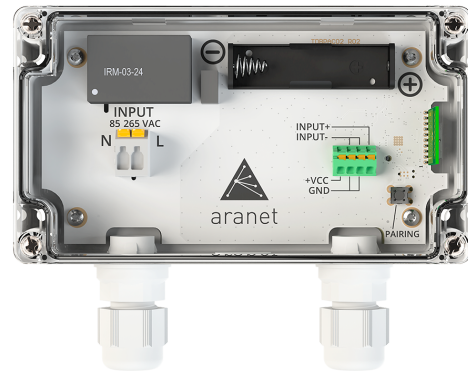# 0-10 V Transmitter with 12 VDC PSU

Measures analog signal of a 3rd party sensor. Provides 12 VDC power for a 3rd party sensor using the built-in power supply unit (PSU). 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

Product number	Radio band	To be used in
TDSVT102	EU868	European Union
TDSVT1U2	US920	United States of America, Canada, South America, Australia, New Zealand
TDSVT1U2	AS923	BRN, KHM, HKG, IDN, LAO, TWN, THA, VNM, MYS, SGP
Not available	JP923	Japan
Not available	KR923	South Korea

Voltage measurement performance

Range	-32 to +32 VDC
Resolution	0.01 V
Accuracy	±5 %
Output voltage	12 VDC
Output voltage tolerance	±0.3 VDC
Maximum output power	2.8 W

• 95 % of the sensors measure within these typical limits in equilibrium state at the time of sale.

General specifications

Ingress protection rating	IP67	
Operating temperature range	-30–80 °C	-22–176 °F
Dimensions	160×132×46 mm	6.3×5.2×1.8 in
Weight (incl. battery)	250 g	8.8 oz
Enclosure material	Polycarbonate	
Packaging includes	1 pc AA alkaline battery	

Power supply specifications

Input voltage	85–265 VAC
Frequency range	47–63 Hz
Maximum power consumption	10 W

- External power is required for the PSU to operate, enabling the connected sensor to function. The battery (1 pc AA) is optional and powers only the data transmitter to facilitate pairing and to notify user in case of external power loss.

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	

Aranet radio bands and channels

Radio band	Channel 1	Channel 2	Channel 3	Channel 4
EU868	868.1 MHz	868.3 MHz	868.5 MHz	—
US920	917.3 and 922.9 MHz	917.5 and 923.1 MHz	917.7 and 923.3 MHz	917.9 and 923.5 MHz
AS923	923.1 MHz	923.3 MHz	—	—
JP923	923.0 MHz	923.4 MHz	—	—
KR923	923.1 MHz	923.3 MHz	—	—

- This table outlines the radio channels utilized by Aranet Sub-GHz radio technology for transmitting sensor data to the base station, complying with the legislation in various regions. To determine availability of this product in your region and the corresponding channels used, refer to the *Product numbers* table at the beginning of this document.

Pairing process description

As part of the Aranet PRO product series, this device enables wireless sensor reading transmission to the Aranet PRO and PRO Plus base station. Here's how to pair the sensor with the base station:

- Place the sensor within 20 m (60 ft) of the base station during pairing. Once paired, it can communicate over a much greater distance (up to 3 km / 1.9 mi line of sight).

- If the sensor uses a power supply unit, unplug it. Open the sensor casing and remove the battery for at least 20 seconds. Alternatively (for newer hardware revisions), locate the `PAIRING` button on the sensor PCB which can be used to initiate pairing without the removal of battery.

- Access the `SENSORS` menu in the base station Web GUI. Set the measurement interval and select `PAIR SENSOR` to start the pairing process.

- Within a 2-minute window, insert the battery or press the `PAIRING` button on the sensor PCB (for newer hardware revisions) to initiate pairing.

- A successful pairing is indicated by the sensor appearing in the Web GUI and a specific LED blink sequence on the sensor PCB (one to three short blinks followed by a longer fade-out blink of the LED):

- If pairing fails, the sensor won't appear in the Web GUI, and the LED blink sequence will consist only of three short blinks. In this case, repeat the procedure closer to the base station.
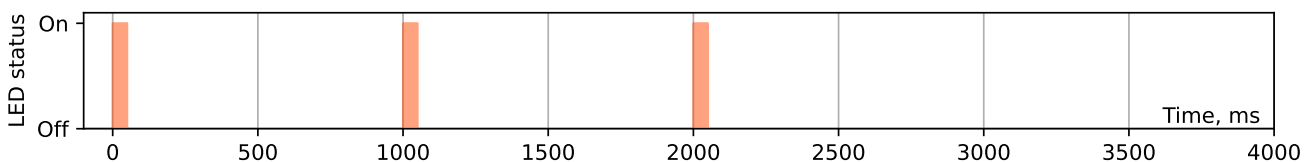
- After successful pairing, customize parameters like name and tags in the Web GUI. Close the sensor casing and install it in the desired location.

Compliance information

$C\epsilon$	Conformité Européenne
FC	Federal Communications Commission (USA)
IC	Innovation, Science and Economic Development Canada