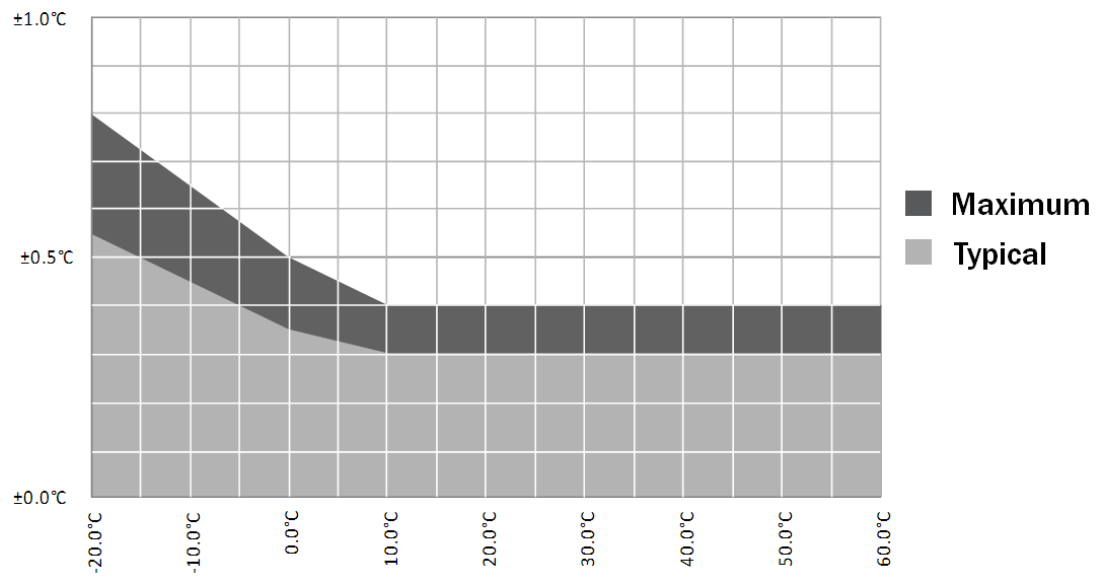> **What is this?**
>
> - This Help Guide provides information regarding the expected performance of the WIFI-TH and WIFI-TH+ products, and gives guidance for product handling

Detailed specification and handling instructions for the WIFI-TH and WIFI-TH+

Full Range Temperature Specification (WiFi-TH)

The following chart gives an indication of expected tolerance in temperature measurements across the full measurement range.

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Full Range Humidity Specification (WiFi-TH)

The following chart gives an indication of expected maximum tolerance in humidity measurements across the full measurement range.

Full Range Temperature Specification (WiFi-TH+)

The following chart gives an indication of expected tolerance in temperature measurements across the full measurement range.
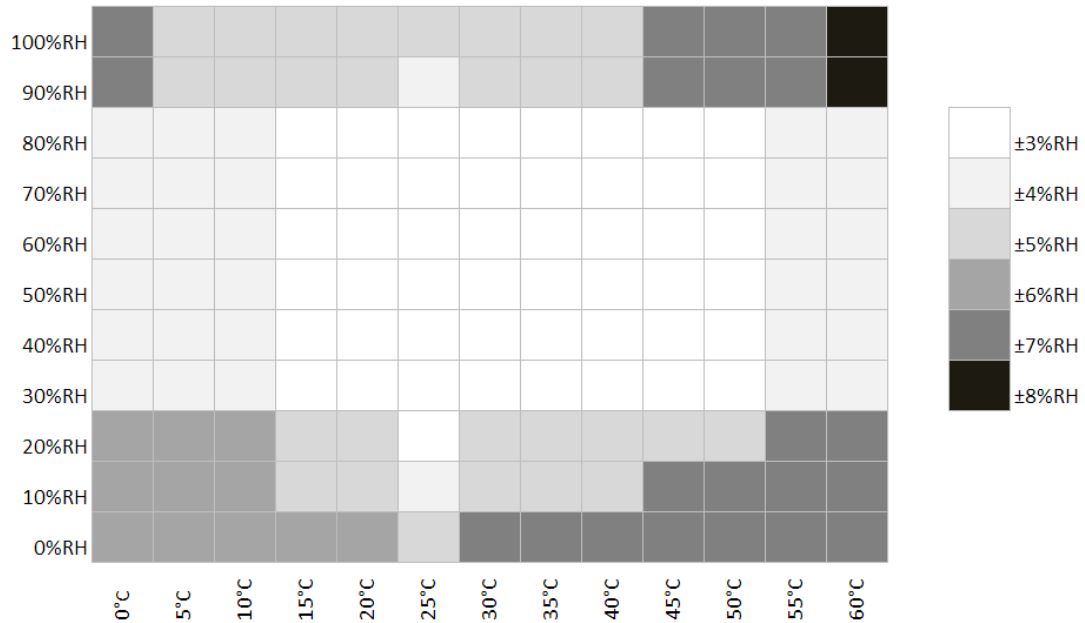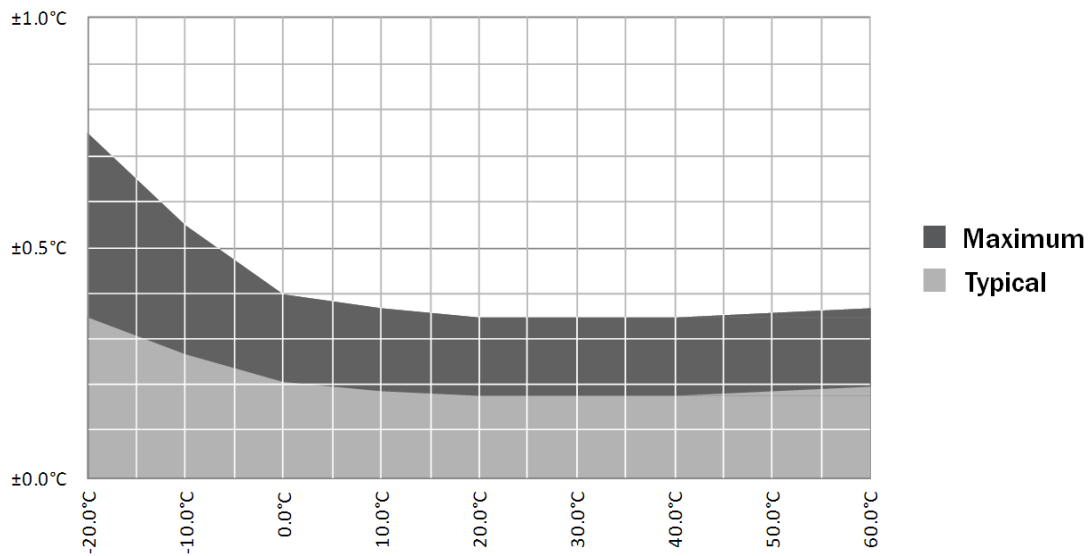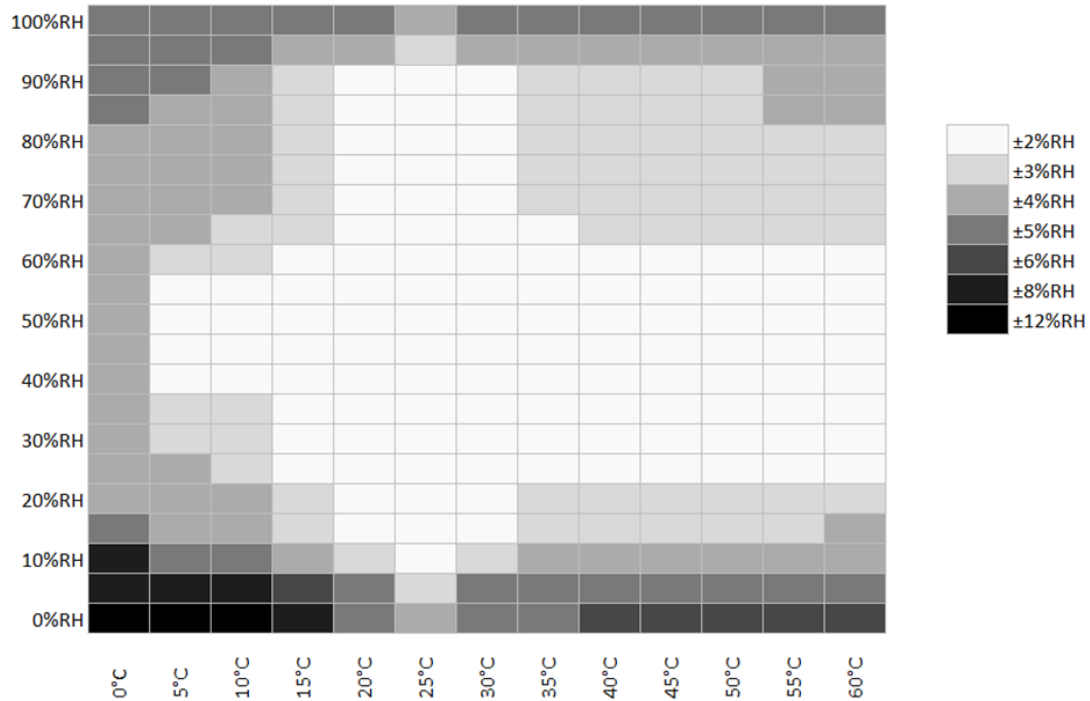
Full Range Humidity Specification (WiFi-TH+)

The following chart gives an indication of expected maximum tolerance in humidity measurements across the full measurement range.

## Effect of Environmental Extremes

Long term exposure to humidity levels above 80%RH, may temporarily offset RH measurements (±3%RH after 60 hours). Once returned to less extreme conditions the device will slowly return towards calibration state.

Temperature- Differential Effects

If a temperature differential exists between the sensor body and ambient surrounding, an offset in temperature and RH measurement will occur. A sensor moved from one set of ambient conditions to another will take a short period to equalise to the temperature of the new location. Similarly, internal heat generated whilst charging the battery, will typically cause a +2.5°C offset in temperature measurements and a decrease in RH measurements. The chart below gives an indication of the relationship between temperature differential and RH measurement offset at an ambient temperature of +25°C.
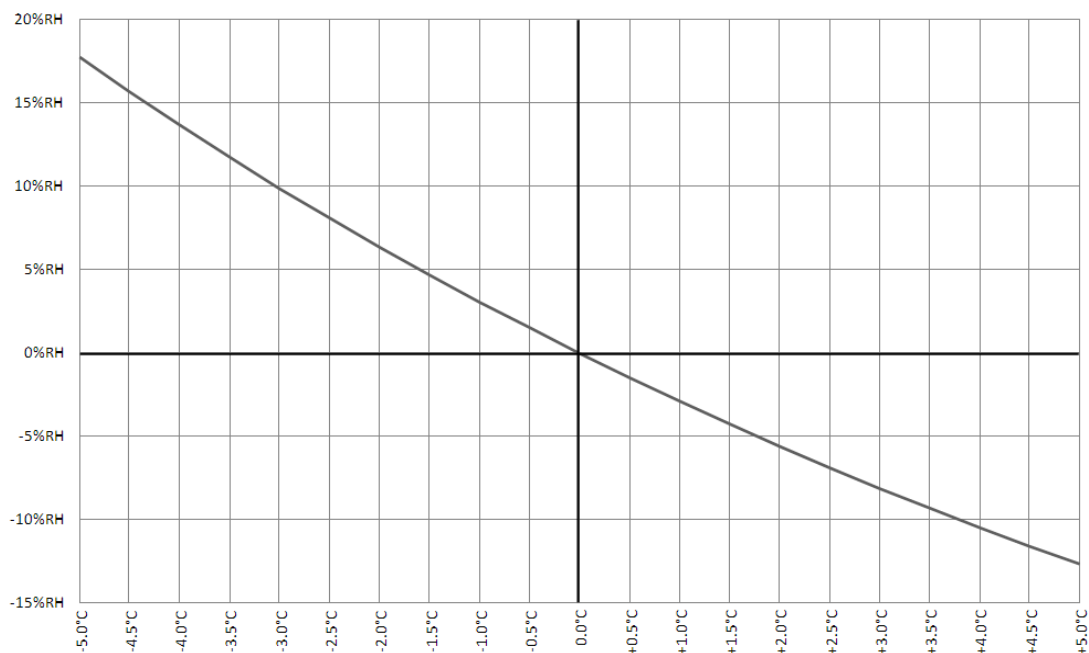
A sensor device being permanently powered via a USB, will normally be in a fully charged state. In this case there should be little effect from the self heating described above - the battery is kept fully charged with short bursts of power from the charger - producing negligible heat.

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Hysteresis

In addition to the effects described above, up to ±1%RH hysteresis can be expected in results.

Long Term Drift

Under normal conditions: the maximum drift in temperature measurements for both the WiFi-TH and WiFi-TH+ will be 0.04°C per year, and the maximum drift in humidity measurements for both products will be 0.5%RH per year.

Product Handling

The humidity measuring element in the WiFi-TH and WiFi-TH+ products can be contaminated through exposure to a variety of compounds. These products should not be kept in proximity to volatile chemicals such as solvents and other organic compounds. Ketenes, Acetone, Ethanol, Isopropyl Alcohol, Toluene, etc. are known to cause measurement offset (often irreversible). Please note that such chemicals are an integral part of epoxies, glues, adhesives*, etc. Chemicals such as these are also added as plasticisers into plastics, used for packaging materials, and can out-gas for extended periods. Acids and bases may affect the sensor and should be avoided: Hydrogen Chloride, Sulphuric Acid, Nitric Acid, Ammonia etc. Also Ozone in high concentration or Hydrogen Peroxide should be avoided. Please note that the above examples do not represent a complete list of all harmful substances. Generally speaking, if a material or compound emits a strong odour you should not keep a WiFi-TH or WiFi-TH+ product in close proximity to it.

We strongly suggest that these products are stored and shipped in Corintech standard packaging where possible, or else in card based packaging. Do not store or ship these products in polystyrene or bubble wrap.

*For a list of adhesives that have been approved for use with the WiFi-TH and WiFi-TH+ products please contact Corintech Ltd.