Operational Description: HA18 – Wall Switch Module

Power is supplied to the HA18 power Printed Circuit Board (PCB) via a white NEUTRAL wire and a black LINE VOLTAGE wire. The 120VAC input voltage is reduced, rectified, and regulated to supply 3.3VDC to the RF module. The relay for applying disconnecting voltage from the load wired into the device via a blue LOAD wire is controlled by an ASIC control output with a transistor.

The RF module PCB is a separate PCB that houses the Z-wave ASIC, crystal, EEPROM, various supporting components, and the RF front end. The RF module PCB is attached to a key PCB via castellation notches soldered directly to pads on the key PCB. A single LED provides feedback function for displaying ON, OFF, dimming, or receiving transmission (FLASHING). A wire whip antenna measuring approximately 3.25” in length, is soldered directly to the RF module PCB. Local control of the device is achieved via two tact switches interfaced to the Z-wave ASIC. The key PCB interfaces with the power PCB via a header.

Other interfaces to the power PCB include the LOAD wire used for hard-wiring lamp loads to the dimmer output, a TRAVELER wire used for sensing a switch closure for implementing 3-way capability, and the HOT and NEUTRAL wires used to hard-wire the device to a 120VAC power source.

The basic functions of the HA18 include turn ON or turn OFF. A momentary press and release of the ON or OFF section of the rocker switch will toggle the state of the device ON or OFF. The device may also be controlled via a separate remote control transmitter (not included) to turn ON or OFF when the correct commands are received by the device’s receiver.