Measurement
Technology

MACView®
Portable III TOC
User Manual

This user manual provides al kind of information of the MAC***View***® Portable III TOC. It contains important information about use and maintenance. Watch it, even if you pass this product to third parties. It is assumed that you have some basic knowledge on how to use and control the devices.

Keep these instructions carefully

1 Introduction

Dear valid customer, with this MAC***View***® Portable III TOC you bought a product which is designed en manufactured using latest technical developments and manufacturer methods. The MAC***View***® Portable III TOC is specially build and designed for TOC measurement. The MAC***View***® Portable III TOC is able to measure TOC in a range from zero to 500 PPM.

This product meets the requirements of applicable European and National CE Directives. Compliance has been recorded. Related documents are open for public inspection at the manufacturer.

CE

EC declaration of type conformity
Déclaration CE de conformité au type

To ensure general safety and ensure safety of use, you are to comply with this manual!

For questions, find our contact details at the back side of this user manual.

Table of contents

2 Product overview

The MAC***View***® Portable III TOC is a portable measuring device that allows you, when used properly, to maximize your personal safety. Therefore it is wise to carefully read this manual and to apply the knowledge in practice before you getting started with your MAC***View***® Portable III TOC.

Attention!

When recharging the MACView® Portable III TOC, only use the included adapter socket! For more information about charging see section 3.7 "Charging".

2.1 Storage and transportation conditions

The allowable storage temperature is: +5 ° C ... +40 ° C
41 ° F. .. +104 ° F

After unpacking the instrument you must immediately check for visual damage or rough handling during transportation. If so, then you should contact your supplier.

2.2 Environmental conditions

The MAC***View***® Portable III TOC is designed to provide a reliable measurement under normal conditions in laboratory and industry. Therefore, look to the place where the MAC***View***® Portable III TOC is taken with you. Below you find a summary of details (more details see chapter 3.3 "The sensor and the environment"):
- The MAC***View***® Portable III TOC is not a highly corrosive chemical, wet, heavily polluted environment to stand for long time.
- The sensors in the MAC***View***® Portable III TOC must be handled carefully.
- Avoid heavy shocks or continuous vibration.
- Avoid prolonged exposure to high temperatures and direct sunlight.
- Avoid ingress of moisture or precipitation of moisture for example: condensation.

3 Using the MAC*View*® Portable III TOC

3.1 General

In figure 1 the names are given of the parts en buttons of the MAC***View***® Portable III TOC.

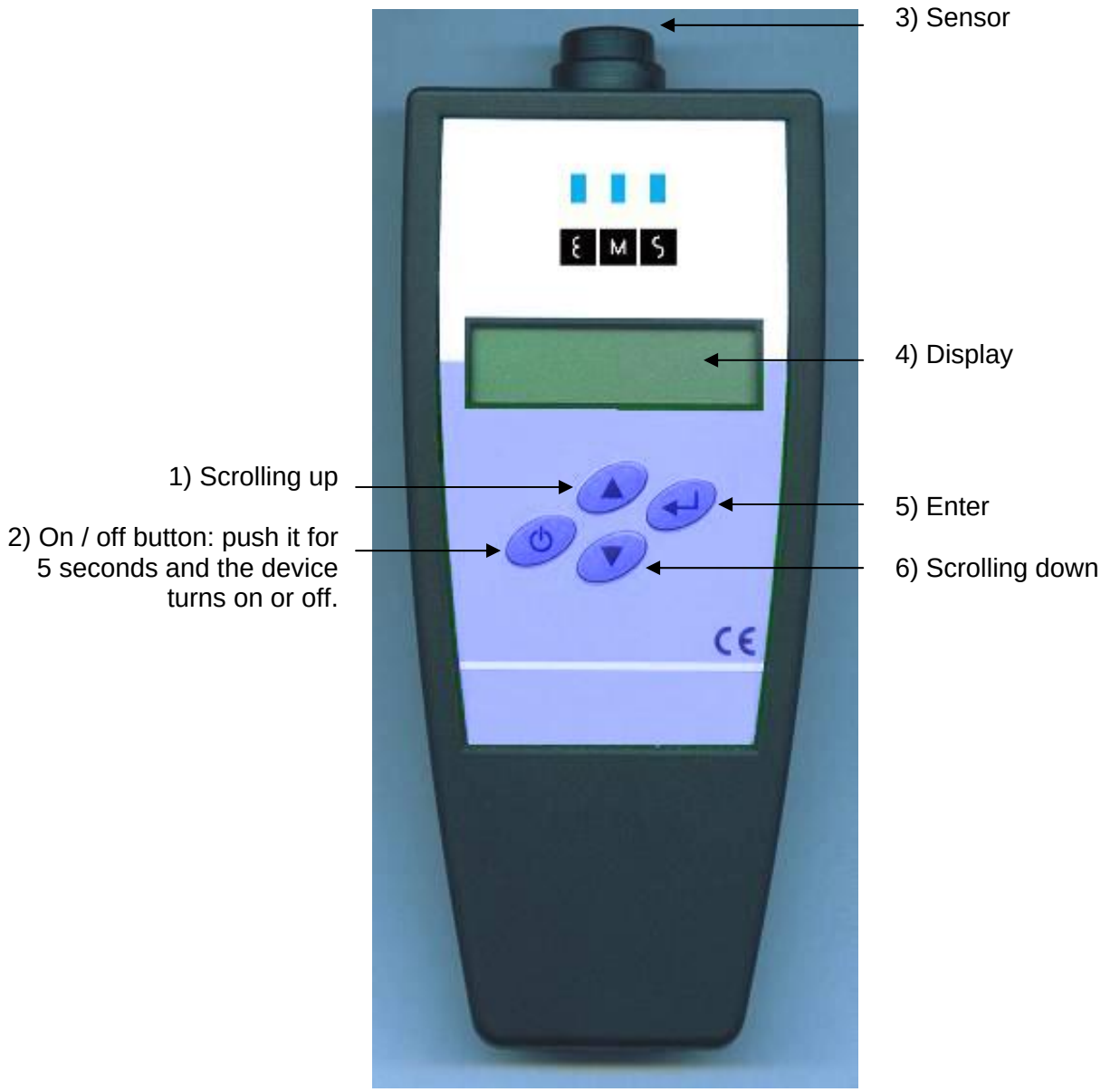

Figure 1: Names of parts and buttons of the MAC***View***® Portable III TOC**.**

The MAC***View***® Portable III TOC can be worn on the waistband or a pocket. Note that the sensor (Figure 1 Number 3) is oriented in space properly where emissions can be measured well. Condition is that there should be good considering how the MAC***View***® Portable III TOC is worn

3.2 Turning on and Warming up

To start the MAC***View***® Portable III TOC, press and hold the on / off button (Figure 1 Number 2) for 5 seconds. After several seconds the display shows "Warming up sensor ...". In this phase, the initialization is done and the zero point determined. This means that the sensor is heated. This takes about 3 minutes. This phase prevents that erroneous measurements are taken and unnecessary alarms are given.

Important !!!

In this phase, a determination of the zero point is done. There are no measurements done with the MACView® Portable III TOC so you may not use it in a zone with MAC value risks!

Failure to follow the following paragraphs will affect the results negative!!!

The MAC***View***® Portable III TOC must during this phase of initialization and zeroing, be put in **a clean room where there are no solvents or other gases in the air**, preferably adjacent to the space to be measured. If measurements are carried out in an indoor environment, the MAC***View***® Portable III TOC may NEVER start in an outdoor environment. Conversely, if the MAC***View***® Portable III TOC is used outdoors, it may NEVER start indoors, but that should be done outdoors.

It is recommended to turn off and on again the MAC***View***® Portable III TOC during coffee breaks and lunch. The zero point determination will be redone and the accuracy of the measurements are guaranteed.

After 3 minutes of zero initialization and determination, the measured value is expressed in PPM on the display and the MAC***View***® Portable III TOC can be use. From now on the measured data is stored.

The MAC***View***® Portable III TOC can be turned off by pressing and hold the On / Off button for 5 seconds. The display turns off. Stored data is preserved, and the internal clock keeps running.

3.3 The sensor and the environment

Important!!!

For the MACView® Portable III TOC, the following rules must be observed.

- If the MAC***View***® Portable III TOC operates in a dirty environment, the MAC***View***® Portable III TOC have to be cleand after contamination (eg by spraying paint). It is in particular that the internal sensor is not polluted. This can be regularly checked by determining whether the housing of the MAC***View***® Portable III TOC is free of dust and / or clean. If the sensor is dirty, well operation is not guaranteed.
- The measurement accuracy of the MAC***View***® Portable III TOC is best guaranteed when the sensor (hence the MAC***View***® Portable III TOC) is turned on continuously.

The following situations **must be** avoided:

Exposure to silicone vapors.
- If silicone vapors are absorbed on the surface of the sensor, the sensor will permanently lose its sensitivity. Avoid contact with silicone solvents such as hairsprays, or were silicone / rubber is used.

Highly corrosive environments.
- Exposure to highly concentrated corrosive material such as H2S, SOx, Cl2, HCl, etc. for extended periods. By exposure to these substances the tiny wires in the sensor can break.

Contact with alkaline metals.
- The sensor will drift when it is exposed to alkaline metals, such as salt water. This will also happen if the sensor is exposed to inorganic elements.

Contact with water or liquid chemicals.
- The sensor will drift if the sensor is immersed or sprinkled with water or chemicals in the form of liquids. This should be avoided.

Freezing.
- If water freezes on the surface of the sensor, it will cause permanent damage to the sensor. The internal sensor material is cracking.

The following situations should be avoided wherever possible:

Condensation of water.
- Slight condensation of water inside is no problem for the properties and functioning of the sensor. Only if the water condenses for a long time, the sensor will drift.

Use in a gas with very high density.
- The sensor will be affected If it is exposed to a high concentration of gas, for a long time.

Use in extreme conditions.

- The use of the sensor in extreme conditions is highly inadvisable. The sensor will differ. Examples are: extreme high humidity, high temperatures or high gas concentrations for a long period of time.

Shocks.
- Very strong shocks should be avoided. The tiny wires inside the sensor may break.

3.4 Alarmeringen

If during normal operation the sensor detects an exceeding gas concentration, an alarm is generated. The buzzer provides an audible alarm and the display flashes. Also, the measured value is presented on the display and is stored in memory with date and time value. The alarm lasts as long the measured value has dropped below the alarm value.

3.5 Instellen van Alarmsetpoint

Press enter and scroll down to menu item "Alarm setpoint". Press enter. Use the scroll buttons to select the desired alarm setpoint. Press enter. Press the scroll button down so that "accept" is selected and press enter again. The alarm setpoint is set.

3.6 Aanpassen datum en tijd

Press enter and scroll down to menu item "Date Time". Press enter. Use the scroll buttons to select the date to set. The enter button takes you to the next block numbers. After setting all the numbers, press enter. Press the scroll button down so that "accept" is selected and press enter again. The date and time are set.

3.7 Charging

With the MAC***View***® Portable III TOC a socket adapter is included. **When recharging the MACView® Portable III TOC only use your PC or the included socket adapter.** Inside the MAC***View***® Portable III TOC a high quality Lithium Poliflex battery is available. This may only be recharged with your PC or the included wall socket recharging adapter. If this is not done, the battery is permanently damaged.

The battery symbol in the top right of the display of the MAC***View***® Portable III TOC indicates the charging level of the battery. If the symbol is completely black, then the battery is recharged.

If the battery MAC***View***® Portable III TOC is empty, the MAC***View***® Portable III TOC turns off by itself.

4 Reading out the MACView® Portable III TOC using your PC

4.1 Software installation

The computer connector (USB connector) is located on the bottom side of the MAC***View***® Portable III TOC. With the accompanying software the MAC***View***® Portable III TOC can be connected to a PC. The software package includes a CD-ROM with software and an associated communication cable. Install the CD by following the instructions on the screen. After installation you find a shortcut on your desktop named “Portable III TOC”.

4.2 The stored data

Periodically, the measurements are stored in the memory of the MACView ® III Portable TOC.

The interval can be set using the supplied software. The interval can be set in a range of 1 to 999 seconds. For example, using an interval of 5 seconds will result in a written measurement to the memory every 5 seconds. The gas measurements itself take place continuously and are not dependent on the interval value.

Following parameters are stored:

- Set Point Alarm concentration
- Measured gas concentration
- Date
- Time

Using the included software the memory can be read. If the memory is read, the memory will be cleared automatically. This means that you can read out the data only once. Renewed read out of the memory is useless because there is no data available anymore. The stored measurements are reflected in the software. All data is stored in a Microsoft Access database. Using the software, this data can easily be converted to any format. (Microsoft Excel, Word, text, email, etc.).

5 Removal

Remove a product that became unusable in accordance with applicable laws! This product, accessories and packaging should be recycled in an environmentally friendly way. Remove the MAC***View***® Portable III TOC itself only as chemical waste. You can also offer it to Environmental Monitoring Systems (EMS) B.V.. They take care for proper disposal.

6 Accessory included

- MAC***View***® Portable III TOC software, a software application for storing and examine measured data. This application runs on a PC with Windows® XP and Windows® Vista. One free USB port must be available.
- Socket adapter for recharging the MAC***View***® Portable III TOC.
- USB cable.
- This manual.

7 Service and Maintenance

Regularly service to your MAC***View***® Portable III TOC will prolong the life of the instrument and increases accuracy. Through natural aging of the sensor, it useful to regularly calibrate your MAC***View***® Portable III TOC. For more information, please contact your dealer.

- The product and the display window can be cleaned with a soft, moist cloth.
- We advice you to calibrate your Portable III TOC once a year.
- We advice you to replace the TOC sensor every three years.

You also can get a service contract with Environmental Monitoring Systems (EMS) B.V.. Ask for the terms and conditions and a concept of the contract. You can find the contact details below.

Maintenance Service:

Environmental monitoring
Systems (EMS) B.V.
http://www.macview.nl
info@macview.nl
Tel. +31 (0)166 657200
Fax. +31 (0)166 657210

8 Overview of technical characteristics of the MACView® Portable III TOC

Technical data

Measurement Range:	0 – 500 ppm
Material Case:	ABS
Weight:	175 grams
Size	180x75x45 mm
Initialisation time at startup:	300 seconds
Zeroing:	Automatically during start up
Signalling of Alarm:	Accoustic via Buzzer
	Visual via Display by flashing Backlight
Accu:	Lithium Polyflex
Charger:	Mains adapter or USB
PC communication:	USB

Available options

- Service contract for maintaining your MAC***View***® Portable III TOC.
- Cradle (wall mount version)

Warranties

Environmental Monitoring Systems (EMS) B.V. guaranties that this product is free of construction and/or material errors, for the duration of 1 year starting from the date of purchase. This warranty only applies to the first owner of this product and is not transferable. This warranty expires immediately in case of damage by accidents, neglect, abuse, modifications, improper and/or careless use or use for which the product is not intended. Resellers are not authorize to extend the warranty on behalf of Environmental Monitoring Systems (EMS) B.V.. To claim warranty during the period that the warranty is valid, you are to contact Environmental Monitoring Systems B.V..

Imprint

This manual is a publication of Environmental Monitoring Systems (EMS) B.V..

Reference: G:\ems\Products\102211 - 102212 (Ethyleen Analyser)\Documentatie
Author: Lammert Boerman
Productnaam: Portable III TOC
Version: 1.0
State: final
Date: 14-09-2011

Version	Date	Changes
1.0	14-09-2011	Initial version

Measurment
Technology

Environmental Monitoring Systems (EMS) B.V.
http://www.macview.nl