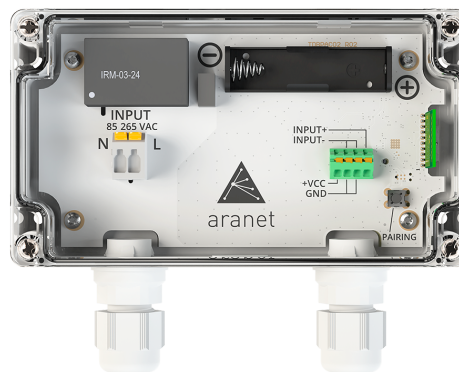# 0-10 V Transmitter with 24 VDC PSU

Measures analog signal of a 3rd party sensor. Provides 24 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
TDSVT202	EU868	European Union
TDSVT2U2	US920	United States of America, Canada, South America, Australia, New Zealand
TDSVT2U2	AS923	BRN, KHM, HKG, IDN, LAO, TWN, THA, VNM, MYS, SGP
TDSVT2J2	JP923	Japan
Not available	KR923	South Korea

Warning information

• This device requires installation by a certified electrician. Installation involves handling bare wire leads that may carry hazardous voltages.

• Before installation, disconnect power from the main power supply to prevent the risk of electric shock. Additionally, ensure the power supply is disconnected before removing the lid or servicing any internal components, such as replacing the transmitter battery.

Voltage measurement performance

Range	-32 to +32 VDC
Resolution	0.01 V
Accuracy	±5 %
Output voltage	24 VDC
Output voltage tolerance	±0.6 VDC
Maximum output power	2.8 W

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	

- Specifically for JP923 radio band, reduced transmitter power of 13 dBm (20 mW) is used.

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.

ver. 2.3 (2025-04-07)
www.aranet.com
Page 2 of 3

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:

- **Preparing for pairing:** 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).

- **Power off the sensor:** If the sensor comes with a battery-disconnect pull tab, leave it in place for now. For battery-powered sensors that are already on, open the casing and remove the battery for at least 20 seconds. If the sensor uses a power supply, unplug it. For newer hardware versions, locate the `PAIRING` button on the sensor PCB which can be used to initiate pairing without the removal of battery.

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

- **Power on the sensor:** Within 2 minutes, pull the battery tab, reinsert the battery, connect the power supply, or press the `PAIRING` button to initiate pairing.

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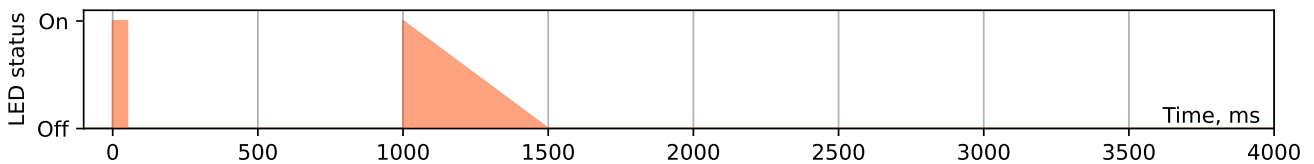
- **Troubleshooting:** If pairing fails, the sensor won't appear in the Web GUI, and the LED blink sequence will consist only of three short blinks. In this case, repeat the process closer to the base station.
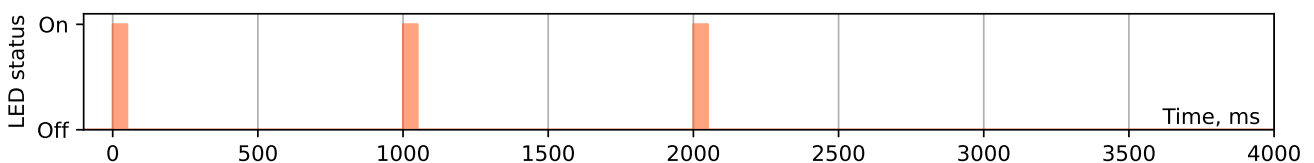
- **Final setup:** After successful pairing, customize parameters like name and tags in the Web GUI. Close the sensor casing and install it in the desired location.

Compliance information

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