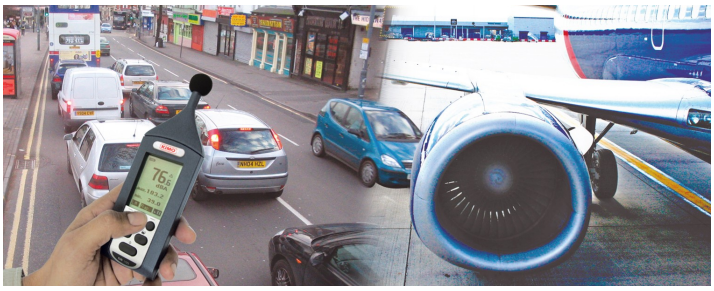
KIMO INSTRUMENTS

User Manual

Pressure • Temperature • Humidity • Air Velocity • Airflow • Sound level

DB 100 *Sound level meter*



*Livré avec écran anti-vent

Technical features

- ***Microphone***

Microphone.....prepolarised electret condenser.
Nominal sensitivity.....20 mV/Pa .

- ***Sound level meter***

Standards.....IEC 61672-1 Class 2 / IEC 60651 Class 2 / IEC 60804 Class 2
Measured parameters.....L_A and L_{Aeq}
Other displayed parameters.....L_{AFmax}, L_{AFmin}, L_{ASmax} , L_{ASmin}
Frequency weighting.....A
Measuring range.....30-130 dB
Time weighting.....slow, fast
Data integration time for L_{Aeq}.....from 1s to 15 min
Overload indicator.....detected at the peak sound-pressure level
Backlighted display.....graphic 128x64 pixels. Adjustable contrast.
Resolution.....0,1 dB
Reference direction.....microphone axis
Reference range.....30 - 130 dB
Reference level.....94 dB
Reference frequency.....1000 Hz

- ***Environmental effects***

Storage relative humidity..... 95 % RH max.
Storage temperature.....from 0 °C to + 50 °C.
Operating temperature.....from -10 °C to + 50 °C.
Humidity dependence.....in accordance with standard between 30 and 90%RH, reference being at 65%HR and 40°C.
Static pressure dependence.....According to class 2 requirements
Standards.....IEC 61672-1 / IEC 61651 / IEC 60804
Electromagnetical compatibility.....As per 89/336/CEE guideline

- ***Power supply***

Batteries.....3 AAA or rechargeable batteries
(Rq: rechargeable batteries must not be recharged inside the instrument)
Battery life (at 20°C).....30 hours min (with alkaline batteries)

- ***Ouput***

DO NOT PLUG USB cable. The output **is not USB** compatible, the plug is maintenance- and optional accessory-specific.

Description

DB 100 sound level meter is reliable, easy to use and in accordance with metrology requirements. DB100 can measure :

- **Sound-pressure level**
- **Time averaged or equivalent continuous sound pressure level**

- ***Sound-pressure level L_A***

as per two weighting times FAST or SLOW

To be used for stable or slightly fluctuating sound sources. Sound-pressure level (L_A) unit is **dBA** and L_{Amax} and L_{Amin} values are saved.

- ***Time averaged sound level L_{Aeq}***

To be used for **fluctuating** sound sources.
Time averaged sound level (L_{Aeq}) unit is **dBA** with a programmable integration time in minutes and seconds.

CTL 100

Automatic check of sound level meter

CE

Principle of automatic check

- ***Initial check***

  To be carried out at the delivery, when instrument is new and calibrated (laboratory or manufacturer) or after periodic calibration procedure, or after repair.

- ***Frequent check***

  *To be carried out **BEFORE** :*
  - each measurement dataset

  *To be carried out **AFTER** :*
  - an impact applied on the instrument,
  - storage in extreme environment (high temperature, wet environment etc...)
  - a long period of storage

Working principle

CTL100 gives a stable acoustic signal **90 dB at 1000Hz**, automatically delivered once plugged to the sonometer. The user shall write down the **LA value**, fast (F) or slow (S) displayed on the sound level meter.
The sound level meter value and the CTL100 reference value must not exceed **90 dB ± 2dB** difference.
In case of greater difference, the sound level meter shall be returned to Customer Service Department.

Note : *The sound level meter can not be calibrated with the CTL100. An acoustic calibrator must be used to calibrate sound level meters or the instrument can be sent to specialized laboratories or Customer Service Department.* ***CTL100*** *works only for* ***DB100****.*

Operating procedure :

1.	Connection	Connect **CTL100** to the sound level meter plug (on the left side)
2.	Place **CTL100**	Place the DB100 inside CTL100 cavity until you reach the bottom
3.	Check	Monitor the sound level value displayed on the sound level meter until measurement stabilization and write down the value
4.	Compare	Compare displayed value : **90,5 dB*** with the writen value : **90,2 dB***
5.	Decision	a- If the difference is **smaller** than ±2 dB : → ***The sound level meter is ok*** b- If the difference is **greater** than ±2 dB : → ***The sound level meter requires overhaul***

*example

*Sound level meter supplied separately

Presentation

The automatic check consists in comparing sound level meter value with level produced by **CTL100**. The principle allows to periodically check sound level meter performance, especially the microphone performance which is the sensing element of the instrument.
CTL100 can not replace an acoustic calibrator which must be used for sound level meter calibration.

Technical features

- ***Emission***
  Frequency.....1000 Hz ± 5%
  Level.....90 dB ± 1dB
  Stability.....< 0.5 dB
- ***Automatic power supply***
  When being connected to the sound level meter
- ***Environment***
  Operating temperature.....from +5 °C to + 40 °C
  Pressure.....1013 hPa ± 10%
  Storage relative humidity..... 80 % RH max.
  CE labelling.....As per 89/336/CEE guideline
- ***Dimensions***
  Dimensions (Without cable).....140 x 28 x 25 mm
  Weight.....50 g