

MOISTURE SENSOR Concept

Typical Applications for Moisture Sensors

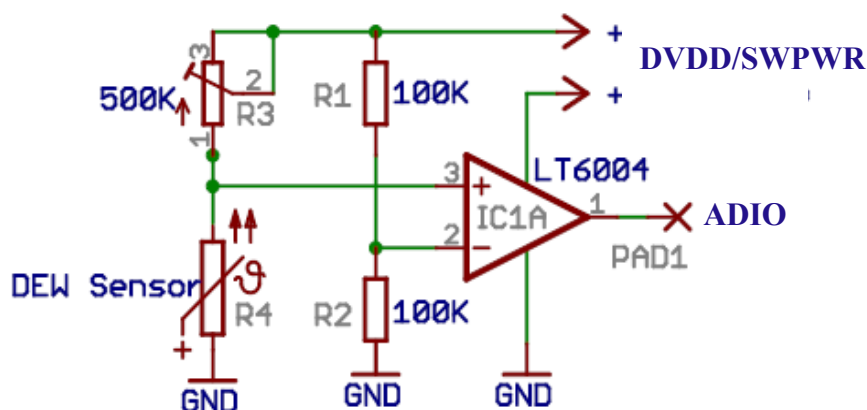
A DEW sensor shall detect upcoming condensation, best before it originates. Typical applications in buildings are:

- Automatic ventilation control of sanitary rooms, showers or swimming halls,
- Humidity monitoring of walls,
- Leakage monitors, and
- Others.

Simple Sensor Concept

A simple and low-cost circuit can be used to wireless switch on an alarm automatically in case of excessive humidity. The sensor is an inexpensive (resistor type) DEW sensor element, e.g. type SDR05 or HDP-07S. The circuit described below based on the EnOcean STM modules is basically a comparator made with the help of a Rail-to-Rail low power low voltage LT6004. VREF and Vout are delivered by the STM module, while the LT6004 output delivers the output signal to one of the STM module inputs.

Under normal conditions, resistance of the dew sensor is low (e.g. below 20 K) and thus the voltage at OP non-inverting input is low compared to that at its inverting input. The corresponding output of the comparator is accordingly low and thus nothing happens in the circuit. When humidity exceeds about 85 per cent, the sensor resistance rapidly increases. As a result, the non-inverting input becomes more positive than the inverting input. This pushes up the output of the comparator to a high level and leads the STM transmitter to send a telegram.



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