

Motion detection filtering.

IDLE Wakeup Motion Timeout, T7, works in conjunction with IDLE Wakeup Motion Second Count in a manner similar to how the Rolling Motion Window, T21, works in conjunction with Rolling Motion Second Count.

Both pairs attempt to filter the output of the mechanical motion detect in effort the number of nuisance messages triggered by spurious false motion detections. T7 is active while in the IDLE state after any unfiltered motion is sensed. Upon the sensing of motion, T7 is started and then the device looks to see if there is motion in any X seconds while T7 is counting down, where X = IDLE Wakeup Motion Second Count. Default for T7 is 2 Seconds. Thus, if after waking up in IDLE, the device sees further motion in at least one of the two seconds during which T7 is running, then the device transitions out of IDLE.

Conversely, T21, if enabled, is active during TRANSMIT, QUERY and DELAY, but is a rolling window of T21 seconds. If the device senses motion for Y seconds during any T21 seconds during TRANSMIT, QUERY or DELAY, where Y= Rolling Motion Second Count, then the device will transition through IDLE immediately after the DELAY state ends.

Increasing either Window (T7 or T21), without increasing the associated Second Count, will INCREASE overall sensitivity to motion.

Increasing either Second Count, without increasing the associated Window (T7 or T21) will DECREASE overall sensitivity to motion.

The final settings can only be determined empirically based upon the specific application environment, taking into account the frequency, duration and magnitude of motion to be sensed or filtered. We have determined through our field tests that the default settings work well in private vehicle applications under many, but not all, conditions.