TA150 Noise spectrum sensor (1/3 octave band)*

DATASHEET *(PRELIMINARY)*

D_TA150_v0005_20240528_EN

**Optional*

CESVA takes a step forward in monitoring by presenting the TA150 sensor, which is characterized by:

- Simultaneous continuous measurement 24 hours/7 days a week, of
  - Overall levels of the equivalent level with frequency weighting A, C and Z and time weighting F, S and I, in addition to their maximums and peak levels.
  - 1/3 octave band levels* from 6,3 Hz to 20 kHz.
- Class 1 precision according to IEC 61672-1.
- It allows obtaining audio files* (mp3, flac or wav format) with automatisms (by level, time or emergency).
- Communication via Ethernet (RJ45) and Wi-Fi. Also available 4G LTE* + GPS* Modem or Narrow Band IoT* + GPS*.
- Mains power, POE, 5-12 VDC (Solar panels, external batteries), public lighting network with daily battery backup (BA150*).
- External outputs 4-20mA* current loop, RS232* serial or RS485* serial for data transmission.
- Mini OLED screen,
  - Shows the sound level, communications status and sensor power.
  - Allows quick verification with an acoustic calibrator.
- Protection against external agents with outdoor kit.
- Volatile memory with capacity of up to 2 months.
- It has a webserver for configuration.
- Minimum annual maintenance.
- 100% IoT integrable into different platforms.

COMPLETE

NUMERICAL

COMMUNICATIONS

POWER

TA150 Spectrum analyser sensor for noise measurement (1/3 octave)*

TECHNICAL SPECIFICATIONS *(PRELIMINARY)*

**Optional*

ACOUSTIC MEASUREMENT ACCORDING 61672-1

MEASURED ACOUSTIC FUNCTIONS:

Overall funcitons(1)

L_{AeqT}, L_{CeqT}, L_{ZeqT} and L_{AleqT}

L_{AFmaxT}, L_{ASmaxT} and L_{AImaxT}

L_{CpeakT} and L_{ZpeakT}

(1) *with a programmable time between 1 s and 60 min*

Percentiles

L_{10}, L_{50} and L_{90}

Spectrum funcitons(1)*

L_{ZeqT} 1/3 octave band filters according to IEC 61620-1 (class 1) from 6,3 Hz to 20 kHz

ACCURACY according to IEC 61672-1: class 1

L_F, L_S, L_I, L_t and L_T:

Measurement range (without scales): from 25,5 to 137 dBA
Linearity range 1kHz: from 30,5 to 137 dBA

L_{Cpeak}:

Measurement range (without scales): from 29,1 to 140 dBC
Linearity range 1kHz: from 55,0 to 140 dBC

VERIFICATION: With an acoustics calibrator (IEC 60942)

MICROPHONE

TYPE: ½" condenser microphone
POLARIZATION: 0 V
NOMINAL SENSITIVITY: 16,0 mV/Pa

POWER

MAINS (100/240 V~ 0,6 A | 50/60 Hz)
URBAN LIGHTNING NETWORK (Battery required BA150*)
PoE (Power Over Ethernet)
5-12 VDC INPUT

CONNECTIVITY

Ethernet COMMUNICATION for data transmission:
PORT: RJ45, 10/100 Mbps
Wi-Fi COMMUNICATION for data transmission:
TYPE: 2,4GHz WPA2

OPTIONAL CONNECTIVITY for data transmission

4G LTE + GPS COMMUNICATION
MR154* module required
NB IoT + GPS COMMUNICATION
MR151* module required
CURRENT LOOP 4-20 mA
CL150* module required
RS232 COMMUNICATION (MODBUS included)
RS152* module required
RS485 COMMUNICATION (MODBUS included 2 or 4 wires)
RS154* module required

TRANSMISSION PROTOCOLS

PROTOCOL : HTTP, HTTPS, MQTT/TLP and MQTT/TLS
IP ADDRESS: Dynamic (DHCP) and Static
FORMAT : Sentilo, JSON, Ultralight 2.0, others (consult)

OPTIONS*:

FR150	Module for 1/3 octave band analysis from 6,3 Hz to 20 kHz
GA150	Module for audio files acquisition
MR154	Module for data transmission 4G LTE+GPS
MR151	Module for data transmission NB IoT+GPS
CL150	Analog output for 4-20mA current loop
RS152	Module for digital communication RS232
RS154	Module for digital communication RS485
BA150	Internal lithium battery for 24h cycles

APPLICATIONS

- Smart Cities sensing
- Noise surveillance networks (permanent monitoring):
  - Road and port infrastructures, Industrial activities, separate waste collection routes, control of works, ...
- Noise monitoring leisure areas:
  - Concerts, festivals, major events and exhibitions.
  - Sports events and racetracks.
- Generating noise maps and displaying in real time noise levels.
- Monitoring and assessment of noise reduction action plans.
- Recognition, detection and identification of sound sources.
- Declaration of smart tourist destinations (ITD).

The characteristics, technical specifications and accessories may be altered without prior notice