Noise measuring sensor for Smart Cities

PRESENTATION
Noise has become an essential vector when sensing smart cities.

CESVA's more than 45 years of experience designing and manufacturing sound level meters are concentrated in the TA120 noise measuring sensor.

The TA120 brings together in a small sized single piece of equipment, the accuracy of a Class 1 sound level meter, maximum protection of a professional outdoor kit (rain, snow, wind, dust, birds, IP65) and full connectivity with major open source platforms and industrial protocols.

The TA120 requires minimal annual maintenance and can be verified with an acoustic calibrator (IEC 60942).

The TA120 offers you high precision and reliability noise measurements.

APPLICATIONS
- Smart Cities sensing
- Noise surveillance networks (permanent monitoring):
  - Road and port infrastructures
  - Industrial activities
  - Separate waste collection routes
  - Control of Works
- Noise monitoring:
  - Concerts, festivals, major events and exhibitions
  - Sports events and racetracks
  - Quiet areas (acoustically protected)
- Generating noise maps and displaying in real time noise levels

MAIN FEATURES
- Class 1 precision sensor according to IEC 61672-1.
- Protection against external agents with an outdoor kit: wind, rain and birds. Keeps class 1 precision. IP65 protection.
- Can be fully integrated into different platforms: NoisePlatform (CESVA), open source ones such as Sentilo or proprietary platforms like Telefonica or Smarty Planet.
- Light weighted small sized and easy to install in street lights, marquees, billboards, shelters, kiosks and advertising posts.
- Powered by mains, POE (Power over Ethernet), 12 VDC (Solar panels*, external batteries).
- Continuous measurement 24 h/7 days a week.
- Minimum annual maintenance. Materials used in the manufacture of TA120 ensure a long life.
- Removable outdoor kit for quick verification and adjustment with an acoustic calibrator (IEC 60942).
- Network with unlimited number of sensors
- Communication by Ethernet (RJ45), Wi-Fi*, GPRS modem*, 4-20 mA loop*.
**TECHNICAL SPECIFICATIONS**

**TA120**

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**NOISE MEASUREMENT ACCORDING TO IEC 61672**

**DETECTOR:** Equivalent continuous sound level

**FREQUENCY WEIGHTING:** A

**MEASURED FUNCTION:** Equivalent level with programmable integration time form 1s to 60min with frequency weighting A: L_{AeqT}

**RESOLUTION** 0.1 dB

**ACCURACY according to IEC 61672-1:** class 1

**MEASUREMENT SINGLE RANGE from noise:** 28 to 120 dBA

**LINEARITY RANGE at 1kHz:** 35 to 120 dBA

**ACOUSTIC VERIFICATION:** with acoustic calibrator (IEC 60942)

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**MICROPHONE**

**TYPE:** ½" condenser microphone

**POLARIZATION:** 0 V

**NOMINAL SENSIVITY:** 25.0 mV/Pa

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**PROTECTION AGAINST EXTERNAL AGENTS**

**OUTDOOR KIT:**

**PROTECTION AGAINST:** Rain, snow, wind and birds

**DEGREE OF PROTECTION PROVIDED BY THE ENCLOSURE**

**DEGREE:** IP65

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**CONNECTIVITY**

**USB COMMUNICATION for configuration:**

**TYPE:** Digital complies with USB rev. 2.0 (type B)

**ETHERNET COMMUNICATION for data transmission:**

**PORT:** RJ45, 10/100 Mbps

**4-20 mA CURRENT LOOP:**

**CL120 module** required

**TYPE:** Analog

**GPRS/2G/WCDMA COMMUNICATION for data transmission:**

**MR120 module** required

**Wi-Fi COMMUNICATION for data transmission:**

**WF120 module** required

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**OPTIONS**

- **WF120** Module for data transmission Wi-Fi
- **MR120** Module for data transmission GPRS/2G/WCDMA
- **CL120** Analog output for 4-20mA current loop
- **BA120** Internal lithium battery for 24h cycles
- **PS120** Solar panel kit (BA120 Battery* required)

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**TRANSFORMATION PROTOCOLS**

**PROTOCOL:** HTTP, HTTPS (Secure connection)

**IP ADDRESS:** Static or dynamic (DHCP)

**FORMAT:** Sentilo JSON, Ultralight 2.0, Other (Consult)

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**REMOTE CONTROL**

**FEATURES:** Remote configuration of the sensor

Automatic firmware update (via OTA)

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**POWER**

**MAINS:** 100/240 V~ 0.6 A | 50/60 Hz

**TYPICAL POWER CONSUMPTION:** 1 W

**POWER CONSUMPTION charging BA120 battery*:** 18 W

**URBAN LIGHTNING NETWORK: BA120 battery** required

Powering form the urban lightning network with battery support.

**PoE (Power over Ethernet):**

Uninterrupted power through the Ethernet cable.

**12 VDC INPUT:**

Powering form 12 V external batteries and solar panel PS120*

**TYPICAL POWER CONSUMPTION:** 1 W

**POWER CONSUMPTION charging BA120 battery*:** 15 W

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**ENVIRONMENTAL CRITERIA**

**INFLUENCE OF THE TEMPERATURE:**

**CORRECT NOISE MEASUREMENT RANGE:** from -10 to +50 °C

**RANGE FOR CORRECT CHARGING AND DISCHARGING OF THE BATTERY***: from 0 to +40 °C

**INFLUENCE OF THE HUMIDITY:**

**CORRECT NOISE MEASUREMENT RANGE:** from 25 to 90 %

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**DIMENSIONS, WEIGHT & MARKING**

**DIMENSIONS:** 395 x 120 x 91 mm

**WEIGHT:**

- without battery 960 g
- with battery* 1150 g

**MARKING:** 

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**OPTIONS***

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**The characteristics, technical specifications and accessories may vary without prior notice**