# Aranet T/RH sensor

1. Measures temperature and relative humidity
2. Up to 3 km / 1.9 mi range
3. IP42 class
4. Up to 10 years of battery life
5. Flexibility of installation

Business critical information for food manufacturing, warehouses / storage facilities, horticulture, building management and others.

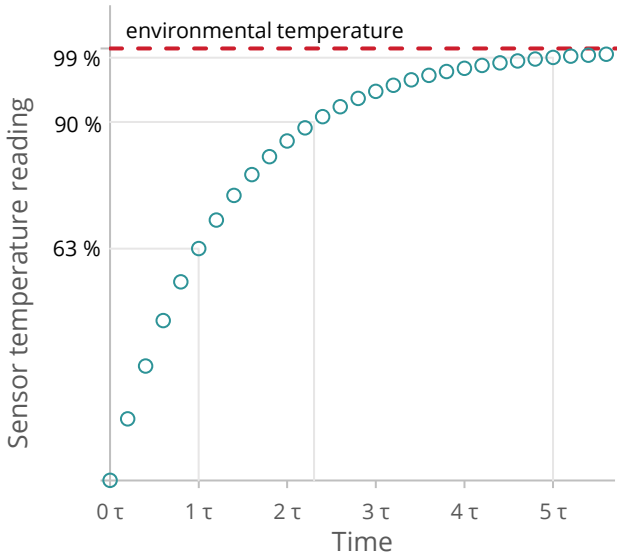
## Aranet T/RH sensor

TDSPT001 (EU)
TDSPT0U1 (NA)
TDSPT0R1 (RU)

Measures the temperature and relative humidity of the environment

### Sensor performance

| | Temperature | Relative Humidity |
|---|---|---|
| Range | -40 °C to 60 °C (-40 °F to 140 °F) | 0-100 % |
| Resolution | 0.1 °C (0.1 °F) | 1 % |
| Accuracy[1] | ±0.3 °C (±0.5 °F) | ± 2 % |
| Hysteresis | N/A | ± 1 % |
| Long-term drift | 0.03 °C/year (0.05 °F/year) | 0.5 %/year |
| Time constant $\tau$ (63 %)[2] | 10 minutes | TBD |




### Radio parameters

| | |
|---|---|
| Line of sight range | 3 km (1.9 mi) |
| Supported ISM bands | EU868, NA915 |
| Transmitter power | 14 dBm |
| Data transmission interval[3] | 1, 2, 5 or 10 minutes |
| Data protection | XXTEA encryption |
| Compatible base stations | Aranet MINI, PRO |

### General

| | |
|---|---|
| Ingress Protection code | IP42 |
| Maximum operating temperature range | -40 °C to 60 °C (-40 °F to 140 °F) |
| Dimensions | 111 x 44 x 25 mm (4.5 x 1.7 x 1.0 in) |
| Weight[4] | 65 g (2.3 oz) |
| Enclosure material | ASA plastic |
| Included in the box | 2 AAA alkaline batteries, polyester string |

### Power — 2 AAA batteries

| | Alkaline[5] | Lithium[6] |
|---|---|---|
| Type | | |
| Operating temperature | -20 °C to 55 °C (-4 °F to 131 °F) | -40 °C to 60 °C (-40 °F to 140 °F) |
| TX interval | Battery lifetime at 20 °C (68 °F)[7] | |
| 1 minute | 2.4 years | 2.6 years |
| 2 minutes | 4.3 years | 4.9 years |
| 5 minutes | 8.3 years | 10 years |
| 10 minutes | 10 years | 10+ years |

### Compliance

| | |
|---|---|
| CE | Conformité Européenne |
| IC | Innovation, Science and Economic Development Canada |
| FCC | Federal Communications Commission (USA) |

Aranet qualifies its T/RH sensor to work properly within ambient clean air. Qualification for use in harsh environment is the duty of the user of the sensor. Exposure to volatile organic compounds, acids or bases, etching substances such as $H_2O_2$, $NH_3$, shall be avoided.

[1] 95 % of the sensors measure within these typical limits in equilibrium state at time of sale. For evaluation of the total measurement error hysteresis and long-term drift has to be taken into account.
[2] Time constant is determined at 1 m/s airflow.
[3] Due to regulatory requirements 1 minute data transmission interval is not available in Russia.
[4] Weight with alkaline AAA Fujitsu LR03G07 Premium batteries.
[5] AAA Fujitsu LR03G07 Premium batteries used for tests and calculations.
[6] AAA Energizer L92 Ultimate Lithium batteries used for tests and calculations.
[7] Battery lifetime data has been obtained by mathematical extrapolation and is provided for descriptive purposes only and is not intended to make or imply any guarantee or warranty.

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