

Dräger CC-Vision GDS

Operating Manual

Configuration and calibration software
for Dräger fixed gas detectors



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1 For your safety

Strictly follow the operating manual

Any use of the PC software Dräger CC-Vision GDS requires complete understanding and strict observation of this operating manual.

The PC software is only to be used for the purposes explicitly specified.

Safety symbols used in this operating manual

This operating manual has a number of warnings for risks and hazards which might occur when using the instrument / PC software. These warnings contain "signal words" that will alert you to the degree of hazard you may encounter. These signal words and corresponding hazards are as follows:

 WARNING
--

Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

 CAUTION
--

Indicates a potentially hazardous situation which, if not avoided, could result in physical injury to you, or damage to the product.
--

It may also be used to alert against unsafe practices.
--

Notice

Additional information on how to use the instrument / PC software.
--

2 Compatibility

Minimum system requirements

Operating system:	Microsoft ® Windows ® 2000, Windows XP
Processor:	min. Intel Pentium or comparable
Working memory:	16 MB RAM
Interfaces:	a free COM port
	a free USB port

Microsoft ® and Windows ® are registered trade marks.

Compatible instruments

- Dräger Polytron 7000 (referred to as "Polytron 7000" in the following).
- Dräger PIR 7000 / Dräger PIR 7200 (referred to as "Dräger PIR 7X00" in the following).

Drivers

- USB-DIRA for Polytron 7000
- USB-ICOM for Dräger PIR 7X00

The drivers for the "USB-DIRA" adapter (83 17 409) for the Polytron 7000 and the "USB PC Adapter PIR 7000" (68 11 663) are on the installation CD.

3 Intended use

3.1 Purpose

The Dräger CC-Vision GDS PC software is used for the configuration and calibration of the **Polytron 7000 and Dräger PIR 7X00** gas detectors.

3.2 Benefits for the user

The Dräger CC-Vision GDS enables a comfortable and timesaving configuration, calibration, verification and documentation of the above-mentioned gas detectors.

4 Installing the Dräger CC-Vision GDS

This is how you proceed:

- Insert the installation CD in the CD-ROM drive.
- If the installation routine does not start automatically: launch setup.exe.
- Select the language.
- Follow the installation instructions.

Result

1. Dräger CC-Vision GDS is automatically installed in the **C:\Draeger\CC-Vision GDS** folder. Any existing version in the folder will be overwritten.
2. Links to the program will be copied to the Desktop and the Start menu.

Notice
Installation is possible only for those with administrator rights.

5 Notes on how to use this operating manual

5.1 Documentation

Please always use this operating manual for the Dräger CC-Vision GDS in conjunction with the Instructions for Use for the gas detectors you are using.

PDF files of the Instructions for Use for the instruments and also the data sheets for the sensors can be called up via the Dräger CC-Vision GDS.

5.2 Style conventions

The following identification markings are used in this guidance:

Sequence of operational steps:	<ul style="list-style-type: none"> • ... • ... • ...
Listings for the (completeness) check:	<ol style="list-style-type: none"> 1. ... 2. ... 3. ...
Handling options:	<ol style="list-style-type: none"> a) ... b) ... c) ...
Listings in the text	<ul style="list-style-type: none"> <input type="checkbox"/> ... <input type="checkbox"/> ... <input type="checkbox"/> ...
Buttons and menu items:	Selection

5.3 Help system

In addition to the operating manual that is enclosed with the software package, a comprehensive help system is integrated in the Dräger CC-Vision GDS software.

You can call the Help function by clicking on the question mark in the menu.

All explanations from the operating manual are also given in the Dräger CC-Vision GDS Help.

6 Starting Dräger CC-Vision GDS

This is how you proceed:

- There are two methods of starting Dräger CC-Vision GDS:
 - a) by double-clicking on the Dräger CC-Vision GDS icon on the desktop or
 - b) by selecting the **CC-Vision GDS** menu item in the Windows menu under **Start - Programs – Dräger**.
- After installation, the password protection is automatically deactivated.

If the password protection is activated, you must enter the username and password.

The standard settings are pre-configured:

Username:	Admin
Password:	Admin

7 Working with Dräger CC-Vision GDS

7.1 Overview

The **Polytron 7000** and **Dräger PIR 7X00** fixed gas detectors can be configured, calibrated and verified with Dräger CC-Vision GDS.

In this chapter, buttons are shown as they are available on the user interface in Dräger CC-Vision GDS.

7.2 Buttons in Dräger CC-Vision GDS

First, all the configuration data for a connected gas detector is transferred to the PC. Several buttons have been provided on the button bar for this.

The button bar allows quick access to important program functions by means of convenient button icons.



- Receiving data from the **Polytron 7000**



- Receiving data from the **Dräger PIR 7X00**

After data transmission, the instrument set-up appears in the instrument window. You can now view and edit instrument parameters, or perform a calibration or gas test.

Following the editing, the instrument data **must** be sent back to the measuring instrument. The following button is available for this:



- Send data to the instrument

Instrument or sensor data can also be saved as file. This also provides the option of creating configuration files, saving them on the PC and transferring them as required.

8 Data transfer between gas detector and Dräger CC-Vision GDS

8.1 Reading data from the gas detector

This is how you proceed:

- Connect the gas detector and switch it on:

Polytron 7000:	Bring into visual contact with the Dräger Infrared Adapter (DIRA).
Dräger PIR 7X00	Connect to Dräger CC-Vision GDS using the serial or HART® adapter. Serial adapter: "USB PC Adapter PIR 7000", Part no.: 68 11 663 Driver: CDM_Setup.exe, on installation CD, or HART adapter (e.g.: SMAR Research model HI 321)

HART® is a registered trade mark.

- Start Dräger CC-Vision GDS.

8.2 Setting up the interface

- Select **Tools – COM ports** menu and the desired interface
- Reading the configuration (either from menu or with button):



- Select **Receive data** in the **Communication** menu or
- Press corresponding button

Result

The instrument window with the gas detector data appears.

8.3 Sending data to the gas detector

Requirements

- The gas detector is connected and switched on.
- The COM port to which the instrument is connected, is selected.
- Data that are to be sent to the instrument are displayed in the open and active instrument window.

This is how you proceed:

- Send the configuration to the instrument, either from the menu or with the button:

- In the **Communication** menu, select **Send data** or
- Press the button



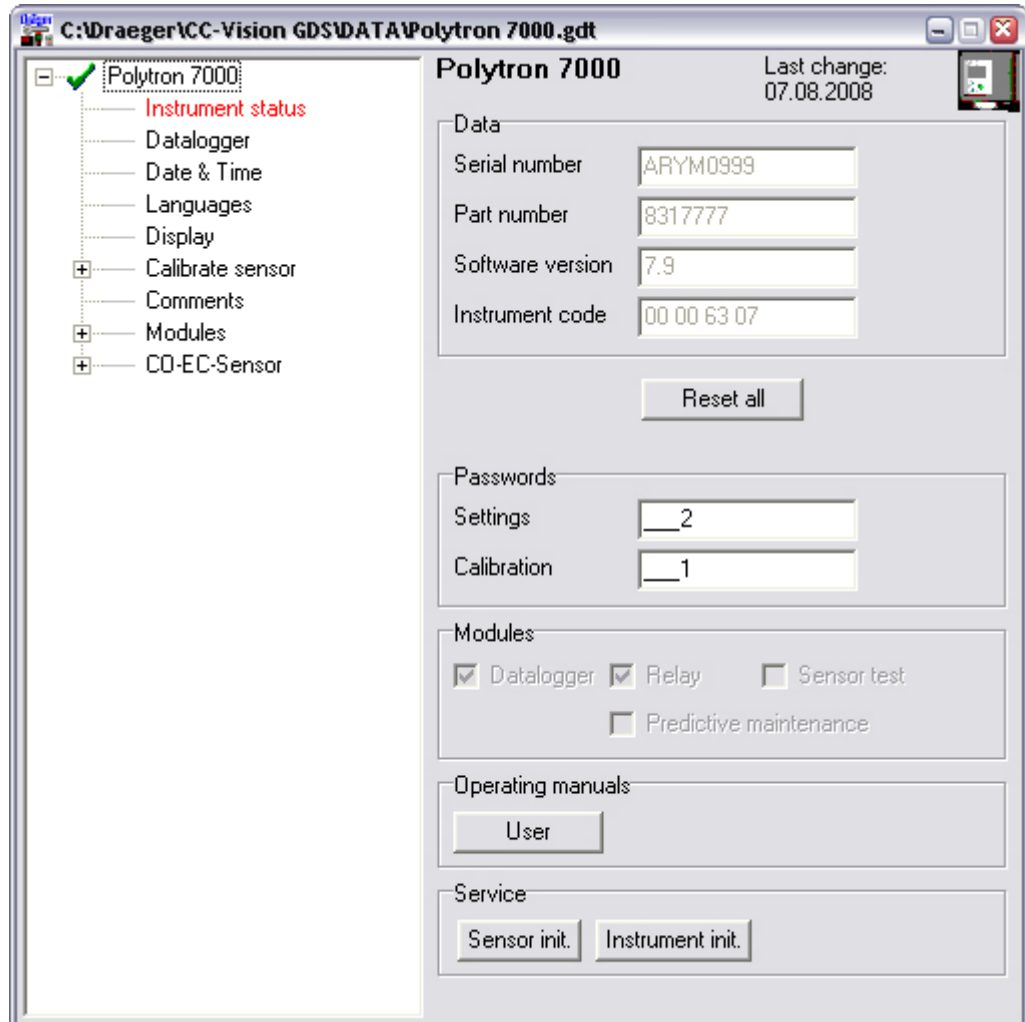
Result

Parameters from Dräger CC-Vision GDS are transferred to the gas detector; previous settings in the gas detector are overwritten.

8.4 Instrument window

The instrument window displays the data received from the gas detector or the data called from a file (file type *.gdt).

The menu is visible in a tree structure on the left side of the instrument window. By selecting the desired menu item, the corresponding data are displayed on the right side and can be edited here too if needed. Values shown in grey cannot be changed.



8.5 Instrument identification

The instrument data that describes the gas detector are shown under the instrument description (uppermost selection in the instrument window menu). Information regarding the configuration is also shown.

8.6 Instrument status

Faults and warnings relating to the gas detector and to individual sensors are displayed under **Instrument status**.

Note on colour markings

- Red markings in the instrument window menu refer to existing faults or warnings.
- The selection text appears in red.
- In addition, all branches belonging to the relevant point are marked with a red checkmark.

8.7 Datalogger (for Polytron 7000 only)

The datalogger settings (data log for measured values and events) are displayed and can be edited.

8.8 Date & Time (for Polytron 7000 only)

Here you can call and edit the date, date format, time and time format for the gas detector.

- The data are read and displayed by pressing the **Receive** button on the instrument.
- On pressing the **Send** button, the PC date, PC time and the specified formats are transferred to the gas detector.

8.9 Calibrate sensor (for Polytron 7000 only)

The calibration parameters of the sensor are displayed:

Next calibration date (if available),

- Gas and
- Gas unit,
- Measuring unit.

The various calibration functions can now be selected in the instrument window menu:

- Zero-point,
- Sensitivity.

For more details on calibration, see chapter "**Calibrating with Dräger CC-Vision GDS**" on page 16.

8.10 Comments

Here you can enter 10 lines of comments on the instrument with up to 80 characters respectively.

The wording of the comment lines can be specified in the **Tools - Options** menu.

8.11 Languages (for Polytron 7000 only)

Here you can choose the languages supported by the instrument.

8.12 Copying instrument configurations

It is possible to copy instrument configurations with the Dräger CC-Vision GDS. To do this, proceed as follows:

1. Establish connection to a Polytron 7000 with plugged in sensor.
2. Download instrument configuration from a Polytron 7000 with Dräger CC-Vision GDS.
3. Change and save instrument configuration as required (*.gdt file). For each measured gas, you must create a separate *.gdt file (**Master Configuration file**). Changes can also be made to the configuration later (except measured gas and sensor changes) in **offline mode** (without connection to the transmitter).
4. This **Master Configuration file** can now be used to configure more Polytron 7000 transmitters. To do this, it is only necessary to establish an connection to the corresponding transmitter and transfer the data with the **Send Data to Instrument** button.

You can do this in two ways:

a) Transmitter without plugged-in sensor

After configuration, if a sensor of the same part number as in the **Master Configuration** is plugged in, the following configuration data for the sensor

- Measured gas,
- Unit,
- Analogue measuring range and
- Alarm parameters

are retained. If a sensor with different part number is inserted, the default data of the inserted sensor is loaded.

b) Transmitter with plugged-in sensor

The configuration can only be carried out when a sensor with the same part number as in the **Master Configuration** is inserted. Otherwise, no configuration of the transmitter is carried out.

8.13 Sensor description (for Polytron 7000 only)

Display of sensor-specific data. These include, among others:

- Sensor type,
- Last and next calibration date, and also the
- Measuring range and unit.

Sensor - Data	Display of the sensor measuring range as well as the alarm thresholds A1 and A2 (if available) required for alarm analysis.
Sensor - Comments	Use this window to enter a comment for each sensor (10 lines with maximum 80 characters each).
Sensor – Alarms (if available)	<p>Here you can call and edit all the settings for the alarm of the sensor used.</p> <ul style="list-style-type: none"> <input type="checkbox"/> Alarm thresholds A1 and A2 <input type="checkbox"/> Latching / non-latching (Latching: Alarm is retained even if the measured value quits the alarm threshold.) <input type="checkbox"/> Acknowledgeable / non-acknowledgeable (Acknowledgeable: Alarm can be acknowledged, e.g. so that the audible alarm is silenced.) <input type="checkbox"/> Rising / Falling (Rising: Alarm is triggered when the alarm threshold is exceeded. / Falling: Alarm is triggered when the alarm threshold falls below the alarm threshold.)

8.14 Transmitter module (for Polytron 7000 only)

Module: Analogue interface	<p>Here you can call and edit all the settings for the analogue interface of the transmitter.</p> <p>In addition, the analogue interface with the test functions - Concentration Test, Analogue Test, Fault Test, Warning Test and Maintenance Test - can be tested (detailed information on the analogue interface is given in the Instructions for Use for the Polytron 7000).</p>
Module: Pump	<p>Here you can call all information and settings for the transmitter pump.</p> <p>With Flow setting, the pump flow rate can be changed with the [+]- and [-] buttons.</p>
Module: HART	<p>Here you can call all the information and settings for the HART interface of the transmitter.</p> <p>The HART tag and the HART polling address of the transmitter can be edited and changed here.</p>

9 Calibrating with Dräger CC-Vision GDS

The calibration functions in Dräger CC-Vision GDS can be accessed from the instrument window menu (also see chapter "Instrument window" on page 12).

Select: **Calibrate sensor / Calibration**.

The various calibration options can be selected under these function groups.

9.1 Calibration options

Depending on the functionality of the gas detector, Dräger CC-Vision GDS offers two calibration options, as well as a calibration history:

Zero-point calibration	<p>For the zero-point calibration, sensors of a connected gas detector are calibrated with a so-called zero gas to the values that correspond to their exact display at 0% measured gas.</p> <p>Please note:</p> <p>During the zero-point calibration, the sensor to calibrate may be loaded only with zero gas and not with measured gas, this also applies to the O₂ sensor!</p>
Span calibration	<p>For the span calibration, the sensors are calibrated to display the exact target value of a stipulated calibration gas. Before the span calibration of a sensor, a zero-point calibration must be carried out.</p>
Calibration history	<p>Calibration results are saved in the calibration history.</p> <p>Calibration date, name of tester and the sensors are listed with their calibration results.</p> <p>The individual results of the calibration history can be accessed with the arrow keys.</p>

9.2 Calibration gas settings

In the instrument window menu, select one of the calibration options: **Zero-point calibration** or **Span calibration**, to display a window with the calibration gas settings for the sensor.

Besides selecting the sensor to calibrate and the calibration gas concentrations, it is possible to make the following settings:

Tolerance	<p>The measured value can deviate for the minimum calibration time only by this tolerance value, otherwise a calibration is not possible.</p>
Minimum calibration time	<p>The permissible period is between 3 and 420 seconds. A calibration is not possible until this period has elapsed.</p>

9.3 Important safety notes on calibration

WARNING

- Never inhale calibration or test gas! Danger to health.
- Use commercially available calibration gas.
- To minimise the danger to health, select an appropriate calibration gas concentration.
- Observe the details in the instrument's Instructions for Use and sensor data sheets.
- Before any calibration, the relevant sensor must be pulled in!
This is only assured when, after the sensor warning, the Notice icon is no longer displayed in the gas detector display (for Polytron 7000 only).
- Observe the sequence: Always calibrate the zero-point before span!
- Use non-condensing calibration gases.

Notice

Observe the date and time setting in the gas detector: Calibration is only possible if the date and time are set correctly in the instrument (Polytron 7000 only).

9.4 Calibration procedure

 CAUTION
--

Before you begin with the calibration, observe the safety notes in the chapter "**Important safety notes on calibration**" on page 17.

In addition, the technical information in the Instructions for Use for the respective gas detectors must be observed.

- First, select one of the calibration options from the instrument window menu, then make the calibration gas settings.
- The calibration procedure is started by pressing the **Zero-point calibration** or the **Span calibration** button in the instrument window. The measurement over time is now displayed in a diagram.

Underneath the graphic of the signal course there is a table in which the data for the sensor, calibration gas, measuring unit, set value and actual value can be specified. In each case, a confirmation field is located in the first column. This field can only be activated after the previously set minimum calibration time has elapsed.

Notice

Activate the confirmation field only when the measured value is stable over a specific period.

- The button **Signal stable. Perform calibration** starts the calibration.

Result

The calibration of the sensor is carried out and is indicated by a corresponding message. The message showing that the sensor was calibrated successfully or that an error occurred is displayed.

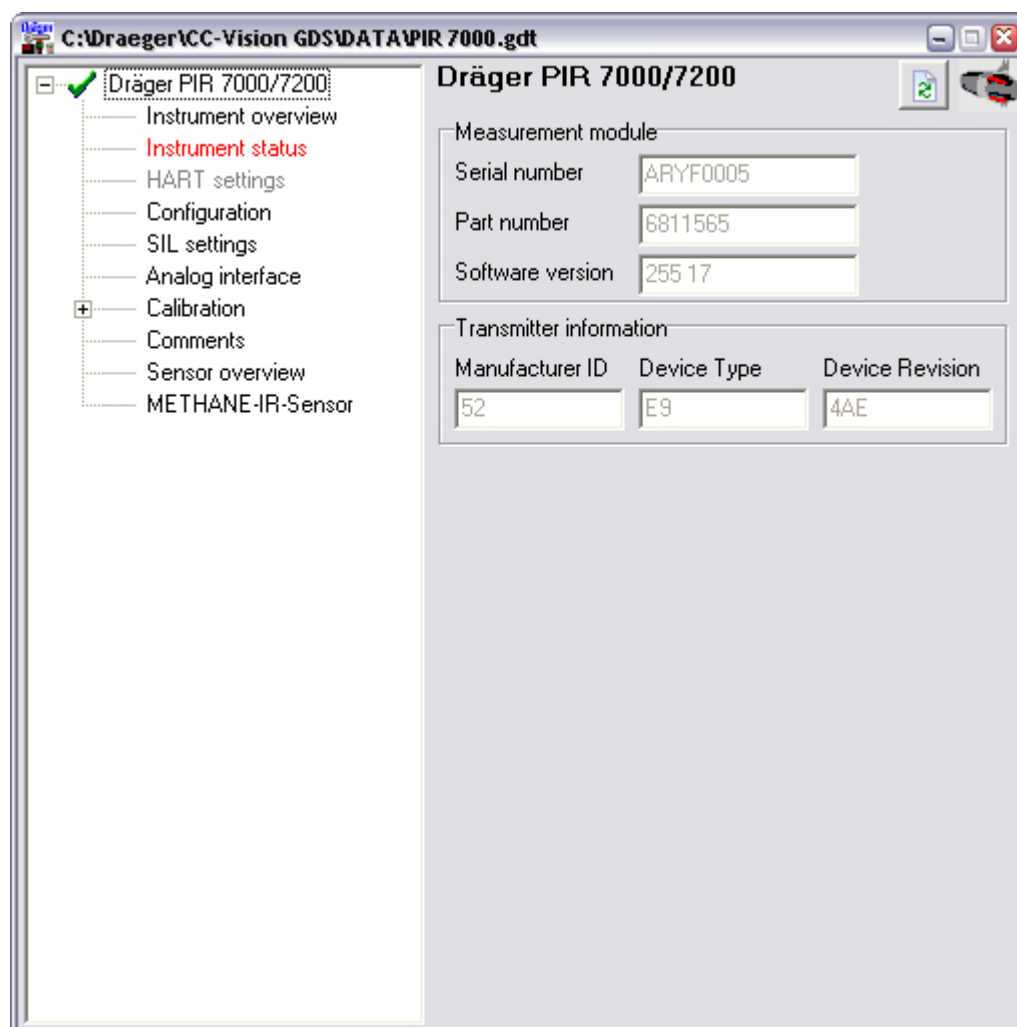
10 Dräger PIR 7X00 instrument window

CAUTION

Extensive changes to the default basic settings for the Dräger PIR 7X00 gas detector are possible with the Dräger CC-Vision GDS functions described in the following. As a result, the measuring and display characteristics of the gas detector can be altered significantly.

Dräger recommends a complete verification of the configuration after every change to the settings. The parameter summary under the SIL Settings menu item is useful here, or the corresponding summary which is available via the Dräger CC-Vision GDS print function.

The instrument window displays the data received from the gas detector or the data called from a file (file type *.gdt).



- ❑ The menu is visible in a tree structure on the left side of the instrument window. By selecting the desired menu item, the corresponding data are displayed on the right side and can be edited here too if needed. Values shown in grey cannot be changed.
- ❑ **Dräger PIR 7000/7200** is displayed in the upper right-hand corner of the instrument window. Under **Measurement module**, information such as **Serial number**, **Part number** as well as the current **Software version** is displayed.

Notice
The part number and the serial number identify the internal measuring unit of the instrument. The part number and the serial number of the entire unit can be found on the type plate of the Dräger PIR 7X00 .

Under **Transmitter information**, hexadecimal values are available as internal instrument ID data.

10.1 Instrument overview

All important current instrument parameters are displayed here:

- ❑ Measured gas and measuring unit,
- ❑ Full-scale deflection,
- ❑ The present measuring signal as an output current in mA,
- ❑ Instrument temperatures in degrees C / degrees F,
- ❑ Warm-up status,
- ❑ Instrument status in hexadecimal representation.

Notice
In the Dräger PIR 7X00, text messages are stored in English only. Regardless of the language selected on the Dräger CC-Vision GDS, therefore, text messages will always appear as "Methane" and "%LEL", for example.

When the instrument window opens for the first time, question marks (???) are displayed for all the instrument parameters. Press the **Update** button to load and display current parameters from the Dräger PIR 7X00.

The instrument status is indicated by the **System**, **Measurement**, **Status** and **Warnings** error bytes.

In normal operation and after all the warm-up periods have elapsed, only zeros are displayed here. Otherwise, there is a fault or a warning present.

- Press the **Update** button to refresh the data.
- After pressing the **Measurement...** button, a new window pops up. The current measurement is displayed there and updated every second.
- After the **?** button is pressed, a window appears containing the translations of some important measured gases (with their corresponding CAS numbers) as well as the measured gas units in the language currently set for the Dräger CC-Vision GDS.

Full-scale deflection	That concentration in the selected measuring unit for which the Dräger PIR 7X00 outputs a current of 20 mA at the current interface.
Measured value	Measured value of the Dräger PIR 7X00 in the selected measuring unit.
Output current	Actual current in mA.
Temperature (C), (F)	Instrument temperature in degrees C / degrees F.
Run-in phase	Run-in phase after switching on the Dräger PIR 7X00: 1 minute maximum.
Warm-up phase	Warm-up time: 180 minutes maximum.
Instrument status	Here, all instrument states are shown in the form of hexadecimal codes. If no fault or warning is present, only zeros are shown here (see also 10.2: Instrument status).
System	Internal system faults.
Measurement	Faults in recording measured values.
Status	Status errors.
Warnings	Warnings from the Dräger PIR 7X00.

A detailed description of the individual faults and warnings can be found in the Dräger PIR 7000 / Dräger PIR 7200 Technical Manual.

10.2 Instrument status

All the instrument states are displayed as legible information with the **Instrument status** function. You can open the paths to request information if there is a checkmark in front of **Fault**, **Warnings** or **Instrument status**.

If conditions have been detected on the Dräger PIR 7X00 that can be rectified simply, a recommendation for an appropriate course of action for remedying the fault (or warning) is displayed in the lower area of the window.

If settings or parameters in the Dräger PIR 7X00 are changed, some system-related faults or warnings appear temporarily. These disappear again immediately after the **Update** button is pressed.

Note on colour markings

- Red markings in the instrument window menu refer to existing faults or warnings.
- The selection text appears in red.
- In addition, all branches belonging to the relevant point are marked with a red checkmark.

Example:

- Beam block:** IR beam is interrupted or very heavily obscured. **Recommended action:** Check the optical surfaces; clean and wipe dry if necessary.

Update	Refreshes the window.
Copy	Copies the information to the clipboard.
Print	Produces a print-out of the instrument status.

10.3 HART settings

Notice

Access to the HART interface is only possible when using a HART adapter with a Dräger PIR 7X00 with HART functionality (optional). When communicating over the ICOM interface, the **HART settings** menu item is inactive. For further information, see also the Dräger PIR 7000 / Dräger PIR 7200 Technical Manual.

HART settings:

Here, the current HART settings are displayed and can be edited:

Polling Address	Assignment of a fixed HART address to the Dräger PIR 7X00. Possible address values: 0 to 15. With polling address 0, measurements are output through the analogue interface in the range 4-20 mA. With polling addresses from 1 to 15, a constant current signal of 1 mA is output. Measured values are digitally modulated on the constant current signal.
Descriptor	Entry of a unique text to identify the Dräger PIR 7X00. A maximum of eight characters is possible. Only uppercase, numbers and special characters possible.
Tag	Entry of a unique text to identify the Dräger PIR 7X00. A maximum of eight characters is possible. Only uppercase, numbers and special characters possible.
Query preambles / Response preambles	HART-specific number of transmitted and received data packets. Preset value: 5.
Date	Entry of a unique date to identify the Dräger PIR 7X00. Clicking on the date symbol opens a calendar from which the desired date can be selected.
Module number	Entry of a unique number to identify the Dräger PIR 7X00.
Message	Entry of a unique text to identify the Dräger PIR 7X00. A maximum of two characters is possible. Only uppercase letters possible.

10.4 Configuration

This window is used to display the currently set LEL category, the zero-point capture range and the display characteristics via the status display during on-site calibration using the magnetic wand (calibration ranges).

LEL category:

Three fixed LEL categories are stored in the Dräger PIR 7000. They comprise the LEL values according to NIOSH, IECEx and PTB.

The LEL category can be determined via the selection menu. The selected category is written to the Dräger PIR 7000 using the **Send data** button.

Notice

If the LEL category is changed, any individually set full-scale deflection will be automatically reset to 100 %LEL.

Capture range at the zero-point:

Capture value is the display on the Dräger PIR 7X00 that is activated to show that the current measured value is between the **Lower capture value limit** and the **Upper capture value limit**.

Notice

The following restrictions apply when entering individual capture values:

- | |
|--|
| <ul style="list-style-type: none"> <input type="checkbox"/> The capture value must lie between the upper and lower capture value limits. <input type="checkbox"/> The lower capture value limit must be smaller than the upper capture value limit. Enter negative values if necessary. <input type="checkbox"/> Maximum values for the upper and lower capture value limits are stored in the Dräger PIR 7X00. If an attempt is made to send larger or smaller values to the Dräger PIR 7X00, an appropriate error message is produced by the Dräger CC-Vision GDS. <input type="checkbox"/> Dräger CC-Vision GDS allows the entry of numerical values in 1 ppm steps. The resolution of the measurement signal in the Dräger PIR 7X00, however, depends on the measured gas selected and is generally greater than 1 ppm. The Dräger PIR 7X00 rounds the entries to the next possible display value. |
|--|

Range limits during calibration:


With the **Range limits during calibration**, thresholds can be set for the zero-point and the span, which the Dräger PIR 7X00 uses to indicate deviations in the measured value by means of various flashing patterns in the status display (see also the Dräger PIR 7000 / Dräger PIR 7200 Technical Manuals).

Response mode:

In the lower area there is a button which can be used to set the response mode of the Dräger PIR 7X00 to **Normal** or **Fast**.

- Activate the appropriate button and transfer the setting to the Dräger PIR 7X00 with **Send data**.

Notice
Changing the response mode changes some of the performance characteristics of the Dräger PIR 7X00 (see also the Dräger PIR 7X00 Instructions for Use).

 CAUTION
After changing the response time, a zero-point calibration and a span calibration must be carried out.

Dräger REGARD HART compatibility:

With this function a full compatibility between Dräger PIR 7X00 and a Dräger REGARD HART controller can be achieved (only applicable if a Dräger PIR 7X00 with HART functionality is used).

10.5 SIL settings

Access blockings considering to the **SIL** (Safety Integrity Level) can be activated and deactivated here, and the SIL PIN required for this can also be changed.

Notice
<p>Basically, it is possible to activate two levels of access blocking with the Dräger PIR 7X00.</p> <p>If a complete access protection for the configuration and calibration are to be set, press button SIL lock Parametr. & calibration.</p> <p>If only one configuration is to be blocked, but a calibration of the Dräger PIR 7X00 is to be possible without further entry of the SIL PIN, press button SIL lock Configuration.</p> <p>If any attempt is made to alter parameters or settings on the Dräger PIR 7X00 while the access protection is active, the message: "Error when sending to the instrument" appears.</p>

Switching off the SIL lock:

- Press the **Off** button. A window is displayed with a prompt to enter the SIL PIN. The factory-set SIL PIN is: **_ _ _ 2**
(_ = space)

Switching on the SIL lock:

- Press the **SIL lock Param. setting & calibration** button. A new window with all the current important settings for the Dräger PIR 7X00 appears.
- Check all instrument parameters carefully.
- The **Print** button produces a print-out of the window.
- Enter the SIL PIN.
- Click on the **Confirm** button. The SIL lock on the Dräger PIR 7X00 is activated again.

Changing the SIL PIN:

- Enter the current SIL PIN.
- Enter a new, 4-digit PIN (numbers and/or letters).
- Confirm with the **Change** button.

Notice
If the SIL PIN is no longer recognised, the Dräger PIR 7X00 can only be reset to the factory-set SIL PIN by means of a basic initialisation (menu bar CC-Vision GDS → Extras → Basic init.).

SIL ID: Numerical value for documentation.

10.6 Analogue interface

All the important parameters for the 4-20 mA current output can be configured at the menu point.

Full-scale deflection:

Measured value from the Dräger PIR 7X00 at which the output of the 4-20 mA current output is 20 mA.

- Enter a new full-scale deflection and send it to the Dräger PIR 7X00.
- If the selected full-scale deflection lies outside the permitted range, the Dräger CC-Vision GDS generates an appropriate error message. The Dräger CC-Vision GDS will then show the maximum and minimum settable values.

Special signals:

Maintenance	Value of the 4-20 mA current output in mA when the Dräger PIR 7X00 is in maintenance mode.
Maintenance alt.	Activating the Maintenance alt. button produces an alternating output of 3 mA and 5 mA.
Beam block warning	If a beam block warning is present and the Beam block warning button is activated, the selected current is output on the 4-20 mA signal output. If the current measured value on the Dräger PIR 7X00 exceeds a fixed threshold, the beam block warning is ignored and the current measured value is output on the 4-20 mA interface.
Fault	Value of the 4-20 mA current output if the Dräger PIR 7X00 detects a fault.
Warning alt.	When activated: Fault signal for 1 second every 10 seconds, otherwise measurement output when instrument warning present.

- Enter desired value. All the signals specified above can be set in the range from 0.7 – 3.6 mA.
- Activate the buttons if necessary.
- Send the data to the instrument.

Test analogue signals:

In the **Test analogue signals** field, test signals can be simulated on the 4-20 mA signal output. Pressing the **Set analogue signal** button switches the Dräger PIR 7X00 from measurement mode to test mode.

Output current:

Here, a fixed current on the 4-20 mA current can be output. Currents can be set from 0 to 22 mA.

- Enter the value of the current.
- Press the **Set analogue signal** button.

Notice

If necessary, deactivate the alarm devices and reactivate them on returning to measurement mode.
--

If any button for the test signals:

- Maintenance
- Beam block warning
- Warning
- Fault

- is activated and the **Set analogue signal** button is pressed, the signal defined under "**Special signals**" is output.

 CAUTION
--

The Dräger PIR 7X00 is not ready for measuring while the analogue signals are being output.

The Dräger PIR 7X00 switches back automatically to measurement mode when the Reset button is operated.

Calibration 4-20 mA:

This function can be used to calibrate the 4-20 mA output of the Dräger PIR 7X00.

Notice

If necessary, deactivate the alarm devices and reactivate them on returning to measurement mode.
--

- Press the **Calibration 4-20 mA** button. The Dräger PIR 7X00 quits measurement mode and switches to 4 mA output. The **Set zero point** menu appears.
- Measure the actual current of the Dräger PIR 7X00 and enter in the dialogue field.
- Transfer the actual current to the Dräger PIR 7X00 with the **Accept** button. The Dräger PIR 7X00 then calibrates the 4 mA output.
- Check the actual current (set: 4 mA) and, if necessary, repeat the process above or confirm with the **OK** button.

- The Dräger PIR 7X00 switches to 20 mA output and the **Set sensitivity** menu appears. The Dräger PIR 7X00 then calibrates the 20 mA output.
- Measure the actual current of the Dräger PIR 7X00 and enter in the dialogue field.
- Transfer the actual current to the Dräger PIR 7X00 with the **Accept** button.
- Check the actual current (set: 20 mA) and, if necessary, repeat the process above or confirm with the **OK** button.
- By pressing the **OK** button, the Dräger PIR 7X00 returns to measurement mode. The current measured value is displayed.
- By pressing the **Cancel** button you can end the calibration procedure at any time.

 CAUTION
--

The Dräger PIR 7X00 is not ready for measuring while it is calibrating the 4-20mA.
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Notice

The Dräger PIR 7X00 will permit only a restricted adjustment of the currents. If an attempt is made to make an adjustment outside of these restrictions, the Dräger CC-Vision GDS reports: Error when sending to the instrument (see also the Dräger PIR 7000 / Dräger PIR 7200 Technical Manual).

10.7 Calibration

Notice

For details on calibrating the Dräger PIR 7X00 always refer to the Instructions for Use.
--

Here, a zero-point and span calibration can be carried out. When calibrating the Dräger PIR 7X00 with Dräger CC-Vision GDS, a local calibration using the magnetic wand is blocked. The yellow status lamp on the Dräger PIR 7X00 flashes during the calibration procedure.

Zero-point calibration:

- Press the **Update** button.
- Dräger CC-Vision carries out the necessary initialisations and provides handling instructions for feeding the appropriate test gas.
- A window opens, in which the current measured value is displayed graphically.
- Click on **Confirm** in the lower field.
- Press the **Signal stable, perform calibration** button.
- The **Abort** button interrupts the calibration procedure.

Span calibration:

 CAUTION
Always use calibration gas according to the configured settings!

The settings for the calibration gas for the span calibration can be made in the lower area of the window. In this menu, only the parameters of the calibration gas are altered. The measured gas settings remain unchanged.

- Pressing the **Read data** button displays the current settings for the calibration gas in the Dräger PIR 7X00.

Calibration gas	The currently set calibration gas appears here. When the menu is opened, all the library substances currently installed in the Dräger PIR 7X00 appear. Changing the calibration gas: Select the appropriate library substance; Dräger CC-Vision GDS immediately updates the calibration gas in the Dräger PIR 7X00.
Unit	Calibration gas unit (%LEL / Vol.% / ppm) Changing the calibration gas unit: Select the appropriate unit; Dräger CC-Vision GDS immediately updates the calibration gas unit in the Dräger PIR 7X00.
Concentration	Calibration gas concentration Here, any changed value must be transmitted to the Dräger PIR 7X00 using Send data .
LEL of the calibration gas (for Dräger PIR 7000 only)	Here, an individual LEL (value always specified in the unit ppm) can be entered which deviates from the selected LEL category. The permissible setting range is limited and is $\pm 25\%$ of the LEL for the selected LEL category. Here, any changed value must be transmitted to the Dräger PIR 7000 using Send data . Caution: Changes are only accepted for the LEL of the calibration gas. The LEL for the measured gas must be changed separately if necessary.
LEL of the calibration gas (original)	LEL of the selected calibration gas in ppm, corresponding to the selected LEL category. Cannot be changed, for information only.

Span calibration:

- Press the **Span calibration** button.
- Dräger CC-Vision carries out the necessary initialisations and provides handling instructions for feeding the appropriate test gas.
- A window opens, in which the current measured value is displayed graphically.
- Click on **Confirm** in the lower field.
- Press the **Signal stable, perform calibration** button.
- The **Abort** button interrupts the calibration procedure.

History:

The measured values taken before and after calibration are stored under the current date in the calibration history. For further documentation, it is necessary to save the data via Dräger CC-Vision GDS.

You can find further information in the chapter, **Calibrating with Dräger CC-Vision GDS** in the Dräger PIR 7000 / Dräger PIR 7200 Technical Manual.

Notice

When a Dräger PIR 7200 is used to detect carbon dioxide, all specifications in this Dräger CC-Vision GDS operating manual are irrelevant with regard to explosion limit values (LEL).

10.8 Comments

Here you can enter 10 lines of comments, each with up to 80 characters.

The wording of the comment lines can be defined in the **Tools - Options** menu.

10.9 Sensor overview

Information on the gas library loaded in the Dräger PIR 7X00 is displayed here. The table offers ID information on the applied data set for measured gas as well as for calibration gas.

- Gas library version: Version number of the gas library
- Additional gases: Current number of the maximum of the ten possible additional measured gases (for Dräger PIR 7000 only)
- Format version, wave length ID, gas version: Individual identification depending on whether the gas is a measured gas or a calibration gas
- Gas code: 3-figure number for identifying the configured measured gas as well as the configured calibration gas

All details are for information only; no entries or changes possible.

10.10 <Measured gas> IR sensor

The measured gas currently set in the Dräger PIR 7X00 appears in the menu tree and in the heading on the right side of the window.

Example: **Methane** IR sensor.

Information about the date of the last calibration and the next calibration as well as the calibration interval are displayed on the right-hand side of the window.

Notice	
The Dräger PIR 7X00 has no clock or date function, so this information is stored on the PC. The Dräger CC-Vision GDS uses the selected calibration interval (standard setting: 365 days), to calculate the next calibration date. There is no interaction of these details with the Dräger PIR 7X00.	

Dates:


Last calibration	Date of the last calibration
Calibration interval	Time in days until next calibration. Maximum permissible value: 999
Next calibration	Date of the next calibration
Measuring unit	Measured gas unit (%LEL / Vol.% / ppm)
LEL_org of the measured gas (original)	LEL of the selected calibration gas in ppm, corresponding to the selected LEL category. Cannot be changed, for information only.
LEL of the measured gas (for Dräger PIR 7000 only)	Here, an individual LEL (value always specified in the unit ppm) can be entered which deviates from the selected LEL category. The permissible setting range is limited and is $\pm 25\%$ of the LEL for the selected LEL category. Here, any changed value must be transmitted to the Dräger PIR 7000 using Send data . Caution: Changes are only accepted for the LEL of the measured gas. The LEL for the calibration gas must be changed separately if necessary.
Measured gas	The currently set measured gas appears here. When the menu is opened, all the library substances currently installed in the Dräger PIR 7X00 appear. Changing the measured gas: Select the appropriate library substance. Dräger CC-Vision GDS immediately updates the measured gas in the Dräger PIR 7X00.


Notice	
If the measured gas is changed, the newly selected measured gas is also automatically stored as the calibration gas. If another calibration gas is to be set, it must then be re-set at the Calibration menu item.	

Notice	
After changing to a new measured gas, the entire configuration of the Dräger PIR 7000 should be checked completely.	

11 Records in Dräger CC-Vision GDS

Records can be created from configuration data and procedure data for documentation purposes.

	<p>Print</p> <p>When the printer is connected, the Print button is active and records can be printed.</p>
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	<p>Print Preview (Polytron 7000 only)</p> <p>The print preview provides a page view on the screen. You can define the record headings under the Tools - Options menu.</p>
---	---

Records can be prepared in Dräger CC-Vision GDS from the following data:






- Instrument configuration
- Instrument status
- Sensor configuration
- Calibration result from the calibration history
- Gas test result from the gas history
- Search results




12 Menu

The Dräger CC-Vision GDS menu is located in the program window header. Frequently used functions are also available as buttons in a button bar.


Some of these buttons are adaptive, hence are active only when corresponding instruments are connected.


12.1 File menu

	<p>Open</p> <p>The selection window for opening a file appears. Select the required file, and press the Open button. The file type is determined in the File type field. Here it is possible to choose an instrument file (*.gdt).</p>
	<p>Search</p>
	<p>Close</p> <p>The active window is closed. If the last changes of the window are not yet saved, you are asked if you want to save the data or not before the window closes.</p>
	<p>Save</p> <p>The data in the active window is saved in a file. The file name suggested automatically is composed of the instrument type and serial number. This file name can be changed. The data saved in ASCII format can be imported to other programs.</p>
	<p>Save sensor as</p> <p>This function enables saving sensor data in a file. The file name suggested automatically is composed of the sensor type and part number. This file name can be changed.</p> <p>If several sensors were selected, the selection window for saving appears for each sensor one after the other.</p>


	<p>Save as</p> <p>Enables saving data under another file name. The file name suggested automatically is composed of the instrument type and serial number. This file name can be changed.</p>
	<p>Print preview (for Polytron 7000 only)</p> <p>A window appears with the print preview record. The Print preview function requires a properly installed Windows printer driver.</p>
	<p>Print</p> <p>The record is printed on the printer that was defined as default printer.</p>
	<p>Printer setup</p> <p>If several printers are connected, you can select a printer here.</p>
	<p>List of last opened files</p> <p>This function shows the list with the 8 last opened files. At the top, is the last opened file.</p>
	<p>Exit</p> <p>Here you exit the Dräger CC-Vision GDS program. If files still containing changes that have not yet been saved are opened, you are asked whether you want to save the data before the window closes.</p>


12.2 Edit menu

	<p>Copy</p> <p>Complete instrument data records as well as individual sensor data records can be copied. Mark the corresponding selection in the instrument window menu and choose Copy from the Edit menu.</p>
---	---

	<p>Paste</p> <p>This function pastes the previously copied instrument and sensor data in the active window. The instrument type (only for instrument data), the part number for the sensors and the gas name must be identical.</p>
---	--

12.3 Communication menu

	<p>Receive data</p> <p>The configuration of the connected gas detector is read and presented in an instrument window.</p>
---	--

	<p>Send data</p> <p>The data from the active instrument window is sent to the connected gas detector.</p>
---	--

12.4 Tools menu

COM ports

The COM port to which the gas detector is connected is selected under this menu item.

Options

- Here you can determine the lettering for the comment fields, which can be accessed from **Comment** in the instrument window. Wording of the comment lines is limited to 11 characters. Wording in already saved files cannot be changed.
- In addition, headings for records can be determined. Headings for records are entered in the **Print captions** and **Footer** field. The text length for report headings is limited to 15 characters.
- If the **Rewrite mode** is activated, when saving the calibration and test history in the field, the instrument settings are always updated, otherwise settings during the first save are retained.
- Use **Directory** to choose a default directory for data storage.
- In addition, a graphic, e.g. your company logo, can be included in the record.

Change password

If password protection is activated, you can change the password here. To change it, you must first enter the old password.

Activate password protection

With this function, a password protection is set, so that you are asked to enter a username and password each time you start the Dräger CC-Vision GDS program.

In the input window, enter the username and password. To rule out any write errors when defining the password, you must enter the password twice.

Deactivate password protection

When the username and password are entered in this field, you are no longer asked for the password the next time you start Dräger CC-Vision GDS.

Dräger Safety AG & Co. KGaA
Revalstrasse 1
D-23560 Lübeck, Germany
Phone: +49 451 8 82-0
Fax: +49 451 8 82-20 80
www.draeger.com

90 33 032 GA 4634.830 de/en
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