



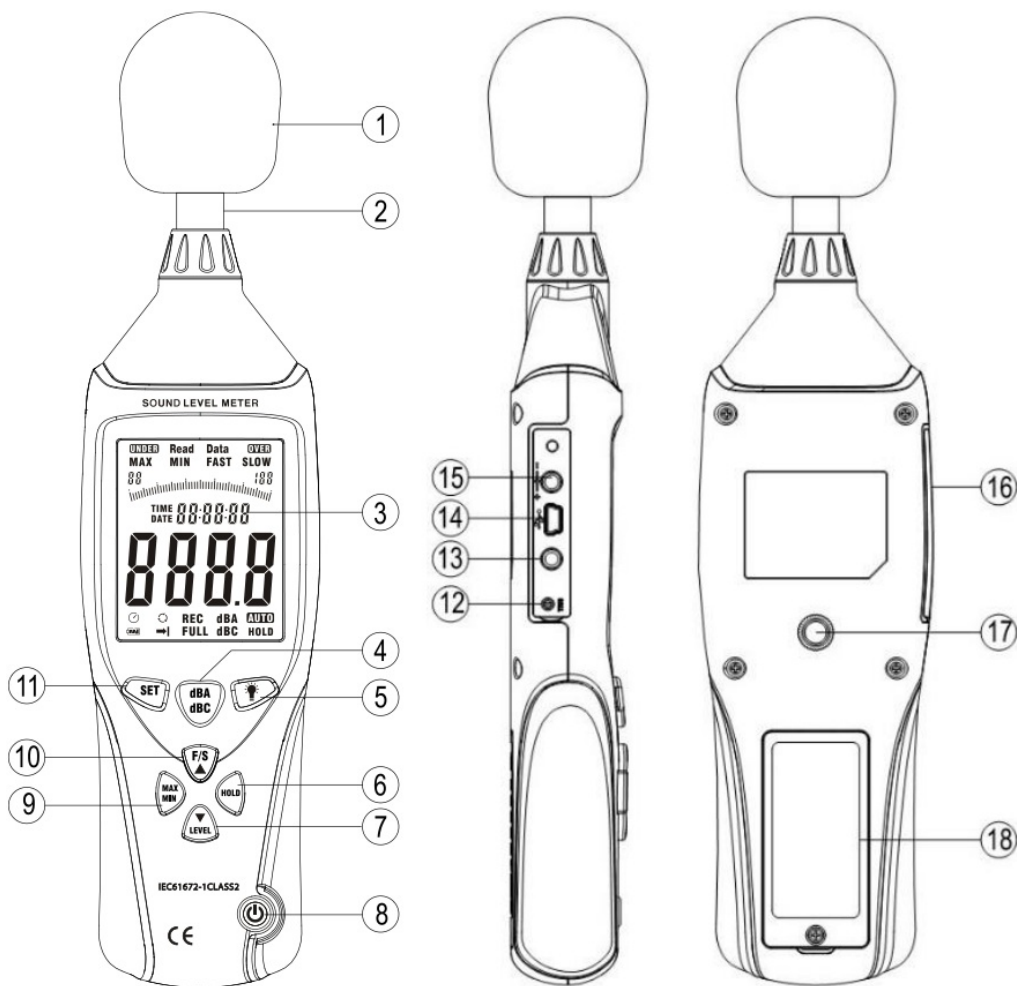
## velleman DEM202 Professional Sound Level Meter Datalogger User Manual

[Home](#) » [Velleman](#) » velleman DEM202 Professional Sound Level Meter Datalogger User Manual 

velleman DEM202 Professional Sound Level Meter Datalogger User Manual



Our sonometers are for indicative measurements only. They are not compliant with IEC 61672-1 electro-acoustic international standard, so they cannot be used for official measurements.



## Contents

- [1 Introduction](#)
- [2 Safety Instructions](#)
- [3 General Guidelines](#)
- [4 Features](#)
  - [4.1 Overview](#)
  - [4.2 Battery](#)
  - [4.3 Operation](#)
  - [4.4 Software](#)
  - [4.5 Cleaning and Maintenance](#)
  - [4.6 Technical Specifications](#)
- [5 Documents / Resources](#)
  - [5.1 References](#)
- [6 Related Posts](#)

## Introduction

**To all residents of the European Union**  
**Important environmental information about this product**








This symbol on the device or the package indicates that disposal of the device after its lifecycle could harm the environment. Do not dispose of the unit (or batteries) as unsorted municipal waste; it should be taken to a specialized company for recycling.

This device should be returned to your distributor or to a local recycling service. Respect the local environmental rules.

**If in doubt, contact your local waste disposal authorities.**

Thank you for choosing Velleman! Please read the manual thoroughly before bringing this device into service. If the device was damaged in transit, do not install or use it and contact your dealer.

## Safety Instructions

	Keep this device away from children and unauthorized users.
	Keep this device away from rain, moisture, splashing and dripping liquids.
	Protect this device from shocks and abuse. Avoid brute force when operating the device.
	Protect the device against extreme heat and dust.
	There are no user-serviceable parts inside the device. Refer to an authorized dealer for service and/or spare parts.

## General Guidelines

Refer to the **Velleman® Service and Quality Warranty** on the last pages of this manual. Familiarise yourself with the functions of the device before actually using it.

- All modifications of the device are forbidden.
- Only use the device for its intended purpose. Using the device in an unauthorised way will void the warranty.

## Features

- normal and peak mode
- max and min measurements

- over-range display
- manual and automatic start mode
- A and C weighting
- fast and slow response
- analogue AC/DC outputs for connection to frequency analyzer or X-Y shaft recorder
- PC real-time monitoring and recording
- datalogger function
- memory up to 262144 readings




## Overview

Refer to the illustrations on page 2 of this manual.

<b>1</b>	windscreen		<b>10</b>	response time button
<b>2</b>	microphone		<b>11</b>	setting button
<b>3</b>	LCD display		<b>12</b>	sound level calibration
<b>4</b>	A/C weighing button		<b>13</b>	earphone socket
<b>5</b>	backlight button		<b>14</b>	USB socket
<b>6</b>	data hold button		<b>15</b>	external power supply
<b>7</b>	range button		<b>16</b>	dustproof cover
<b>8</b>	on-off button		<b>17</b>	tripod socket
<b>9</b>	MIN/MAX button		<b>18</b>	battery compartment


## Display

MAX	maximum recorded value
MIN	minimum recorded value
OVER	input value is higher than upper limit
UNDER	input value is lower than lower limit
FAST	fast response mode
SLOW	slow response mode
dBA	A weighing frequency
dBC	C weighing frequency
88 ~ 188	range display
TIME	current time
DATE	current date
AUTO	auto range selection
HOLD	data hold
REC	data recording
FULL	full memory

	auto power-off
	battery level
	real-time communication

## Battery

1. To replace the battery, make sure the device is switched off.
2. Open the battery compartment at the back using an appropriate screwdriver.
3. Take out the old battery and replace with a new and identical 9 V battery following the polarity markings inside the compartment.
4. Close the battery compartment.

	<b>Warning:</b> Do not puncture batteries or throw them in fire as they may explode. Do not attempt to recharge non-rechargeable batteries (alkaline). Dispose of batteries in accordance with local regulations. Keep batteries away from children.
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## Operation

## Basic Operation

1. Press the on-off button for 1 second to switch on the meter.
2. Briefly press the backlight button to switch the backlight on or off.
3. Press the A/C weighing button to select the A or C weighing frequency.
4. Press the fast/slow button to select the fast (1 sample/125 ms) or slow (1 sample/1 s) weighing mode.
5. Press the range level button to select the range level.
6. Aim the microphone to the sound source at a distance of 1 to 1.5 m.  
The sound level appears on the display.
7. Briefly press the data hold button to freeze the reading on the display. Press again to unfreeze.
8. Press the MIN/MAX button to display the recorded maximum value, briefly press to display the recorded minimum value, press again to exit the function.
9. Press the on-off button for 3 seconds to switch off the meter.

## Setting Date and Time

1. To enter the date and time setting mode, hold the setting button pressed while switching on the meter.
2. Set the time and date with the up/down button, go to the next item with the setting button.
3. Press the data hold button to confirm and to exit the mode.
4. In normal mode, press the setting button to toggle between time and date display.

## Recording

1. In normal mode, hold the setting button pressed for 3 seconds to enter the recording mode.
2. The meter starts recording automatically and stops when the memory is full.
3. Clear the memory before recording again, as recording cannot be resumed as long as memory is full. Go to the 8.5 Datalogger section below for more information.
4. Hold the setting button pressed for 3 seconds to exit the recording mode.

### Remarks:

- It is advisable to use the external power supply to avoid the meter from switching off due to a drained battery.

## Calibration

1. Select the A-weighing frequency, fast sampling rate and a level range from 50 to 100 dB.
2. Carefully insert the microphone into the calibrator (not included).
3. Calibrate the microphone to 94 dB through the CALL potentiometer. To do so, use the included calibration tool.

### Remarks:

- It is advised to calibrate the meter once a year.

## Software

## Installation

1. Download the software from the [www.velleman.eu](http://www.velleman.eu) website. Unzip the software and double-click the setup.exe file.

(i) Direct link:

<https://www.velleman.eu/support/downloads/?code=DEM202>

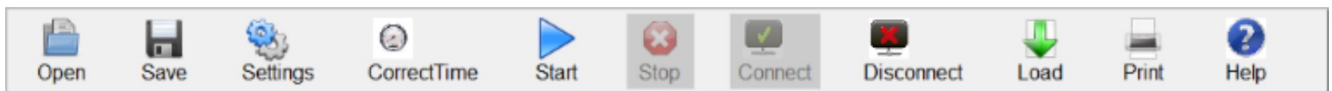
2. Scan QR code:

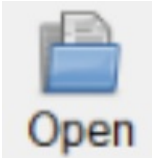
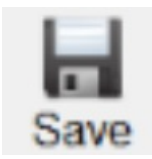

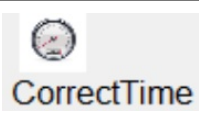



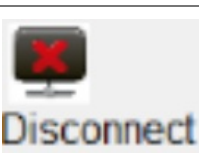



3. Follow the installation steps and install the software.

## Introduction

1. Click on the software icon to run the software.
2. Connect the meter to the PC using the included USB cable.
3. After having started up the software, the menu and toolbar appear.



 Open	open a saved data file
 Save	save a data file
 Settings	settings
 CorrectTime	time setting
 Start	start real-time data recording
 Stop	stop real-time data recording
 Connect	connection with user's PC
 Disconnect	disconnection from user's PC
 Load	upload the recorded data onto the us

4. Click the connection icon to connect the meter to your PC.
5. To use the software correctly, it is advised to synchronize both the date and time on the meter and on the PC.  
To do so, click the time setting icon.

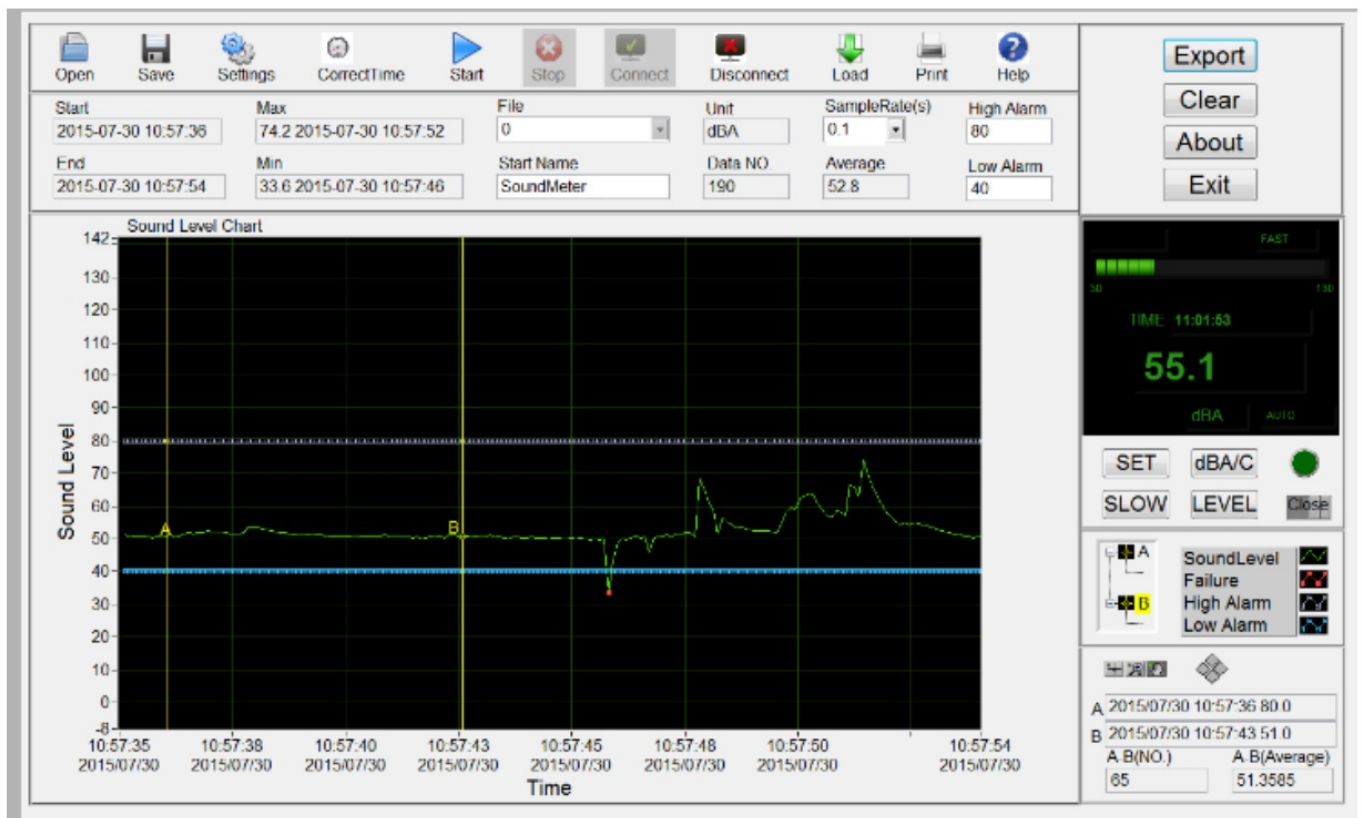
### Real-Time Recording



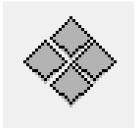
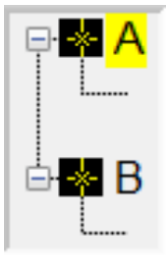
Start 2014-08-03 12:51:55	Max 6553.5 2014-08-03 12:52:	File StartTime:2014-08-	Unit dBA	SampleRate(s) 1	High Alarm 80
End 2014-08-03 12:52:14	Min 0.1 2014-08-03 12:52:03	Start Name SoundMeter	Data NO. 20	Average 2047.3	Low Alarm 40

Start	measurement starting time
End	measurement ending time
File	data list with recorded files
MAX	maximum recorded value
MIN	minimum recorded value
Unit	measurement unit
Data NO.	data number
Sample Rate(s)	sample rate
Average	average recorded value
High Alarm	upper limit alarm
Low Alarm	lower limit alarm
Start Name	file name

## A/B Graph



Detailed view of the recorded values is done with markers. These markers limit the value range, which in turn can be enlarged and viewed in detail. To determine the markers:



1. Go to the markers window and select the A marker by clicking it. The selected marker will be highlighted in yellow.
2. Place the mouse cursor at the starting point in the graph window and left-click to set the marker. Click the diamond button to move your marker.
3. Do the same for marker B and set the ending time.
4. Detailed values are displayed in the bottom lefthand corner of the screen.

### Datalogger Setup

A screenshot of the 'Settings' dialog box for a datalogger. The dialog box has a title bar with 'Settings' and a close button. Inside, there is a central panel with several settings: 'SampleRate (1-36000 Sec)' with a value of '1' and a spinner; 'Time Format' with a dropdown menu showing 'YY-MM-DD'; 'DateTime' with a text field showing '2015-07-30 11:16:20'; 'Model' with a dropdown menu showing 'MANUAL'; and 'Record' with a dropdown menu showing 'ONE TIME'. At the bottom of the central panel are 'OK' and 'Cancel' buttons.

Set the sample rate, date and time. Other options can be set the same as the default settings.

## Download

Upload the recorded data from the meter to your PC.

## Clearing the Memory

Clear the recorded data in the meter. All data will be permanently erased, so you might want to upload the data to your PC first.

## Remarks:

- To save battery, click the disconnection icon to disconnect the meter after use and switch off the meter.

## Cleaning and Maintenance

- Wipe the device regularly with a moist, lint-free cloth. Do not use alcohol or solvents. **DO NOT** submerge the device in any liquid.
- Store the meter in a dry place away from humidity and vibrations.
- Remove the battery when the meter is to be stored for long periods of time.

## Technical Specifications

accuracy		$\pm 1.4$ dB
frequency range		31.5 Hz to 8 kHz
dynamic range		50 dB
measuring range		30 dB to 130 dB
data memory (measuring points)		262144
sampling rate		2x / sec.
frequency weighting		A, C
time weighting		
	fast	125 ms
	slow	1 s
microphone		1/2" electret condenser microphone
data output		USB
power supply		1x 9 V battery 6F22 (incl.)
optional power supply		PSSMV1 9 V, 1.3 A connector: 1.35 x 3.5 mm
operation temperature/humidity		-20° C ~ 60° C (-4° F ~ 140° F) 10 % ~ 90 % RH
operating altitude		< 2000 m
storage temperature/humidity		-20° C ~ 60° C (-4° F ~ 140° F) 10 % ~ 75 % RH
dimensions		252 x 66 x 33 mm
weight (with battery)		258 g

Use this device with original accessories only. Elliman nv cannot be held responsible in the event of damage or

injury resulting from (incorrect) use of this device. For more info concerning this product and the latest version of this manual, please visit our website [www.velleman.eu](http://www.velleman.eu). The information in this manual is subject to change without prior notice.

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**The copyright to this manual is owned by Velleman nv . All worldwide rights reserved.** No part of this manual may be copied, reproduced, translated or reduced to any electronic medium or otherwise without the prior written consent of the copyright holder.

#### **Velleman® Service and Quality Warranty**

Since its foundation in 1972, Velleman® acquired extensive experience in the electronics world and currently distributes its products in over 85 countries.

All our products fulfil strict quality requirements and legal stipulations in the EU. In order to ensure the quality, our products regularly go through an extra quality check, both by an internal quality department and by specialized external organisations. If, all precautionary measures notwithstanding, problems should occur, please make appeal to our warranty (see guarantee conditions).

#### **General Warranty Conditions Concerning Consumer**

##### **Products (for EU):**

- All consumer products are subject to a 24-month warranty on production flaws and defective material as from the original date of purchase.
- Velleman® can decide to replace an article with an equivalent article, or to refund the retail value totally or partially when the complaint is valid and a free repair or replacement of the article is impossible, or if the expenses are out of proportion.

You will be delivered a replacing article or a refund at the value of 100% of the purchase price in case of a flaw occurred in the first year after the date of purchase and delivery, or a replacing article at 50% of the purchase price or a refund at the value of 50% of the retail value in case of a flaw occurred in the second year after the date of purchase and delivery.

- **Not covered by warranty:**
  - all direct or indirect damage caused after delivery to the article (e.g. by oxidation, shocks, falls, dust, dirt, humidity...), and by the article, as well as its contents (e.g. data loss), compensation for loss of profits;
  - consumable goods, parts or accessories that are subject to an aging process during normal use, such as batteries (rechargeable, non-rechargeable, built-in or replaceable), lamps, rubber parts, drive belts... (unlimited list);
  - flaws resulting from fire, water damage, lightning, accident, natural disaster, etc....;
  - flaws caused deliberately, negligently or resulting from improper handling, negligent maintenance, abusive use or use contrary to the manufacturer's instructions;
  - damage caused by a commercial, professional or collective use of the article (the warranty validity will be reduced to six (6) months when the article is used professionally);
  - damage resulting from an inappropriate packing and shipping of the article;
  - all damage caused by modification, repair or alteration performed by a third party without written permission by Velleman®.
- Articles to be repaired must be delivered to your Velleman® dealer, solidly packed (preferably in the original packaging), and be completed with the original receipt of purchase and a clear flaw description.
- **Hint:** In order to save on cost and time, please reread the manual and check if the flaw is caused by obvious causes prior to presenting the article for repair. Note that returning a nondefective article can also involve handling costs.


- Repairs occurring after warranty expiration are subject to shipping costs.
- The above conditions are without prejudice to all commercial warranties.

The above enumeration is subject to modification according to the article (see article’s manual).

Made in PRC

Imported by Velleman Group nv Legen Heirweg 33, 9890 Gavere, Belguim [www.velleman.eu](http://www.velleman.eu)

Documents / Resources

	<a href="#">velleman DEM202 Professional Sound Level Meter Datalogger</a> [pdf] User Manual DEM202, DEM202 Professional Sound Level Meter Datalogger, Professional Sound Level Meter Datalogger, Sound Level Meter Datalogger, Level Meter Datalogger, Meter Datalogger, Datalogger
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References

- [V Velleman “ Wholesaler and developer of electronics](#)
- [V Velleman “ Wholesaler and developer of electronics](#)
- [V Downloads “ Support “ Velleman “ Wholesaler and developer of electronics](#)
- [User Manual](#)