RADIONODE®

The most innovated data logger

**Electrochemical C2H4 Ultra Low-Density Transmitter via USB**

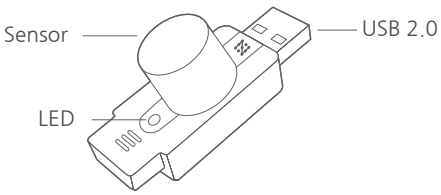
# UA54-C2H4-3

- Real-time C2H4 density, Temp/RH transmitter
- Electrochemical C2H4 gas sensor embedded
- Individual Certificate included
- Operating On Windows / Linux / MacOS
- AT Command Support
- PC Recording Software (Tapaculo Lite)
- Android  Recording App. (Tapaculo Mobile)

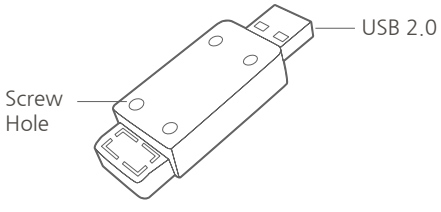



The UA54-C2H4-3 device has an electrochemical Ethylene(C2H4) sensor inside. It transmits measured C2H4 density to 3ppm and temperature information in real-time via the USB connector.
The UA Series is automatically recognized as a serial port on the operating system and accessed using the AT command. Multiple USB connections of the UA device could compose the multi-channel sensor. The sensor data is not stored in the UA, but recording in PC and Android device. 128CH real time monitoring software on pc, Tapaculo Lite is downloadable on our website(www.radionode365.com). And android real time recording application is also available from google play store. The optional RN17X model helps UA series for you to setup remote web monitoring system.

## Hardware

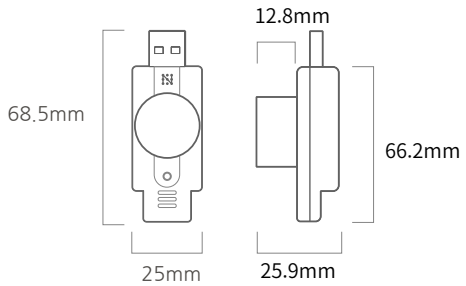



〈Front〉




〈Bottom〉

## Dimensions




## ⚠ CAUTION!

- Volatile organic compounds (VOCs) should be avoided in applications where electrochemical sensors are used because they either dissolve in the electrolyte or adsorb onto the sensor's housing.
- Long term exposures and high concentrations may affect the performance characteristics
- Sudden changes in humidity cause short-term transient signals
- Avoid contact with conductors.
- Static electricity can cause distorted values.

## Contact Information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## UA54-C2H4-3 Specifications

| | | | |
|---|---|---|---|
| Sensor Channel Info. | • CH1: C2H4<br>• CH2: Temperature<br>• CH3: Humidity | | |
| Gas Sensor Type | Electrochemical Cell | | |
| Gas Sensor Filter | Metal Sintering filter | | |
| Body Material | PC(Polycarbonate) | | |
| Measurement Range | • C2H4: 0 ~ 3 ppm<br>• Temperature: -40 ~ 50°C (-40 ~ 122°F)<br>• Humidity : 5~95% | | |
| Measurement Unit (Selection using SW) | • C2H4: ppm<br>• Temperature: °C(Default), °F<br>• Humidity: % | | |
| Measurement Cycle | 1 sec | | |
| Sensor Resolution | • C2H4: 0.1ppm<br>• Temperature: 0.01°C<br>• Humidity: 0.01% | | |
| Sensor Accuracy (Repeatability) | • C2H4: < 2% of measured value<br>• Temperature: ±0.2°C<br>• Humidity: ±2.0% | | |
| Baseline Drift | Zero ± 2 ppm | | |
| Long-term Drift | < 5% signal loss / 6 months | | |
| Gas Response Time | T80 < 60 secs | | |
| Warming up Time | < 3mins after power-on | | |
| Operating Condition | • Temperature: -40 ~ 50°C (-40 ~ 122°F)<br>• Humidity: 15 ~ 90% R.H (non condensing) | | |
| Lifetime[1)] | More than 12 months @ discontinuous measurement | | |
| Cross-Sensitivity | Interfering Gas | Concentration [ppm] | Reading [ppm] |
| | CO | 10 | <6 |
| | CS2 | 100 | ~140 |
| | Ethanol | (C2H5OH) | ~21 |
| Power Consumption | 5V (Max. 90mW) | | |
| Calibration Certificate | Individual Certificate. Calibration with 5ppm C2H4(Interfering Gas) calibration gas mixtures | | |
| Calibration Method | Two point Calibration Mode<br>Manual Zero Calibration Mode | | |
| USB Port | USB 2.0 Type A Plug | | |
| Output Signal | USB digital, CDC Device (AT Command) | | |
| LED | Device Status Indicator<br>• BLINK RED & GREEN: Warming-up<br>• RED KEEP ON: USB Connection Failed<br>• BLINK GREEN: Measuring | | |
| Software Support | • Tapaculo Mobile<br>3CH recording software on Android devices<br>Download: Google play store<br>• Tapaculo Lite<br>128CH recording software on PC<br>Download: www.radionode365.com<br>• Calibration Software<br>Calibrator that compensates measuring error.<br>Download: www.radionode365.com | | |

1) Gas sensors have a longer life when measured discontinuously than when measured continuously.

## Application

- Fruit storage facilities
- Safety of electrical systems
- Petrochemical industry
- Industrial safety Monitoring

## Product Components

| Model | Component |
|---|---|
| UA54-C2H4-3 | • UA54-C2H4-3(1EA)<br>• USB Extension Cable 1.5m(1EA)<br>• Calibration Certificate(1EA) |

## Optional Accessories

| Type | Model Number | Spec. |
|---|---|---|
| Sensor data transmitter via Ethernet | RN171 WC | • Supports cloud monitoring<br>• Supports MODBUS TCP/ HTTP data transmission<br>• Power: PoE 48V, IEEE802.3af/at, DC6V, 1.9W |
| Sensor data transmitter via WiFI | RN172 WC-D | • Supports cloud monitoring<br>• Supports MODBUS TCP/ HTTP data transmission<br>• Power: DC12V, 5W |

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