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Instructions for use

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# Dräger Alcotest<sup>®</sup> 7510 MBRS

Breath Alcohol Monitor





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## 1 Safety-related information

- Before using this product, carefully read these instructions for use and those of the associated products.
- The device is not to be serviced or repaired by any person not employed or authorised by Dräger or by the Medical Bureau of Road Safety (MBRS). All repairs are to be carried out by either the MBRS, Dräger or by a third Party authorised by either Dräger or the MBRS.
- Strictly follow the instructions for use. The user must fully understand and strictly observe the instructions. Use the product only for the purposes specified in the intended use section of this document.
- Do not dispose of the instructions for use. Ensure that they are retained and appropriately used by the product user.
- Only trained and competent users are permitted to use this product.
- Comply with all local and national rules and regulations associated with this product.
- Use only genuine Dräger spare parts and accessories, or the proper functioning of the product may be impaired.
- Do not use a faulty or incomplete product, and do not modify the product.
- Notify Dräger in the event of any component fault or failure.

### Safe coupling with electrical devices

Electrical connections to devices which are not listed in these instructions for use should only be made following consultation with the respective manufacturers or an expert.

### Not for use in areas of explosion hazard

This device is neither approved nor certified for use in areas where combustible or explosive gas mixtures are likely to occur.

## 2 Conventions used in this document

### 2.1 Definitions of alert icons

The following alert messages are used in this document to provide and highlight areas of the associated text that require a greater awareness by the user. A definition of the meaning of each alert message is as follows:



#### CAUTION

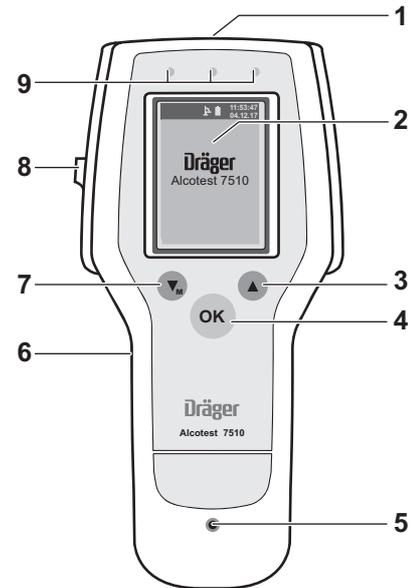
Indicates a potentially hazardous situation which, if not avoided, could result in physical injury. It may also be used to alert against unsafe practices.

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## 3 Description

### 3.1 Product overview

- 1 Mouthpiece receptacle
- 2 Display
- 3 ▲ - key (UP)
- 4 ○ - key (ON/OFF, Confirm)
- 5 Opening to the audible alarm
- 6 USB connection
- 7 ▼ - key (DOWN/MENU)
- 8 Mouthpiece ejector  
at right or left dependent on the mouthpiece receptacle
- 9 LED red, yellow, and green



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## 3.2 Intended use

### Dräger Alcotest<sup>®1)</sup> 7510 MBRS

- Breath alcohol measuring device for the fast determination of the presence of alcohol in breath.
- For portable, battery-powered operation.

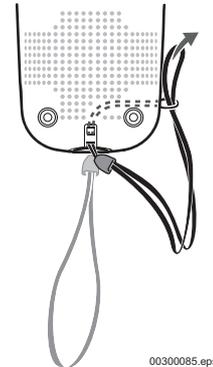
### The Alcotest 7510 MBRS is factory-equipped with the following options:

- with GPS (Global Positioning System) for the satellite-based determination of the device location.
- Mouthpiece receptacle on the right-hand side of the "Standard" mouthpieces.

## 4 Use

### 4.1 Installing the wrist strap

1. Guide the mounting strap (thin section) of the wrist strap through the housing drills on the underside of the measuring device and form a loop.
2. Pull the thicker section of the wrist strap through the formed eye.



1) Alcotest<sup>®</sup> is a registered trademark of Dräger.

## 4.2 Symbols

According to the device status, the following symbols are displayed in the top row, next to the time and date information (one below the other on the right side)



There is a fault



There is a warning



The device is communicating with a PC



Database is 90 % full



Database is 100 % full, no more data can be stored



Database is 100 % full and will be overwritten with new data



GPS system active (only on devices with GPS system)



Battery or charge state of rechargeable battery: full



Battery or charge state of rechargeable battery:  $\frac{2}{3}$  full



Battery or charge state of rechargeable battery:  $\frac{1}{3}$  full



Battery or charge state of rechargeable battery: empty

### Keys



"OK" key

Switch on/off key for the device.

Confirms the entry of the selected menu function(s).



"DOWN / MENU"

Sets values and selects menu functions.

Access to the menus.



"UP"

Sets values and selects menu functions.

## 4.3 Switch on and off

### Switch on

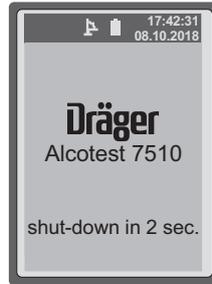
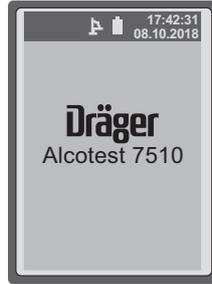
- Press and hold the  key for approx. 1 second until the start screen appears.  
A self-test is completed.  
Device information is displayed.

If the next service date has expired:

- Have the device calibrated (see "Troubleshooting" on page 14).

### Switch off

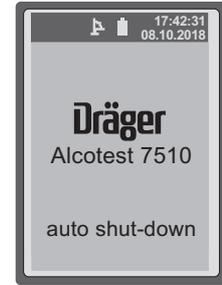
- Hold the  key pressed.  
The device shuts down automatically after approx. 2 seconds.



## 4.4 Automatic shut down

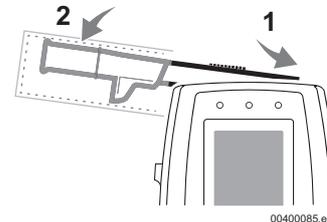
In the default setting, the device shuts down automatically 4 minutes after the last operation.

The device also shuts down automatically when the batteries are fully discharged.



## 4.5 Attaching the mouthpiece

- Remove the mouthpiece from the packaging. For hygienic reasons, leave the mouth contact area protected by the packaging, until the mouthpiece sits firmly on the device.
- With the chequered mark (= pressure surface) facing upwards, put the "Standard" mouthpiece into the mouthpiece receptacle at an angle and push it into the mouthpiece receptacle. The mouthpiece audibly engages.
- The inserted mouthpiece can be illuminated by the switched on device.



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## 5 Performing the measurement

### 5.1 Prerequisites

1. Insert a new mouthpiece for each test subject.
2. Do not allow any high alcohol concentrations on the sensor, e.g., by rinsing the mouth with a high proof alcohol shortly before the measurement. Doing this reduces the service life of the sensor.

### 5.2 Requirements of the person to be tested

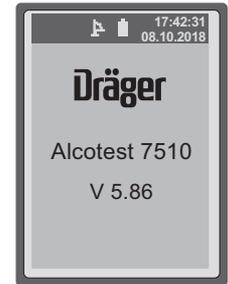
- If less than 20 minutes has elapsed between the persons last drink and use of device, then residual alcohol in the mouth may distort the measurement.
- The person to be tested should breathe normally and steadily prior to the sampling. Rapid inhalation and exhalation through the mouth should be avoided.

### 5.3 GPS

Global Positioning is active . Once the satellites have been obtained the symbol will remain static. During acquisition it will flash.

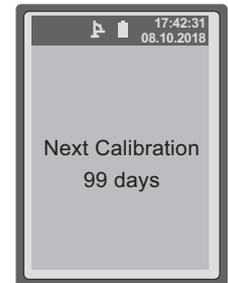
### 5.4 Preparation

- Switch on the device.  
After a few seconds, the start screen appears.



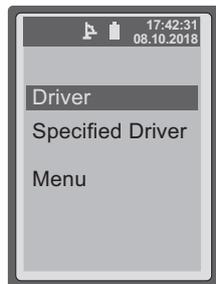
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The number of days until next calibration appears.



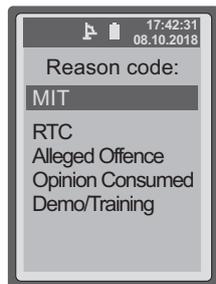
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The main user screen then appears with » **Driver** «, » **Specified Driver** « and » **Menu** « options.



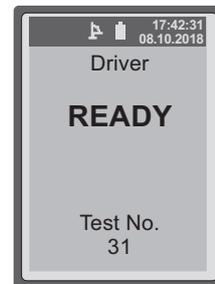
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1. Select the type of driver - either » **Driver** « or » **Specified Driver** « using the blue arrow keys to navigate, select by pressing the **OK** key.
2. Select a reason for the test from the » **Reason code** « menu using the blue arrow keys to navigate, select by pressing the **OK** key to confirm.



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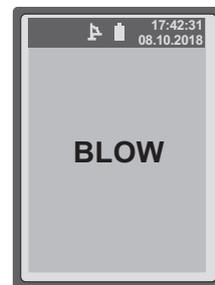
Device then moves from » **WARMUP** «, » **AIR BLANK CHECK** « to » **READY** «.



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#### 5.4.1 Procedure

- Prompt the test person to blow evenly and continuously into the mouthpiece. A sufficient breath flow is confirmed by a continuous audible signal and the green LED. During the delivery of the breath sample the following message appears in the display: » **BLOW** «. If the breath sample is sufficient (minimum breath volume and the minimum blowing period were reached), the sampling is triggered. The audible signal stops. The following message appears in the display: » **WAIT Analyzing** «

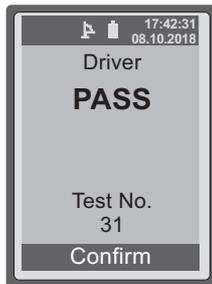


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#### 5.4.2 Test result

After 3 to 20 seconds (dependent on the detected concentration) the measurement result appears in the display.

The measurement result is displayed with the type of driver at the top of the screen, the result (» **PASS** « or » **FAIL** «) in the middle and the test number underneath the result.



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#### 5.4.3 Additional measurement

- Press the  key to confirm and return to main user screen.

#### Error during the delivery of the breath sample

If the volume of the breath sample is insufficient, the following appears in the display: » **Insufficient volume** «.

A short audible signal beeps and the red LED flashes.

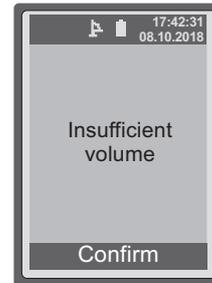
- To repeat, press the  key. Waiting period for a new testing standby is 4 to 20 seconds.

In the case of highly irregular exhalation, e.g. sudden termination or suction at the end of the breath sample, the following appears in the display: » **Negative Breath Flow** «.

A short audible signal beeps and the red LED flashes.

- To repeat, press the  key. If the subject is unable or unwilling to provide a sample a refusal can be recorded on the device.

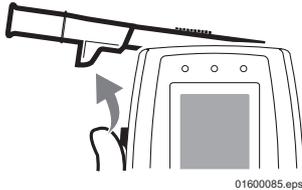
1. Press the blue  key to complete the test with » **Refusal/Failure** « as result. This will increment the test number.
2. Press the  key to confirm.



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## 5.5 Removing the mouthpiece

- Push the eject button upwards.  
The mouthpiece is pushed out of the mouthpiece receptacle.

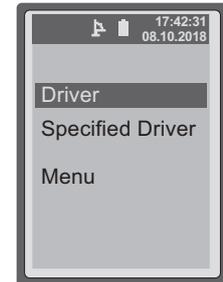


## 6 Menu

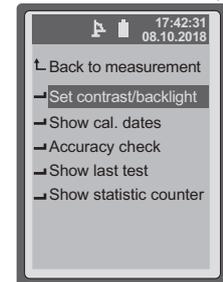
### 6.1 Menu settings

#### 6.1.1 Main user screen

- Select » Menu «.



- Use blue keys to navigate and green to accept.



#### 6.1.2 Set contrast/backlight

Adjust the contrast and backlight.

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### 6.1.3 Show cal. dates

Display of last date the device was calibrated. Back with green key.

### 6.1.4 Accuracy check

1. Select » **Accuracy check** « and press the  key.  
The display shows the calibration check gas to be used.  
» **Next** « is automatically highlighted at the bottom of the screen.
2. Press the  key.  
After a short period, » **Please apply gas** « is displayed.
3. Fit a clean dry mouthpiece to the device.
4. Connect the outlet from the check gas cylinder to the mouthpiece and allow gas to flow through the mouthpiece by pressing the valve on top of the gas cylinder.  
A beep is heard, followed by double beep, when the device has sampled the gas and » **Please stop gas flow, analyzing** « is displayed momentarily.
5. Stop the flow of gas by releasing the valve at the top of the gas cylinder.  
The result of the accuracy check is displayed (» **Accuracy check OK** « or » **Accuracy check error** «).

### 6.1.5 Show last test

Display of the last test. Back with green key.

### 6.1.6 Show statistic counter

Display of number of tests in calendar year.

## 7 Troubleshooting

Fault	Cause	Remedy
Device automatically switches off	Discharge the battery / batteries	Replace batteries.
	No activity for 4 minutes	Switch on device again.
Battery symbol empty	Discharge the battery / batteries	At the next opportunity, replace batteries.
Date / time incorrect	Discharge backup battery	Set date / time. Contact MBRS to set date and time.
Menu is automatically exited	The device automatically returns to the measurement function after 120 seconds	Select the menu item again.
Not possible to switch on the device	Discharge the rechargeable battery / batteries	Replace batteries.
Insufficient volume / invalid sample	Test subject blows too weakly or non-continuously	Blow more strongly and continuously.
No continuous tone during blowing	Device is not yet ready to measure	Wait until the device is ready to measure.

Error message in the display	Cause	Remedy
↑ ↑ ↑	Measured value exceeds display area.	Use lower concentrations.
» No printout possible «	Dräger Mobile Printer not recognised or protocol not completely processed.	Maintain a visual connection and close proximity between the IR interfaces of the devices during the entire printing period.
» Temperature out of range «	Device temperature is outside of the allowed temperature range.	Heat or cool the device and start the measurement again.
» Service date expired « The device alerts and blocks the operation, if set	The service interval is expired.	Calibration required. Return to MBRS.

## 8 Maintenance

### 8.1 Replacing the batteries

For devices with alkaline batteries or NiMH rechargeable batteries.

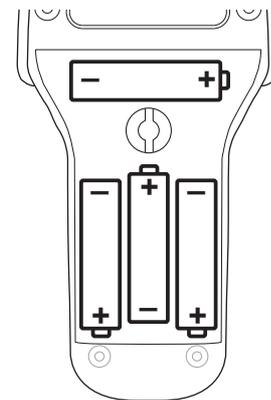
Lithium-ion rechargeable batteries cannot be replaced.

If the battery symbol in the display stands at »  « (empty) insert new batteries or charged NiMH rechargeable batteries, or place the device in the charger and charge:

1. Rotate the catch on the battery cover anticlockwise 90° and remove the battery cover.
2. In order to open the battery cover, first loosen the screw. Then rotate the catch 90° and remove the battery cover.



3. Remove used alkaline batteries and insert new alkaline batteries – observe correct polarity!
4. Replace the battery cover and lock the catch with a clockwise rotation.



#### Required batteries:

4 units 1.5 V alkaline type (Mignon, LR6, AA)



#### CAUTION

Do not throw used alkaline batteries into fire, charge them again, or open them by force. Danger of explosion!

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## 8.2 Cleaning and disinfecting

- Do not submerge in liquids, no liquids can touch the connectors!

For cleaning:

- wipe with a disposable towel.
- do not use any detergents that contain alcohol or solvents.



### CAUTION

The use of detergents with a high alcohol content can greatly reduce the service life of the internal sensor or generate an erroneous positive test result in the short-term.

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## 9 Transport

Transport the product in its original packaging.

## 10 Storage

Store the product in its original packaging.

## 11 Disposal



This product must not be disposed of as household waste. It is therefore marked with the adjacent symbol. You can return this product to Dräger free of charge. For information please contact the national marketing organizations or Dräger.

### 11.1 Battery disposal



Batteries must not be disposed of as household waste. They are therefore marked with the adjacent symbol. Dispose of batteries at battery collection centers as specified by the applicable regulations.

## 12 Technical data

### Measuring Principle

Electrochemical sensor

### Measuring range (Default setting)

Breath alcohol concentration  
0.00 to 3.0 mg/L  
(Ethyl alcohol mass per breath volume at 34 °C and 1013 hPa.)

### Display Area

The display is identical with the measuring range.

If the measurement result is outside of the measuring range, three arrows are shown in the display » ↑ ↑ ↑ « = Measuring range exceeded.

### Ambient conditions

during operation  
-10 to 50 °C  
10 to 100 % r.H. (non-condensing)  
600 to 1100 hPa

during storage  
-40 to 70 °C

### Dimensions (H x W x D)

with alkaline batteries or approx. 185 mm x 90 mm x 44 mm  
NiMH rechargeable batteries

with lithium-ion rechargeable batteries approx. 185 mm x 90 mm x 49 mm

### Weight

approx. 433 g (with batteries / rechargeable batteries)

### Power supply

Alkaline batteries  
4 units 1.5 V alkaline type (Mignon, LR6, AA)  
approx. 1500 measurements

### CE marking

Electromagnetic compatibility  
(Directive 2014/30/EC)





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