T/RH Probe (ammonia resistant)

Measures temperature and relative humidity through a sensor probe connected to the transmitter body via a cable. Probe construction offers increased protection from ammonia-rich atmosphere often present in livestock and poultry housing. This device, belonging to the PRO sensor series, includes Aranet Sub-GHz ISM band radio which wirelessly transmits sensor measurements to the Aranet PRO base station.

Product numbers

European Union	TDSPT409
United States	TDSPT4U9
Asia	TDSPT4U9

Sensor performance

General notes

- 95 % of the sensors perform within the specified accuracy limits at the time of purchase, assuming they are in an equilibrium state. For evaluation of the total measurement error, long-term drift has to be taken into account.

Temperature

Range	-40–85 °C	-40–185 °F
Resolution	0.1 °C	0.1 °F
Accuracy	±0.3 °C	±0.5 °F
Long-term drift	0.05 °C/year	0.09 °F/year

- Provided accuracy is relevant for the temperature measurement range 0–60 °C (32–140 °F).

Relative Humidity

Range	0–100 %
Resolution	0.1 %
Accuracy	±3 %
Long-term drift	0.5 %/year

- Provided accuracy is relevant for the relative humidity measurement range 0–80 % at 23 °C (73 °F).

- Long-term drift value is provided at laboratory conditions: 23 °C (73 °F) and 30–70 % relative humidity. In significantly different conditions, higher long-term drift might occur.
- Long-term exposure to high humidity conditions (>80 %, especially condensing atmosphere) might temporarily increase the relative humidity reading above the actual value. To rectify this, it's advisable to dry the probe in an environment with low relative humidity.

General specifications

Ingress protection rating	IP67	
Maximum operating temperature	-40–60 °C	-40–140 °F
Dimensions	⌀35×120 mm	⌀1.4×4.7 in
Weight (incl. battery)	100 g	3.5 oz
Enclosure material	ASA plastic	
Packaging includes	1 pc AA alkaline battery, polyester string for hanging the device	

Battery lifetime

Measurement interval	Alkaline battery lifetime	Lithium battery lifetime
1 min	1.3 years	1.7 years
2 min	2.3 years	3.0 years
5 min	4.8 years	6.8 years
10 min	8.2 years	>10 years

- 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.
- Battery lifetime tests and calculations performed assuming device is at 20 °C (68 °F) and using *Fujitsu Premium LR6G07* (alkaline) and *Energizer Ultimate Lithium L91* (lithium) AA batteries as reference.
- The operating temperature range may vary based on the battery type used. Generally, the range for alkaline batteries is between -20–50 °C (-4–122 °F), whereas for lithium batteries, it is -20–60 °C (-40–140 °F).

Aranet radio parameters

Line of sight range	3 km	1.9 mi
Transmitter power	14 dBm	25 mW
Data transmission interval	1, 2, 5 or 10 min	
Data protection	XXTEA encryption	

Compliance information

CE Conformité Européenne

FC Federal Communications Commission (USA)

IC Innovation, Science and Economic Development Canada