

# TA120

## DATASHEET

D\_TA120\_v0005\_20161228\_EN



### Noise measuring sensor for Smart Cities

\*Optional

#### 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



 NoisePlat-

#### 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 Telefónica 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\*, 3G modem\*, 4-20 mA loop\*.

# TA120

## TECHNICAL SPECIFICATIONS

### Noise measuring sensor for Smart Cities



*\*Optional*

*\*\*Integration times shorter than 10s require high-speed networks*

#### NOISE MEASUREMENT ACCORDING TO IEC 61672

**DETECTOR:** Equivalent continuous sound level  
**FREQUENCY WEIGHTING:** A  
**MEASURED FUNCTION:** Equivalent level with programmable integration time from 1s\*\* to 60min with frequency weighting A: LAeqT  
**RESOLUTION** 0.1 dB  
**ACCURACY according to IEC 61672-1:** class 1  
**MEASUREMENT RANGE single rang:** from 35 to 120 dBA  
**LINEARITY RANGE a 1kHz :** from 35 to 120 dBA  
**ACOUSTIC VERIFICATION:** with acoustic calibrator (IEC 60942)

#### MICROPHONE

**TYPE:** 1/2" condenser microphone  
**POLARIZATION:** 0 V  
**NOMINAL SENSITIVITY:** 25,0 mV/

#### PROTECTION AGAINST EXTERNAL AGENTS

**OUTDOOR KIT:**  
**PROTECTION AGAINST:** Rain, snow, wind and birds  
**DEGREE OF PROTECTION PROVIDED BY THE ENCLOSURE**  
**DEGREE:** IP65

#### CONNECTIVITY

**USB COMMUNICATION for configuration:**  
**TYPE:** Digital complies with USB rev. 2.0 (type B)  
**ETHERNET COMMUNICATION for data transmission:**  
**CONNECTOR:** RJ45  
**4-20 mA CURRENT LOOP:**  
**CL120 module\* required**  
**TYPE:** Analog  
**3G/GPRS COMMUNICATION for data transmission:**  
**MR120 module\* required**  
**Wi-Fi COMMUNICATION for data transmission:**  
**WF120 module\* required**

#### OPTIONS\*

WF120 Module for data transmission Wi-Fi  
MR120 Module for data transmission 3G/GPRS

#### TRANSMISSION PROTOCOLS

**PROTOCOL :** HTTP, HTTPS (Secure connection)  
**IP ADDRESS:** Static or dynamic (DHCP)  
**FORMAT :** Sentilo JSON, Ultralight 2.0, Other (Consult)

#### REMOTE CONTROL

**FEATURES :** Remote configuration of the sensor  
Automatic firmware update (via OTA)

#### 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 from the urban lightning network with battery support.

#### PoE (Power over Ethernet)

Uninterrupted power through the Ethernet cable.

#### 12 VDC INPUT:

Powering from 12 V external batteries and solar panel PS120\* (BA120 Battery\* required):

**TYPICAL POWER CONSUMPTION:** 1 W  
**POWER CONSUMPTION charging BA120 battery\*:** 15 W

#### 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 %

#### DIMENSIONS, WEIGHT & MARKING

**DIMENSIONS:** 395 x 120 x 91 mm  
**WEIGHT:** without battery 960 g  
with battery\* 1150 g

**MARKING:** CE MARK, WEEE MARK

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

