

Operational Descriptions: HA22 – USB Z-Wave Stick

The HA22 USB Z-Wave Stick is a Z-Wave™ interface device, similar to existing Bluetooth and Wi-Fi USB interface devices. The USB Z-Wave Stick plugs into any USB port up to USB 2.0 compliant via a Type-A male USB connector. An optional USB extension cord may be used to position the USB Stick for better reception and performance. A USB controller chip, governs the processes that involve communications between the RF module and the Personal Computer (PC). 4.4V to 5.25 VDC power is supplied by the PC's USB port, whose voltage is passed through a voltage regulator to supply a constant 3.3VDC to the Z-Wave ASIC. The Z-wave ASIC, governs the RF module functions, including the RF transmission and reception at the front-end, and the operations of the Z-wave protocol. When lit, a single green LED indicates a communications link between the USB controller chip and the RF module.

The RF module PCB is a separate PCB mounted on the main PCB that houses the Z-wave ASIC, crystals, EEPROM, various supporting components, and the RF front end. This entire PCB is completely enclosed by a metal shield connected directly to circuit ground. The RF module PCB is attached directly to the main HA22 PCB via headers. The 908.42MHz antenna measuring approximately 3.25" in length, exits the metal shield via a small hole in the bottom of the shield, and passes through the main PCB through a hole located directly underneath the hole in the bottom of the RF shield.

When combined with the appropriate PC software, the USB Z-Wave Stick has the ability to send commands and receive acknowledgement and other feedback to other Z-Wave enabled devices.