection
- Energy consumption monitoring
- Remote and scheduled on/off control

Technology Benefits

- Long range communication
- Less RF Interference
- IP-based low power wireless mesh network



Mi-SWITCH (illustration purpose only)

Specifications

Mi-SWITCH	
Specifications	
Supply Voltage (VAC)	110 – 240, 50/60Hz
Max Load Current (A)	10
Frequency Band (MHz)	919-923
Data Rate (kbps)	50
Lowest RX Current (mA)	5.5
Receive Sensitivity (dBm)	-124
Max TX Power (dBm)	14

