



Western Berks Fire Department Training Bulletin

Dräger Four Gas Meter

Training Bulletin #: 006-13

Issued By: Fire Commissioner Jeff Weidner

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Version: 1.0

Purpose Statement

This training bulletin has been developed to provide information on the recent addition of the Dräger Four Gas Meter located on Utility 18-2.

Scope Statement

This training bulletin applies to all members and employees of the Western Berks Fire Department.

Background

A Dräger Four Gas Meter has been placed in service on Utility 18-2. This meter replaces the MSA meter which is now kept on Rescue Engine 18.

The Dräger Meter is kept in its charging cradle on the radio console of Utility 18-2.

Startup

To power-up the unit, press and hold the green "OK" button for approximately 3 seconds. The unit will countdown and display additional information. Once completed, the unit will display the following screen:



Note the exclamation point in the upper right corner; this indicates the unit is warming up. It may take up to five minutes for the warm cycle to complete. Once completed, the icon will disappear and the unit is ready to use.

The unit is programmed to measure the following gasses and alarm at the following levels:

	Flammable Range (LEL)	Oxygen	Hydrogen Sulfide	CO
Measuring Range	0 to 100 (%LEL)	0 to 25 (%VOL)	0 to 2000 (ppm)	0 to 100 (ppm)
Alarm (A1)				
- Setpoint	20	19	30	10
- Can Be Acknowledged?	Yes	Yes	Yes	Yes
Alarm (A2)				
- Setpoint	40	23	60	20
- Can Be Acknowledged?	No	No	No	Yes

During Operation

Once the unit is powered up, ensure that no error messages or warning icons are displayed and begin monitoring the atmosphere. The sensors and air sample intake is located on the top of the, therefore ensure that the meter is held appropriately so as to not block the intake.

Shutdown

Once air monitoring is completed, allow the meter to "reset" in a fresh air environment and all levels are at a reasonable reading. To power off the unit press and hold the green "OK" and blue "+" button simultaneously for approximately three second units the unit shuts down.

Calibration

Calibration of the device will occur on a scheduled basis by Berks Emergency Equipment. When the meter is powered up, the days remaining until the next calibration is due, is displayed during the startup sequence.

A PDF of self-paced training is included as part of this training bulletin.

DRÄGER X-AM 2000 VIDEO TRAINING COMPONENTS



DRÄGER X-AM 2000 VIDEO TRAINING 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**



DRÄGER X-AM 2000 VIDEO TRAINING

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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DRÄGER X-AM 2000 VIDEO TRAINING

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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A2 GAS CONCENTRATION ALARM

A2 GAS CONCENTRATION ALARM

- Alarm level can be changed with the help of the CC-Vision software
- Double audible-, visual- and vibrating alarms repeat periodically
- The display character "A2" will alternate with the concentration in the display
- The audible, visual and vibrating alarms can NOT be acknowledged (silenced) in "A2" or in an O2 "A1" alarm



Follow the prescribed safety procedures.

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A1 LOW BATTERY ALARM



A1 LOW BATTERY ALARM

- Audible-, visual- and vibrating alarms repeat periodically
- Icon  flashes
- The alarm can be acknowledged with "OK"-key

Click the picture to watch video



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


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DRÄGER X-AM 2000 VIDEO TRAINING

A2 LOW BATTERY ALARM

A2 LOW BATTERY ALARM

- Audible-, visual- and vibrating alarms repeating periodically
- Icon  flashes
- The instrument will automatically shut down in about 10 seconds
- Instrument switches off
- The alarm can NOT be acknowledged




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ERROR ALARM

ERROR ALARM

- Audible-, visual- and vibrating alarms repeat periodically
- The icon  appears in the display
- These alarms may be silenced with the “OK” - key, but the gas display will still indicate a fault



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



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OVER RANGE



OVER RANGE

- Audible-, visual- and vibrating alarms repeat periodically
-  is shown
- The alarm can NOT be acknowledged




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

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UNDER RANGE



UNDER RANGE

- Audible-, visual- and vibrating alarms repeat periodically
-  is shown
- The alarm can NOT be acknowledged



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



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ERROR DISPLAY



ERROR DISPLAY

- Press the "OK"-key to acknowledge
- Press the "OK"-key again
- An **Error code** is shown
(Use the instructions to determine what the error code means.)
- Press the "OK"-key again.
More error code could be shown.
- Or press "+M"-key to return to measurement



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NOTICE



NOTICE

- Press the "OK"-key
- A **Notice Code** is shown
(Use the instructions to determine what the notice code means.)
- Press the "OK"-key again.
More notice codes could be shown
- Or press "+M"-key to return to measurement



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➤ Special symbols provide a quick message about the instrument status

