RealTemp

Air Conditioning Temperature Sensor

RealTemp is a tiny, coin-cell powered temperature sensor that can tell your Midea (or other compatible) Air Conditioner the **real** room temperature.

The Problem

Many split air conditioners use an internal temperature sensor to detect the room temperature. This often means the air conditioner thinks the room temperature is too cold or too warm, leading to discomfort and inefficiency.

RealTemp is a tiny temperature sensor that transmits an accurate temperature reading to your AC unit periodically.

RealTemp is currently compatible with Midea air conditioners, including many of their rebadged models internationally, including Bosch, Carrier and many others. Generally, if it supports the "Follow Me" feature (using the remote as a temperature sensor), RealTemp will work.

Method of Operation

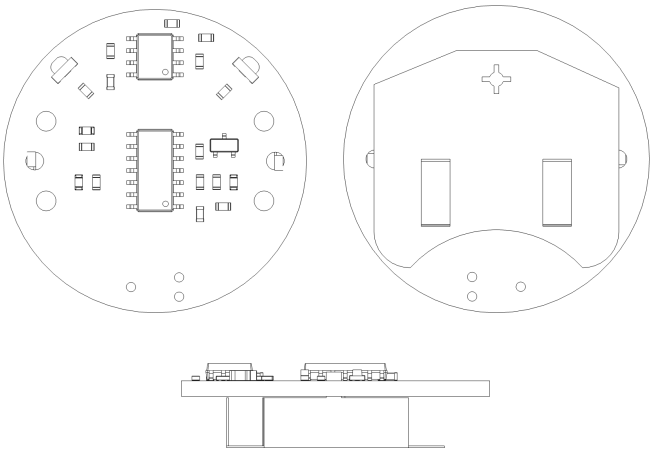
It checks the temperature every 30 seconds and transmits it every 5 minutes, and whenever it changes by 1ºC or more.

Powered by a single CR2450 cell, lasting around a year under normal conditions.

It’s based on a simple, low-power design. The main microcontroller is a Microchip ATtiny214. The temperature sensor is a Microchip AT30TS75A. There are four 940nm Infrared LEDs - two right-angle and two front-facing for maximum coverage, allowing RealTemp to be placed flexibly within your room.

Electrical Characteristics & Dimensions

Parameter	Value	
Operating Current (quiescent)	~1.2	µA
Operating Current (peak)	~30	mA
Operating Voltage (nom)	3.0	V
Operating Voltage (min)	1.8	V
Temperature Resolution	1	ºC
Wake-up Interval	30	s
Transmit Interval (max)	300	s



Dimension	Value	
Diameter	32.1	mm
Height	8.65	mm

RealTemp is **hacker-friendly**. Firmware source code and schematics are available. No fuses restricting reflashing or other types of tinkering are set.

Datasheet Revision 1
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