Operational Description: HA05 – Screw-in Lamp Module

Power is supplied to the HA05 power Printed Circuit Board (PCB) via a medium base male screwshell with a NEUTRAL contact and a LINE VOLTAGE contact. The 125VAC input voltage is reduced, rectified, and regulated to supply 3.3VDC to the RF module. The relay for applying disconnecting voltage from the light load screwed into the female screwshell of the device 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. This entire PCB is completely enclosed by a metal RF shield connected to circuit ground. The 908.42MHz antenna measuring approximately 3.25" in length, exits the metal RF shield via a small hole. The RF module is mounted directly to the power PCB.

An LED/Pushbutton PCB contains the LED and the pushbutton traces. This PCB interfaces with the main power PCB via a 4-wire ribbon cable. The single LED provides feedback function for displaying ON, OFF, or receiving transmission (FLASHING). Local control of the device is achieved via a single pushbutton input directly into the Z-wave ASIC. The pushbutton trace is printed on the bottom side of the LED/Pushbutton PCB.

Other interfaces to the power PCB include the medium base female screwshell used for screwing-in a lightbulb, and the medium base male screwshell used for screwing-in the device into a 125VAC medium base female screwshell socket.

The basic functions of the HA05 include turn ON or turn OFF. A momentary press and release of the pushbutton will toggle the state of the device ON or OFF.