



ATomic-1

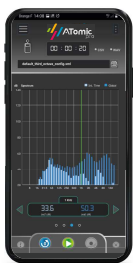
The portable solution
for noise measurement

● An innovative noise measurement solution

ATomic-1 solution is Alliantech's patented innovation that allows you to make easy and rapid metrologically perfect sound measurements.

Available to professionals and non-professionals, ATomic-1 solution works with your Windows PC/tablet or Android smartphone. Compact and ergonomic, it lets you monitor the sound level wherever you are and whenever you want. It is small enough to fit into your pocket.

Thanks to its two software applications, ATomic Pro (Acquisition) and ATomic Viewer (visualization), you own a complete portable measurement system. The ATomic-1 solution can be used with additional modules for your specific applications such as T60, FFT, etc. ATomic-1 is also compatible with other software and operating systems.



● A solution created for you !

Environmental measurements

ATomic-1 solution can be transported easily which means you can carry it everywhere and use in all situations. Thanks to its octave and 1/3 octave filters, you can make more detailed noise measurements for several environmental applications like: nuisance to neighbourhood noise, music venues noise, traffic-railroad-aircraft noise, industrial noise, etc.





Building measurements

The complementary module *Reverberation Time*, which is particularly easy to use, allows you to rapidly make T20, T30 or T60 measurements.

Thanks to appropriate indicators, visible from the moment you finish taking your measurements, you'll be sure of the quality of your results in situ and will increase your efficiency.

Health measurements in the workplace

Lightweight and easy to carry with you, ATomic-1 will allow you to make measurements at work stations (in accordance with the Decree of 19 July, 2006) but also workshop mapping. With its *Commentary* and *Coding* functions, you'll never miss an event again!



Make the most of its potential

The ATomic Pro software guarantees flawless metrological quality and ATomic Viewer lets you inspect your measurements in post-treatment. Therefore, you'll have a complete solution for your measurement reports at your service.

Nevertheless, the ATomic-1 is an open solution. Thanks to its design, ATomic-1 is compatible with professional software dedicated to audio equipment measurements like APx500 Flex or M+P Analyser Viewer, and with mainstream software dedicated to digital sound recording measurements like Audacity.

ATomic-1 is recognised by your Windows PC/tablet or Android smartphone as a USB device. It can be used by Windows, Linux, etc.

You are free to use its potential with your equipment and according to your imagination: some users have already created their own app.

And you, how will you use it ?

● Functionalities

Associated with the software suite ATomic Pro and ATomic Viewer, ATomic-1 is a true Class 1 sound level meter.

Several modes are available:

- Configuration mode : allows you to completely configure the system.
- Calibration mode : allows you to you calibrate the complete system thanks to the dedicated menu using a standard acoustic calibrator.
- Measurement mode : allows you to measure, store the data and the signal file with calibration values. The measurement flow is also stored in a LOG.csv file.
- The “calibrated” WAV format is a format in which metadata (header of the file) are used to memorize the information on the microphone enabling the calculation of the measurements in calibrated dB.
- Visualization mode (ATomic Viewer): allows you to you visualise the temporal evolution of the sound level, the spectrum, the mean and time weighted acoustic levels, etc.

● Keys features

ATomic-1 is both a preamplifier and a patented digital acquisition system. It allows you to make metrological quality acoustic measurements (Class 1, with suitable microphone), in accordance with the 61672-1 (Sound Level Meters) standard and to the IEC 61260-1 (octave and 1/3 of octave band filters).

Its key features are :

- Integration duration : multiple of 1 up to 9999 sec
- Time constants : Fast, Slow, Impulse & Peak
- Frequency weight : A-, C- & Z-weight
- Logging & global indicators: Lp, Leq, Lmax, Lmin*, Lpk (C- & Z-weight) + Spectra
- Frequency analysis: Octave (8Hz-16kHz), 1/3-Octave (6.3Hz-20kHz)
- Dynamic Range: 105dBA
- Reverberation Time: T60, T30, T20 with averaging, optional
- Narrow band analysis: FFT (0-20kHz), optional
- Configuration file: Parameters saved in XML-file
- Logbook file: LOG.csv file stores all relevant data to each measurement
- Options : RT60 and FFT

Detailed specifications

Number of channels		1
Standards		IEC 61672-1 (2013) Class 1 IEC 61260-1 (2014) Class 1
Microphone	Type : Sensitivity :	½", prepolarized, Free-Field 50mV/Pa
Frequency range (-3dB)		3 Hz – 23 kHz
Linearity Range (IEC61672) (with microphone GRAS 40AE)	A-weight : C-weight : Z-weight :	26 dBA to 131dBA 31 dBC to 131dBC 25 dBZ to 131dBZ
Sampling frequency		48 kHz
Audio record		WAV format, with calibration factors
Resolution		24 bit ADC
Frequency analysis	1/1-octave : 1/3-octave : FFT :	8 Hz to 16 kHz 6.3 Hz to 20 kHz 3 Hz to 20 kHz
Frequency weighting filters		A, C, Z
Time constants		S(Slow), F(Fast), I(Impulse) & Peak
Measured values		Lp, Leq, Lmax, Lmin*, Lpeak
Integration Time (IT)		1s to 9999s in 1s step
Time History stored values (IT)	S, F or I** S, F or I** S, F or I** Peak	LA, LC, LZ LAeq, LCeq, LZeq LAmx, LCmax, LZmax LAmin, LCmin, LZmin* LC, LZ
Electrical	Input range : Surge detection : Power : Start-Up :	+/-5 V (+/-15%) Yes 250mW ~ 5 seconds
Mechanical	Dimension : Weight :	L = 95mm, Ø = 12,70 mm 36 gram (without cable)
Connector	Microphone : USB :	Thread: 11,7mm – 50 UNS-2 USB C (plug-and-play)
Environmental	Temperature	-10 °C to 40 °C
OS Requirement		Windows ≥ 7 / Android ≥ 8
SW Application	Android : Windows :	ATomic Pro ATomic Pro / Viewer
Options	FFT : FFT : Reverberation Time :	Windows : 256 to 16384 lines Android : 256 to 4096 lines T20, T30, T60 & Average

* Lmin to be implemented in next release
** S, F and I measured in parallel planned for future release

Solution package



Associated accessories

Reference	Description
Microphone 40AE	1/2" Pre-polarized free field
Accessories	
AL0005	Swivel head for microphone clamp
AL0008	1/2" microphone holder
AM0069	Windscreen for 1/2" microphone Ø 9 cm
RA0504	GoPro adapter
AL0004	Light and compact tripod
AL0006	High-quality tripod
ATO-DIV003	Smartphone tripod support
ATO-DIV001	Semi-rigid pouch
Sound calibrator	
42AA	Pistonphone, class 1
42AG	Multi-frequency multi-level calibrator
SV33B	Class 1 Sound Calibrator (114dB @ 1000Hz)
SV36	Class 1 Sound Calibrator (94 or 114dB @ 1000Hz)
Cables	
ATO-CAB001	USB-C to USB
ATO-CAB001	USB-C to USB-C
AA0032	BNC - BNC - 0,5 m
AA0033	BNC - BNC - 1 m
AA0034	BNC - BNC - 2 m
AA0035	BNC - BNC - 3 m



Alliantech, specialized in the distribution of sensors and equipment made for instrumentation applications for dynamic measurements, was founded on September 27, 1999.

Since then, thanks to the experience of its teams, Alliantech has gained the trust of many suppliers and clients. Alliantech proposes a wide range of equipment for physical measurements such as : acceleration, acoustics, displacement, angular speed, tilt, force, coupling, pressure, temperature and current.

Furthermore, Alliantech works with you through complementary services including the design and manufacture of products following your specifications, wiring, after-sales services, software sales, calibration, preventive maintenance of equipment and repairs covered by warranty or not.

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