

Theory of operation

Module : T180 DC

Description: Battery power motion sensing transmitter

T 180 DC, is a battery powered motion sensing transmitter is part of the wireless remote light system. The circuit is powered by 4 AA alkaline battery (6V DC) and can be used for both indoor or outdoor. The transmitter consists of a passive infra-red motion detector, control circuit, encoder, 315 MHz SAW resonator and utilizes a copper trace antenna built into the PCB. The antenna trace is approximately 83 mm length and 1.3mm wide.

The detector has 3 modes of operation, test, auto-4 minutes and auto-12 minutes; and one sensitivity adjustment for motion detection and one house code selection.

The detector also has a built-in photo sensor to disable motion detection in auto mode during the day.

During test mode, if motion is detected, it will send an encoded RF signal, “ON” command, with carrier frequency of 315Mhz to the receiver. The internal timer will time out in 8 seconds after motion ceased. The transmitter will then send an encoded RF signal, “OFF” command to the receiver. An LED indicator is flash on and off at this mode.

Auto 4 minutes and Auto 12 minutes work the same as test mode except the photo circuit will disable motion detection during the day and the internal timer is either 4 minutes or 12 minutes, depending on the settings, instead of 8 seconds in the test mode. The LED indicator will flash only during the time when the RF signal is sent.