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1 Safety-related information

- Before using this product, carefully read the instructions for use.
- 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 stored and used appropriately by the product user.
- Only trained and competent personnel are permitted to inspect, repair and service the product. Dräger recommend a Dräger service contract for all maintenance activities and that all repairs are carried out by Dräger.
- Do not use a faulty or incomplete product. Do not modify the product.
- Notify Dräger in the event of any component fault or failure.
- Comply with all local and national rules and regulations associated with this product.
- Use only genuine Dräger spare parts and accessories. Otherwise, the proper functioning of the product may be impaired.

2 Conventions in this document

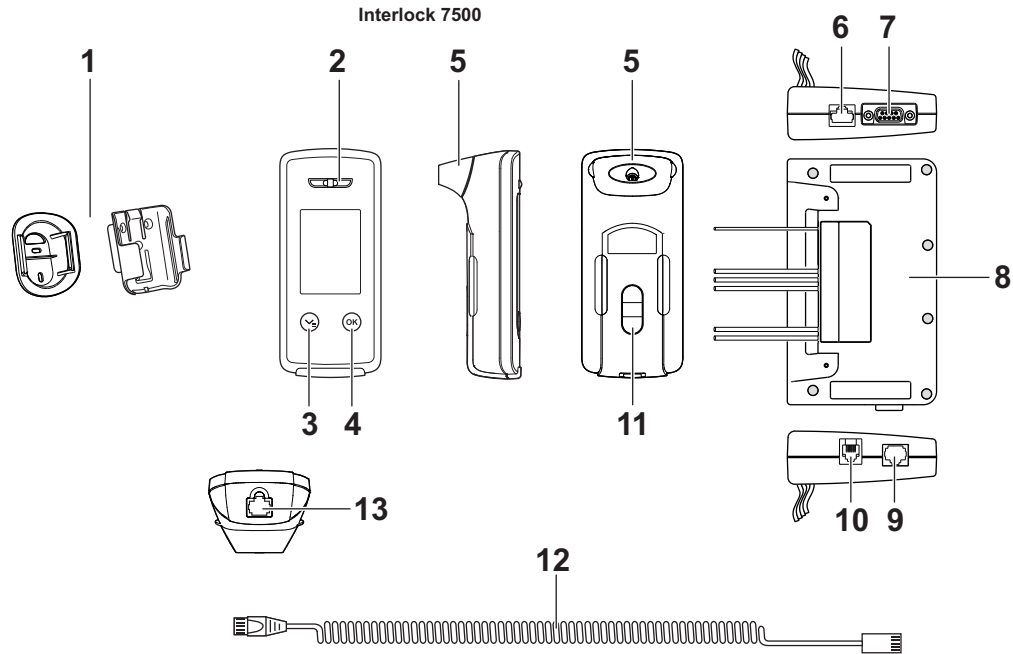
2.1 Meaning of the warning notices

The following warning notices are used in this document to alert the user to potential hazards. The meanings of the warning notices are defined as follows:

Warning sign	Signal word	Classification of the warning notice
	WARNING	Indicates a potentially hazardous situation. If not avoided, it could result in death or serious injury.
	CAUTION	Indicates a potentially hazardous situation. If not avoided, it could result in physical injury. It may also be used to alert against unsafe practices.
	NOTICE	Indicates a potentially hazardous situation. If not avoided, it could result in damage to the product or environment.

3 Description

3.1 Product overview



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Legend

- 1 Holster for handset
- 2 Air outlet
- 3 Down/Menu button
- 4 OK button
- 5 Mouthpiece
- 6 Expansion box connection (optional)
- 7 GPRS module connection (optional)
- 8 Control unit
- 9 Bushing for plug connector on spiral cable
- 10 Camera connection
- 11 IR interface
- 12 Spiral cable
- 13 Bushing for plug connector on spiral cable

3.2 Functional description

3.2.1 Dräger Interlock® 7500

Before starting a vehicle equipped with the Dräger Interlock® 7500¹⁾ the driver must provide a breath sample. The device measures the breath alcohol concentration and can (optionally) record the test result, measured value, engine starts, as well as notes about manipulations and violations in the data memory. The vehicle can only be started when the measured breath alcohol concentration lies below a preset limit value. The device will also ask (optional) for retests while driving.

 The device is not a security device for automobiles and is not a substitute for a vehicle immobilizer for theft protection.

3.2.2 Camera (available as an option)

The camera can be used to record photos of the text subject during a measurement.

3.2.3 GPRS module/LTS module (optionally available)

The GPRS or LTE module can be used to expand the instrument with additional functionalities.

3.3 Intended use

The Interlock® 7500 is a breath alcohol measuring device with vehicle immobilizer.

3.4 Approvals

The certifications can be found in the document "Notes on Approval" (Order no. 9100056).

1) Interlock® is a registered trademark of Dräger.

4 Use

4.1 Installation

WARNING

Alterations and additions to the instrument may cause danger!

Such alterations and additions invalidate the certificate of installation contained in this instructions for use booklet.

Installation may only be carried out by an authorized Dräger Interlock service centre or a professional auto repair shop according to the respective assembly instructions. When choosing the installation site, the existing regulations for the interior of vehicles have to be observed.

4.2 Requirements for a measurement

WARNING

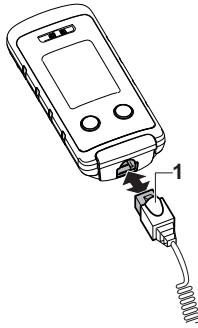
Alcohol and solvent vapours in the ambient air may distort the measurement!

- ▶ No alcohol and solvent vapours (disinfectants, window cleaning fluids) in the ambient air.
- ▶ Do not store in ambient air containing alcohol and solvent vapours (disinfectants, window cleaning fluids).
- Do not allow a high alcohol concentration to reach the sensor, e.g. from drinking alcohol, eating alcohol containing foods or rinsing the mouth with alcoholic mouthwash just before measurement.

4.3 Detaching the handset

1. At temperatures below -20 °C (-4°F) and over +70 °C (176°F) in the interior of the vehicle, the handset can be detached from the connecting cable, if provided, for quicker operational readiness.

- Press this spot (1) on the connecting plug and detach the plug.



- Store handset in a location with a moderate temperature.
- Before starting the vehicle, connect handset again.

4.4 Conditions for tested person

- There must be an interval of at least 15 minutes after alcohol has been taken into the mouth! Actual residues of alcohol in the mouth may enhance the measured values. Higher measured values may also be caused by some foods, aromatic drinks (e.g. fruit juices), alcoholic mouthwashes or mouth sprays, medicines and drops, as well as after burping and vomiting. Rinsing out the mouth with water or non-alcoholic drinks are not a substitute for the allotted waiting time!
- Breathe evenly and normally before the measurement.

4.5 Performing the measurement

⚠ CAUTION

Risk of burning!

At ambient temperatures $>+70^{\circ}\text{C}$ the surface of the handset may become very hot.

- Do not touch the handset at ambient temperatures $>+70^{\circ}\text{C}$.

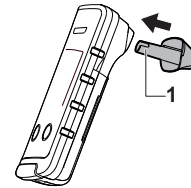
📄 Use a new mouthpiece for each person being tested.
Replace the mouthpiece at least every 90 days for hygiene reasons.

4.5.1 Activating the instrument

- Insert the ignition key into the ignition and turn it to the "Ignition" position (position before the engine starts). A self-test is performed and the phase to establish operational readiness starts. **Preparing for test** is displayed.
- A signal tone, flashing of the blue LED and the **Ready for test Please blow** messages indicate that the instrument is ready for measurement.

4.5.2 Providing a breath sample

- Remove the handset from the holster.
- If necessary, insert a new mouthpiece into the respective opening. Pay attention to the correct orientation of the mouthpiece spring towards the handset groove (1).



- Blow evenly into the mouthpiece as long as a continuous tone sounds. The blue LED goes out when blowing begins.

4.5.2.1 With installed camera (optional)

- Hold handset with the display in the direction of the camera.
- Depending on the configuration, the blue LED within the camera may flash when the handset is recognized.
- Depending on the configuration, a breath sample may only be possible if the blue LED is flashing and the handset is recognized.
- Blow evenly into the mouthpiece as long as a continuous tone sounds.

4.5.2.2 With activated anti-circumvention (blow/suck) (optional)

- Blow evenly into the mouthpiece as long as a continuous signal tone sounds, followed immediately (the signal tone ceases) without pause by sucking hard until a short signal tone sounds.
- If the breath sample is not provided in the correct way with the blow and suck breathing technique, **Repeat test** is displayed.
- Confirm with the OK button.
The instrument requests a repeated breath sample.
- If the breath sample flow is too hard or too soft, a corresponding message is displayed.
- Confirm with the OK button.
- The instrument requests a repeated breath sample.
- After an adequate breath sample, the test result is displayed with **Test passed** or **Test failed**.

4.5.3 Test passed

The measured breath alcohol concentration is below the set limit value.

- **Test passed** is displayed and the LED is illuminated green.
- The vehicle is cleared to start, **Free Start Time:** is displayed and a timer specifies for how long the vehicle can be started.
- After starting, the device is in stand-by mode and **Drive Safely!** is displayed.
- Attach handset to the holster again.


4.5.4 Test failed

The measured breath alcohol concentration is above the set limit value.

- **Test failed** is displayed and the LED glows red followed by **Next test in:** with a timer displaying the remaining disabled hours, minutes and seconds. The LED remains lit until the device is ready to accept a further sample.
- After an intermediate phase displayed via **Preparing for test, Ready for test Please blow** is displayed.
- Provide further breath samples if necessary.

4.6 Interruption of travel – Switching off the vehicle


- As long as the vehicle engine is running after a successful breath alcohol test, the instrument is in stand-by mode. This is displayed by **Drive Safely!**
- When the vehicle ignition has been switched off or when the vehicle has not been started after a successful breath test, a restart period starts. During this time the vehicle can be started without a new breath alcohol test being required. The display shows **Free Start Time:** and a timer of the remaining time for starting the vehicle.
- When this time of the restart period has ended, the instrument is switched off. The instrument remains switched off until it is activated again by turning on the ignition.

 If the restart period runs out, a new breath alcohol test must be given before the vehicle can be restarted.

4.7 Retests

CAUTION

For safety reasons and due to certain road laws, the vehicle should be parked off the road, away from traffic in safe position before carrying out the retest.

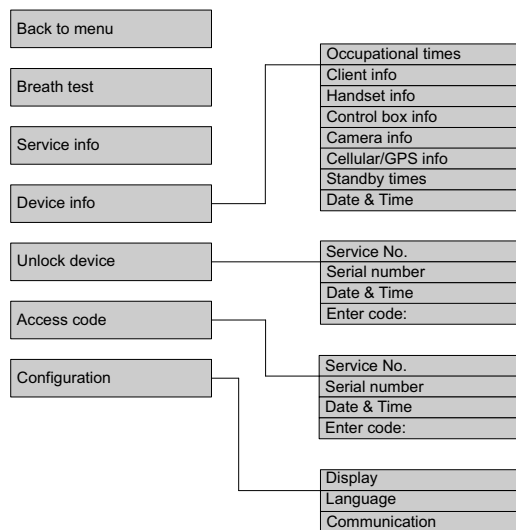
 There are (depending on device settings) several minutes available to submit the retest.

To make sure the driver stays sober while driving, the device requires additional breath alcohol tests while driving (optional).

- The device makes a beeping sound, the blue LED flashes and **Ready for test Please blow** is displayed.
1. Perform the breath alcohol test exactly as when starting the vehicle.
 2. When the display shows **Test passed**, put the handset back on the holster and continue driving.
- **Drive Safely!** is displayed.

5 Menu

The instrument offers (depending on the instrument status and set configuration) the possibility to display the following options:



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5.1 Breath test

This function provides the option of requesting a new breath alcohol test.

5.2 Service info

This function shows the date, the reason for the next service and the phone number of the service centre.

5.3 Device info

5.3.1 Occupational times

This function displays the set timeframes in which a breath alcohol test can be performed using the instrument. Outside of this timeframes, it is not possible to carry out a breath alcohol test using the instrument.

5.3.2 Client info

This function shows information for client identification.

5.3.3 Handset info

This function displays the part number, the serial number and the software version of the handset.

5.3.4 Control box info

This function displays the part number, the serial number and the software version of the control unit.

5.3.5 Camera info

This function displays the part number, the serial number and the software version of the optional camera.

5.3.6 Cellular/GPS info

This function displays the part number, the serial number and the software version of the optional GPRS or LTE module.

i Before selecting from the menu, the ignition of the vehicle must be switched on.

To call up the menu:

- Press the Down/Menu button.

To navigate within the menu:

1. Select the menu item by pressing the Down/Menu button.
2. Confirm selection with OK button.
3. Select any sub-menu items by pressing the Down/Menu button and confirm with OK button.

5.3.7 Standby times

This function can be used to set and display the wake-up time. This function can be used to shorten the start-up time at temperatures below 0°C (32°F).


5.3.8 Date & Time

This function displays the date and time.

5.4 Unlocking the instrument

The unlock code can be used to start the vehicle by delivering a breath sample in the event of an instrument lockout (for example because of expiry of the service period due to legal requirements), after entering a code number.

- To obtain the code number, call the service phone number and have the following information ready:
 - serial number of the handset,
 - date and time (hours and minutes) at which the code number has to be entered.

 The code number is accepted for a period of up to 15 minutes after the specified time.

- Choose and confirm the **Unlock device** option. The display shows _ _ _ _ .
- Select and confirm the desired first figure.
- Afterwards set the next figure.
- Repeat the procedure for all figures.
- Select **Confirm** or **Cancel**:
 - Pressing cancel will exit the menu.
 - On confirmation, the instrument will request a breath alcohol test.

5.5 Access code

The access code can be used to start the vehicle without delivering a breath sample, for example in a garage, for a limited period after entering a code number.

- To obtain the code number, call the service phone number and have the following information ready:

- serial number of the handset,
- date and time (hours and minutes) at which the code number has to be entered.


- Choose and confirm the **Enter code**: option. The display shows _ _ _ _ .

 The hour entered indicates how long the access code is valid for.

Example: When it shows 14:00 the access code can be used from 14:00 to 14:59.

Access is (depending on setting) possible for a maximum of 48 hours after entering the code number.

- Select and confirm the desired first figure.
- Afterwards set the next figure.
- Repeat the procedure for all figures.
- Select **Confirm** or **Cancel**:
 - Pressing cancel will exit the menu.

 The validity of the access code can be terminated by requesting a new breath alcohol test (see "Breath test", page 25).

5.6 Configuration

5.6.1 Display

This function can be used to set the brightness of the display. There are 3 preset brightness levels to choose from.

5.6.2 Language

This function can be used to change the instrument language.

5.6.3 Communication

This function can be used to switch communication between Bluetooth and infra-red channels.

6 Troubleshooting

Error/display	Cause	Remedy
Flow detected during Warm-Up	Breath sample has been blown too early.	Deliver breath sample when requested by the instrument.
<i>Blow stronger//Repeat test</i>	Breath sample has been blown too soft.	Repeat test blowing harder.
<i>Blow softer//Repeat test</i>	Breath sample has been blown too hard.	Repeat test blowing softer.
<i>Blow longer//Repeat test</i>	Breath sample has been blown too short.	Repeat test blowing longer.
<i>Suck after blow/Repeat test</i>	Breath sample is not delivered correctly by blowing and sucking.	Repeat test with blowing and immediately afterwards sucking.
<i>Suck longer//Repeat test</i>	Breath sample has been sucked too short.	Repeat test sucking longer.
<i>Check mouthpiece/Repeat test</i>	Mouthpiece is not correctly inserted into handset.	Insert mouthpiece correctly.
<i>Repeat test</i>	During delivery of the breath sample a fault has been detected.	Deliver breath sample again when requested by the instrument.
<i>Test failed</i>	The measured breath alcohol concentration is above the set limit value.	Repeat the test after at least 15 minutes. If the message appears, the breath alcohol concentration is above the limit value.
<i>Low temperature/Warm up handset</i>	Temperature of the handset too low.	Detach handset and take it to a place with a moderate temperature. Connect handset again and perform test.
<i>High temperature/Cool down handset</i>	Temperature of handset too high.	Detach handset and take it to a place with a moderate temperature. Connect handset again and perform test.
<i>Service required in X days</i>	Service interval will expire in x days.	Call an authorized Dräger Interlock service centre in due time.
<i>End of service</i>	Service interval expired.	Call an authorized Dräger Interlock service centre.
Number of abnormalities	Too many violations have been detected.	Call an authorized Dräger Interlock service centre in due time.
<i>Handset error/contact service</i>	Fault on handset.	Switch the ignition off and on, and repeat the test. If the error message reappears: call an authorized Dräger Interlock service centre.

Error/display	Cause	Remedy
Control box error/contact service	Error in control unit.	Switch the ignition off and on, and repeat the test. If the error message reappears: call an authorized Dräger Interlock service centre.
Check cable and reconnect!	No connection between handset and control unit.	Check the plugs of the connecting cable and reconnect to the handset and control unit. If the error message reappears: call an authorized Dräger Interlock service centre.
control box mismatch, SW version: OK	Control unit and handset have different software versions.	After confirming with the OK button, the software versions can be viewed (e.g. Rev. 1.9). Call an authorized Dräger Interlock service centre.
No readable text displays on handset, but indicator lights are functioning.	Temperature of the handset too low.	Perform test as usual guided by the indicator lights. Detach handset and take it to a place with a moderate temperature. Connect handset again.
No display messages on the handset.	No connection between handset and control unit.	Check plugs of the connecting cable, disconnect plug from handset and reconnect again. If nothing is displayed once again: call an authorized Dräger Interlock service centre.

7 Maintenance

7.1 Calibration/adjustment

- Only by an authorized Dräger Interlock service centre.
- Check calibration at least every 12 months.
- Once the service interval expires, the display shows the message **Service required in X days**.
- If the unit is not serviced, the vehicle can nevertheless be started during a transition period of several days (dependent on the configured parameters).

7.2 Cleaning

- To clean, wipe with a disposable tissue.
- Do not submerge in liquid – liquid must not enter the sockets!



For information on suitable cleaning agents and disinfectants and their specifications, see document 9100081 at www.draeger.com/IFU.

8 Disposal

Dispose of the product in accordance with the applicable rules and regulations.



This product must not be disposed of as household waste. This is indicated by the adjacent symbol.

You can return this product to Dräger free of charge. For information please contact the national marketing organizations or Dräger.

9 Technical data

Measuring principle	Electrochemical DrägerSensor
Measuring range	up to 3.0 mg/L
Ambient conditions	

for operation and storage	-40 to 85 °C
	20 to 98 % r. h.
	600 to 1100 hPa
	No influence of changes in altitude on the measurement result
Sensitivity drift	typically 1 % of measured value / month
Visual display	Display
Calibration interval	typically 12 months
Dimensions (H x W x D)	
Handset	Approx. 138 mm x 61 mm x 36 mm
Control unit	Approx. 148 mm x 90 mm x 32 mm
Weight	
Handset	Approx. 240 g
Control unit	Approx. 240 g
Power supply	12 to 24 V
Power consumption	
maximum	<2.5 A
stand-by	<1 mA
Switch relay for the lead for the starter relay	
continuous	<16 A
peak	<40 A
Output relay	
switchable de-energized	48 V
switchable energized	24 V
Ignition lead	5 V to 48 V

Adjustable parameters

Wait time to be ready for measurement

20 °C 2 s

0 °C <5 s

-25 °C <60 s

-40 °C <110 s

10 Adjustable parameters

Some instrument parameters may be set differently by a Dräger Interlock service centre due to legal regulations in different countries or individually during installation. The descriptions of these Instructions for Use are related to the basic version.

Table of essential adjustable parameters:

Parameter	Basic version
Operation	
Display of test result	Test passed/Test failed
Breath test volume	1.0 L
Limit value (initial test)	0.30‰ or 0.20‰
Restart period	30 minutes
Data storage	
Data storage	on
Service	
Calibration interval	365 days
Possible to start engine after the end of the service interval	Yes
Retest	
Retests (whilst the vehicle is in use)	No
Lockouts	

Parameter	Basic version
Duration of the instrument lockout after a breath alcohol test with a high concentration	5 minutes
Access code	
Access code (for overriding the instrument for a limited time period)	Yes

11 Order list

Name and description	Order no.
Mouthpieces (5 pcs), individually packaged	83 26 550
Mouthpieces (50 pcs), individually packaged	83 27 627
Mouthpieces (300 pcs), individually packaged	83 22 597
LTE module	83 27 080
Cable set for connecting headlights	37 01 238
Cable set for connecting horn	37 01 237
Cable set for connecting external equipment (AUX/OUT)	37 01 239
Holster for handset	83 22 497
Holster V for handset	37 24 354
Spiral cord, length 1.5 m	83 15 909
Spiral cord, length 5.5 m	83 20 248

12 Installation certificate



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The undersigned:

hereby confirms that the installation of the breath alcohol ignition interlock device described below has been carried out in accordance with the manufacturer's installation instructions.

Vehicle description:

Make:

Model:

Serial number:

Registration number:

Description of breath alcohol ignition interlock device:

Make:

Dräger

Model:

Dräger Interlock® 7500

Type-approval number:

€ 10 R - 057310

Installation:

Installer's full address (with stamp where applicable):

Service:

Signature:

Place:

Date: