WATCHTOWER 1 - V1.3

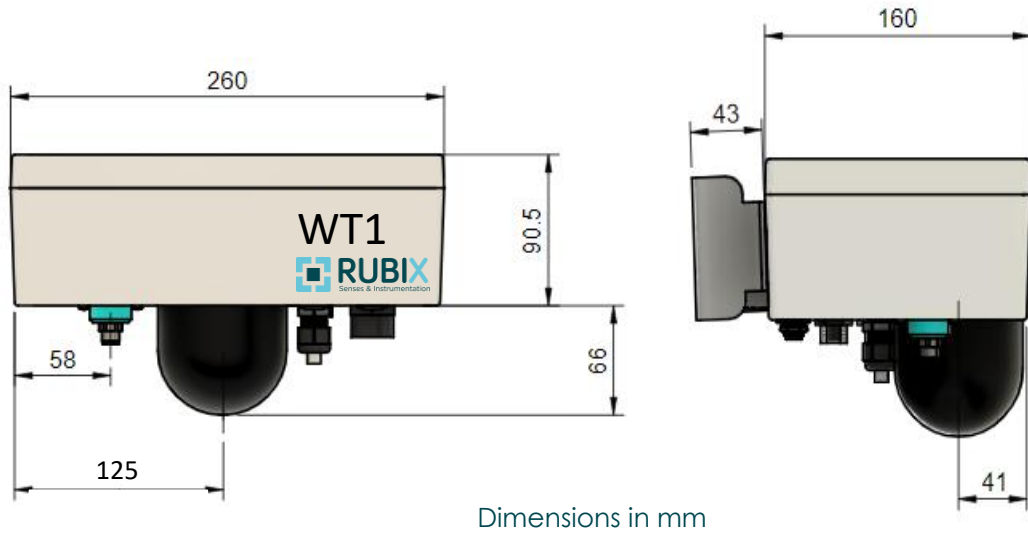Air quality · Gases · Odors · Particles · Noises · Temperature · Humidity · Pressure

Operations depend on an effective environmental impact control

Turnkey system for monitoring and identifying sources
of nuisances and pollutants in outdoor air

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Technical specifications and options

WT1

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Dimensions in mm

- 4 metal oxide (MOX) gas sensors for smells
- 6 electrochemical gas sensors: H2S, NH3, NO2… (from a 15+ gas list)
- 1 PID sensor: BTX and alkanes
- 1 double-band optical sensor (2 optical sensors if PID not used): CO2, CH4
- 1 PM optical sensor: PM1-2.5-10 (from a list of 2 sensors: one specialized in size and concentration and one specialized in type fingerprinting[1])
- Temperature, humidity, noise and atmospheric pressure sensors
- Soil and liquid sensors on demand (4-20mA)
- Software in SaaS mode
- IP 54 housing
- 12V DC input, PoE or a 12-V solar panel battery (option)
- 110-240V AC – 12V DC Power adapter
- LTE-M/GPRS[2], Wi-Fi, Ethernet communication
- Built-in GNSS (GPS, Galileo, Beidou, Glonass)
- Data logger with up to 2 years of data storage in case of communication failure
- Over the air configuration upgrade
- Operating temperature range: -30°C / + 60°C (-86° F/+140 ° F)[3]
- Weight: 3 kg. (6.61 lbs.)

[1] For construction sites only and on demand.
[2] Used as LTE-M fallback
[3] Note that extreme temperature and humidity impact proper operation of the sensors

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❯ Watchtower 1's Missions

WT1 is a system that monitors outdoor air quality at the source of emissions and on the fence line with:

- 24/7 real time readings of gas concentrations (up to 7 different gases) and volatile organic compounds (VOCs)
- Odor measurement and identification (possible correlation with Dynamic Olfactometry - EN 13725)
- Quantification and identification of particles
- Intensity and identification of noises
- Real-time alerts (configurable thresholds) with notifications (text message, email, etc.)
- Automated process activation (sampling, misting systems, ventilation, etc.)
- Integrated input from the community thanks to the devices unique QR codes

❯ Main application fields

Industrial parks   Wastewater treatment plants

❯ The only scalable and customizable solution on the market

- Air quality
- VOCs

+

- Up to 7 different gases simultaneously

+

- Odors
- Intensity (OU)
- Identification

+

- PM 1 μm
- PM 2,5 μm
- PM 10 μm

How it works

Data collection

- Pollutants
- Nuisances
- Weather

Data processing and storage

- Principal component analysis (PCA)
- AI algorithms
- Quantification
- Identifications

Data access and visualization

- Secure user account
- Custom settings
- SaaS mode
- 24/7 access

Main application fields

Ports

Smart cities

The only scalable and customizable solution on the market

- Noise
- Intensity dB(A)
- Identification

+

- Dispersion plume
- Impact on the neighborhood

+

- Human perceptions (subjective feedback)
- Customizable surveys