# Aranet T/RH sensor with Radiation Shield

1. Measures temperature and relative humidity
2. Protects measurements from sun radiation
3. IP65 casing
4. Up to 10 years of battery life
5. Designed for greenhouse environment

Convection Radiation Shield in combination with temperature and relative humidity sensor is a unique solution, provides precise air temperature measurements for the greenhouse environment.

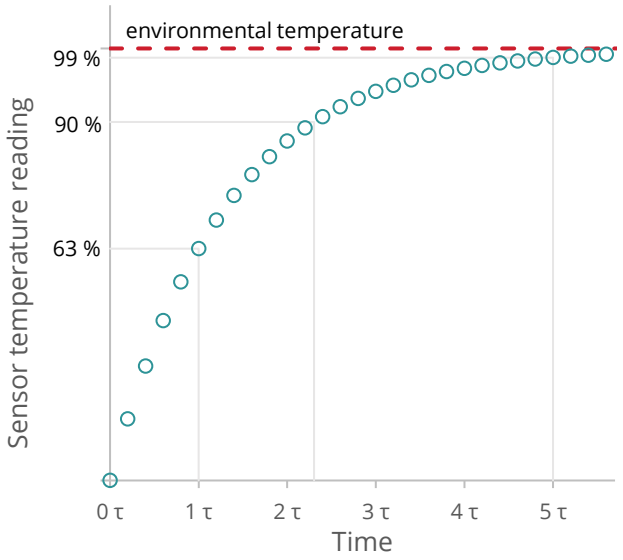
## Aranet T/RH sensor with Radiation Shield

TDSPT509 (EU)
TDSPT5U9 (NA)
TDSPT5R9 (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) | 0.1 % |
| 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] | 1 minute | 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 PRO |

### General

| | |
|---|---|
| Ingress Protection code | IP65 |
| Maximum operating temperature range | -40 °C to 60 °C (-40 °F to 140 °F) |
| Dimensions | Ø 80 x 660 mm (Ø 3.1 x 26 in) |
| Weight[4] | 230 g (8.1 oz) |
| Enclosure material | ASA, PP plastics |
| Included in the box | 1 AA alkaline battery, polyester string |

| Power | 1 AA battery | |
|---|---|---|
| Type | Alkaline[5] | Lithium[6] |
| 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 | 1.8 years | 2.3 years |
| 2 minutes | 3.4 years | 4.7 years |
| 5 minutes | 6.9 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 0 m/s airflow.
[3] Due to regulatory requirements 1 minute data transmission interval is not available in Russia.
[4] Weight with alkaline AA Fujitsu LR6G07 Premium battery.
[5] AA Fujitsu LR6G07 Premium battery used for tests and calculations.
[6] AA Energizer L91 Ultimate Lithium battery 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.