

















**DRÄGER X-AM 1100/1700/2000
VIDEO BASED TRAINING**

(PLEASE SWITCH TO THE SLIDE SHOW MODE)

DRÄGER X-AM 2000 VIDEO TRAINING

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DISCLAIMER



- This visual presentation is intended to help the user understand and correctly use the Dräger X-am 1100/1700/2000.
- It is not intended to be a substitute for the complete instruction manual supplied with the instrument.
- **IT IS THE USER'S RESPONSIBILITY TO READ AND UNDERSTAND ALL MANUALS AND INFORMATION PROVIDED WITH THE INSTRUMENTS!**

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COMPONENTS



What is what?

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SWITCHING-ON DRÄGER X-AM 1100/1700/2000



SWITCHING ON

- Press and hold the “OK”-key for 3 seconds
- Display counts down 3-2-1
- Blinking LEDs, the acoustic alarm sounds and the vibrating alarm pulsates

- The self-test begins automatically and shows the following:
 - The installed **software version**
 - The expected **lifetime** (X-am 1100/1700)
 - The **alarm levels**
 - The **TWA and STEL alarm settings**
 - The **next calibration date**



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SWITCHING OFF DRÄGER X-AM 1100/1700/2000



SWITCHING OFF

- Press and hold the “+” and “OK” keys at the same time for more than 3 sec.
- The LEDs will flash and a long beep will sound.
- The instrument is switched off



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DISPLAY ILLUMINATION



DISPLAY ILLUMINATION

- Press any key and the display illumination is switched on for about 30 sec.
- In an alarm situation, the display illumination is automatically switched on




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MENU FRESH AIR CALIBRATION



FRESH AIR CALIBRATION

- This procedure is a fresh air calibration, which is placed in the quick menu with help of the CC-Vision Software.
- Press “+”-key three times
- The following icon is shown 
- Press the “OK”-key and choose the fresh air calibration menu
- Real values are shown
- Press the “OK”-key
- OK appears in the display
- Fresh air calibration is finished



If the oxygen sensor value does not show 20.9% or is not stable, or the combustible or toxic sensors do not show “0” under fresh air conditions, then the instrument must be fresh air calibrated. Perform “Fresh Air Cal” only in a clean air environment.

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MENU MAXIMUM VALUE



MENU MAXIMUM VALUE

- Press the “OK”-key once
- The **Maximum Value** and the minimum value for the O2 sensor are show. These values have been occurred since the last time the instrument was switched on.
- Press the “OK”- key again.
TWA and STEL values appears in the display
- or press the “+”-key once
- Instrument returns to measurement mode



- The Max Value function displays the lowest oxygen reading and the highest Ex, CO, and H2S readings from the time the readings were last reset. Max Values will be stored in memory until they instrument is switched on again.



➤ TWA (Time Weighted Average) is the time-weighted average gas concentration (normally over an 8 hour period) that an unprotected worker can be exposed to over an 8 hour workday and 40 hour work week without adverse effects.



➤ The STEL (Short Term Exposure Limit) is the maximum allowed gas concentration that an unprotected worker can be exposed within a 15 minutes period.




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MENU FUNCTIONS



TWA

- When the TWA analysis is activated:
- Press the “OK”-key two times
-  icon appears in the display
- The maximum **workplace concentration** is shown
- Press the “OK”-key again and the **STEL** values are shown.
- or press the “+”-key once
- Instrument returns to measurement




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MENU FUNCTIONS



STEL

- When STEL analysis is activated:
- Press the “OK”-key three times
-  icon appears in the display
- The STEL values are shown
- Press the “OK”-key or the “+”-key once
- Instrument returns to measurement



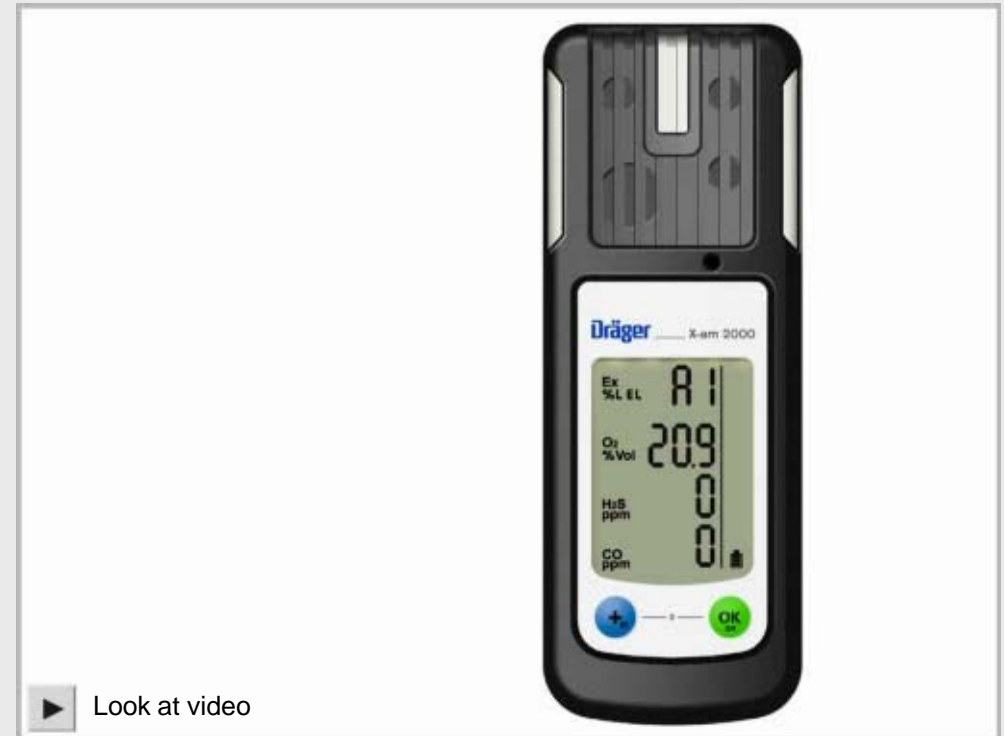
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A1 GAS CONCENTRATION ALARM



A1 GAS CONCENTRATION ALARM

- Alarm level can be changed with the help of the CC-Vision software
- Audible-, visual- and vibrating alarms repeat periodically
- The display character “A1” will alternate with the **concentration** in the display
- An Ex, CO or H2S alarm, the audible and vibrating alarms can be acknowledged by pushing the “OK”-key.



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CONCENTRATION ALARM



GAS CONCENTRATION ALARM

Alarm level can be changed with the help of the CC-Vision software

Multiple audible-, visual- and vibrating alarms repeat periodically

When the display character "A2" will alternate with the concentration in the display

When an audible, visual and vibrating alarm can be acknowledged (silenced) in "A2" with an O2 "A1" alarm



Follow the prescribed safety procedures.

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RM



EL ALARM

Level can be changed with the help
of CC-Vision software
Audible-, visual- and vibrating alarms
at periodically
Display character "A2" will alternate
the **concentration** in the display
Icon flashes
Alarm can NOT be acknowledged

Click the picture to watch video



STEL values will be cancelled when the instrument is switched off. Follow the prescribed safety procedures.

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A ALARM

level can be changed with the help
CC-Vision software

e-, visual- and vibrating alarms
periodically

display character "A2" will alternate
the concentration in the display

flashes

arm can NOT be acknowledged



STEL values will be cancelled when the instrument is switched off. Follow the prescribed safety procedures.

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BATTERY ALARM



LOW BATTERY ALARM

audible-, visual- and vibrating alarms
beep periodically

LED flashes

alarm can be acknowledged
with "OK"-key

Click the picture to watch video



Activated when the battery has less than 10 minutes of operation – please change the batteries or charge the instrument.

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BATTERY ALARM



LOW BATTERY ALARM

audible-, visual- and vibrating alarms
beeping periodically

LED flashes

instrument will automatically shut down
in about 10 seconds

instrument switches off

alarm can NOT be acknowledged



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LARM



ERROR ALARM

able-, visual- and vibrating alarms
at periodically

con **X** appears in the display

the alarms may be silenced with the
- key, but the gas display will still
ate a fault



is an indication that something needs to be looked at in the instrument immediately. The instrument should be removed from
and the error corrected before further use

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ANGE



ER RANGE

le-, visual- and vibrating alarms
at periodically

shown

alarm can NOT be acknowledged



measuring range is exceeded, the following display is shown instead of measured value display.
the prescribed safety procedures.

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RANGE



UNDER RANGE

...le-, visual- and vibrating alarms
...at periodically

...s shown

...alarm can NOT be acknowledged



...sured concentration has drifted into the negative range. This can e.g. happen, when the fresh air calibration was done in an
...re a concentration of gas was present. Please fresh air calibrate the instrument in a clean environmental.

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DISPLAY



ERROR DISPLAY

Press the “OK”-key to acknowledge

Press the “OK”-key again

Error code is shown

(See the instructions to determine what the error code means.)

Press the “OK”-key again.

The error code could be shown.

Press “+M”-key to return to

Measurement



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NOTICE

Press the "OK"-key
Notice Code is shown
Read the instructions to determine what the
notice code means.)

Press the "OK"-key again.
The notice codes could be shown

Press "+M"-key to return to
Measurement



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DATA READ OUT



DATA READ OUT

On the display, "PC" appears when the instrument is connected via IR interface to a personal computer





“Bump Test“ is a function test. Before using the instrument, it is important to check the following:

channels are not blocked (e.g. with dirty membranes)

sensors are calibrated correctly

correct alarms are shown

alarm levels have been adjusted correctly

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IC BUMP TEST



AUTOMATIC BUMP TEST

Place the instrument into the bump test cradle

The Bump Test Station automatically recognizes the instrument

Power is supplied to the sensors

Test values increase

audible and visible A1/A2 alarms are shown

When the Bump test is correct, "OK" appears

on the display

When the bump test is completed

When the bump test is not correct,

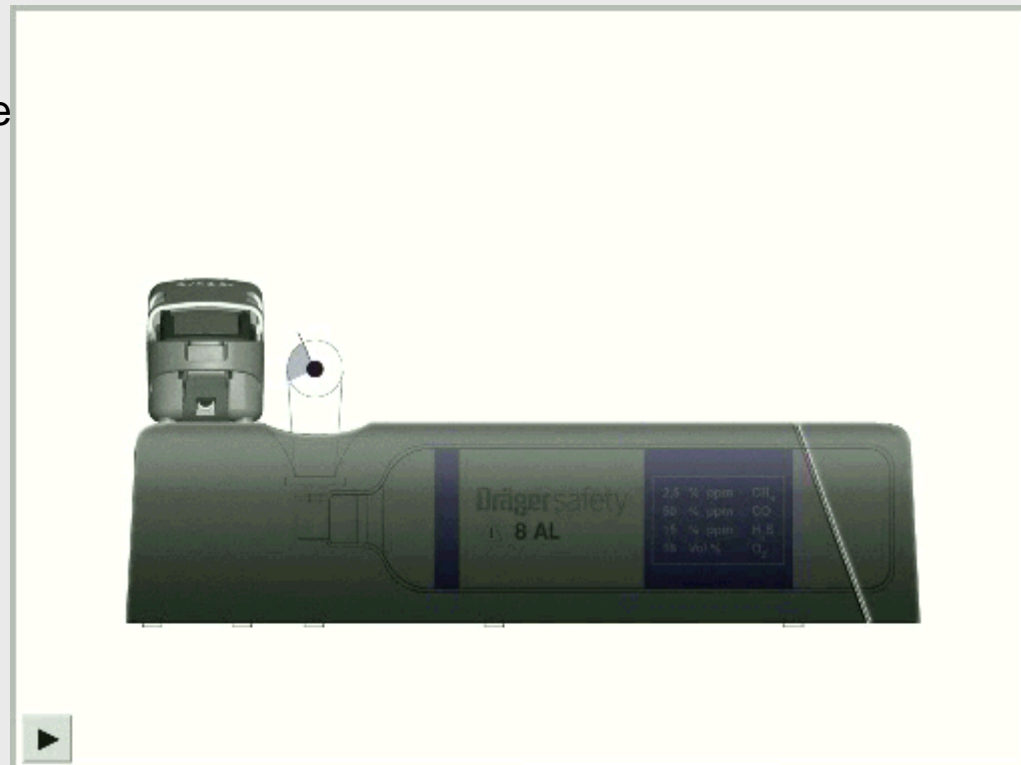
a channel error " _ _ " is shown for the

specific sensor

If the

instrument should be calibrated or contact

your local service.



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BUMP TEST



ANNUAL BUMP TEST

Place the instrument into the calibration mode
Press “+M”-key three times
Manually supply the gas
The values increase
Audible and visual A1/A2 alarm are shown
Press the “OK”-key
The bump test is completed
A channel error “_ _” is shown for the specific sensor
The instrument needs to be calibrated or
Contact your local service



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CHARGING THE BATTERY PACK



CHARGING THE BATTERY PACK

- Insert the instrument into the charging module
- Connect the charging module with a power source
- Use a 12V or multi-charger
- When the instrument is charging
- A red LED blinks -> instrument is charging
- When the LED lights stay on -> instrument is fully charged
- Approximately 4 hours are needed for a complete charge



Do not use in areas where explosions can occur! There is a danger of explosion! The chargers are not designed in accordance with the regulations for fire and explosion protection..

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CASE



BATTERY SUPPLY

Remove the screw with the help of a Allen key

Remove the battery case

Insert the 2 alkaline- or NiMh batteries

Pay attention to the polarity of the batteries

Close the battery case and tighten the screw



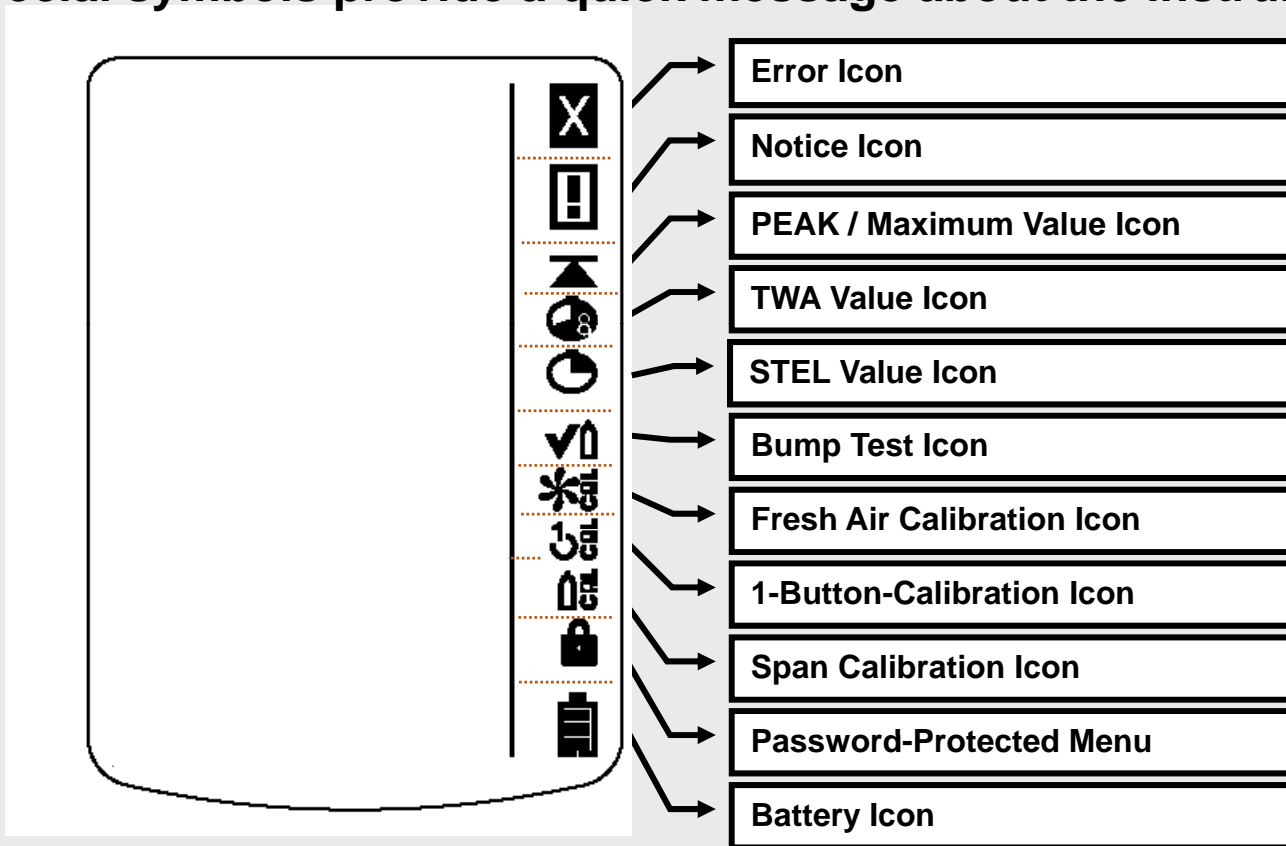
Do not charge the battery in explosion hazard areas. Alkaline-Batteries are part of the Ex-approval. Only the following should be used:

- No. E91
- No. EN91
- 4106

Using alkaline batteries other than those described above invalidates the intrinsic safety approval for the instrument and could lead to unsafe operation.



➤ **Special symbols provide a quick message about the instrument status**



THANK YOU FOR YOUR ATTENTION!