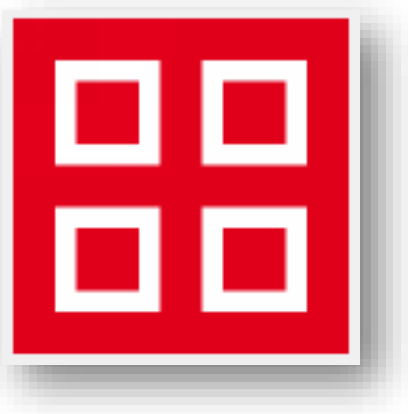
HYDAC INTERNATIONAL

PC Software

HEWIN V01

Quick Start Guide

(Translation of the original instructions)



Translation of original instructions

This manual was prepared to the best of our knowledge. Nevertheless, and despite the greatest care, it cannot be ruled out that mistakes could have crept in. Please therefore understand that, unless stated otherwise below, our warranty and liability – irrespective of the legal grounds – are excluded in respect of the information in these instructions. In particular, we shall not be liable for lost profits or other financial losses.

This exclusion of liability does not apply in cases of intent or gross negligence. Moreover, it does not apply to defects that have been deceitfully concealed or whose absence has been guaranteed, nor in cases of culpable injury to life, limb and harm to health. If we negligently breach any material contractual obligations, our liability shall be limited to the foreseeable damage. Claims arising from product liability remain unaffected.

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1 About this document

Thank you for choosing a HYDAC product. These instructions provide you with important information on the functionality, safety and use of your product.

Read through these instructions carefully before working with the product for the first time. Observe the instructions and safety specifications for all work.

1.1 Content, purpose and target groups

These instructions contain important information on all the setting options for the "HEWIN" software.

They are not a substitute for the documentation of the complete machine or system and its other components. There are separate operating instructions from the respective manufacturers for all hardware components.

Target groups

These instructions are intended for:
System owners, assembly and commissioning personnel, operators, service and maintenance personnel.

If you intend to carry out work on the product with the help of these instructions, you may need special basic knowledge and a particular specialised qualification (▶chapter 2.3"Personnel qualifications").

2 Safety

This section gives you important information on the safe handling and use of your product.

2.1 Intended use

Permitted fields of application

The HEWIN PC software is intended to operate the HMG 4000 and to evaluate and process measured value recordings, event logs of CAN / IO-Link data and parameterisation of individual CAN or IO-Link devices.

This software can be used with the below components:

• Portable Data Recorder HMG 4000

• PCAN-USB adapter (PEAK)

• IO-Link / Programming adapter ZBE-P1-000

Improper use

Any other use, or use that goes beyond that indicated, is not permitted and is therefore considered improper use.

Claims for defects or liability

Claims for defects or liability – regardless of the legal foundation – do not apply in particular with incorrect or improper storage, assembly, commissioning, usage, maintenance, disassembly or other circumstances which the manufacturer is not responsible for.

In the event of translation, only the original version of the operating manual in German is legally valid.

2.2 The owner’s obligations

As the owner, you have the following obligations in relation to the use of our product:

Instruction and training

● Provision of these instructions. The owner must ensure that all employees who are assigned work on the product have read and understood these instructions.

● It is mandatory for the operator to inform personnel on special operating features and requirements.

Occupational health and safety

● Clear regulation of which people are responsible for the various types of activities (e.g. assembly, installation, startup and operation) and what qualifications they need to have. It is obligatory to provide supervision for trainee personnel!

2.3 Personnel qualifications

The activities described in these instructions may only be carried out by individuals with specific specialist knowledge in the areas listed below:

- Electric system
- Hydraulics

2.4 General safety instructions

The HEWIN software itself does not pose any risks. Nevertheless, certain residual dangers in handling the entire system cannot be avoided by design. It is therefore essential to observe the safety information in the documentation for the system, the overall machine and the individual components.

3 Software

HEWIN is a PC application by HYDAC ELECTRONIC GMBH for operating the HMG 4000 and for analysing and processing measured value recordings, event logs as well as CAN and IO-Link data.
It is also used to parameterise individual CAN or IO-Link devices.

It consists of 8 function modes that are selected via the main menu. 

3.1 Function modes

Recordings 
Display and edit recordings made with an HMG 4000.

HMG 4000 
Configuration and display of the current measured values of the HMG 4000.

CAN symbols 
Read, create and edit CAN symbol files for use in the HMG 4000 or in the CAN trace.

CAN trace 
Read, display and store CAN messages.

CANopen 

Read and parameterise HYDAC devices with CANopen interface

CAN J1939 

Read and parameterise HYDAC devices with CAN-SAE J1939 interface

IO-Link 

Read and parameterise HYDAC devices with IO-Link interface

IO-Link trace 
Read,display and store IO-Link process data.

The **settings** can be used  to change the application settings and display the sidebar.

Here you will find the **information**  about HEWIN

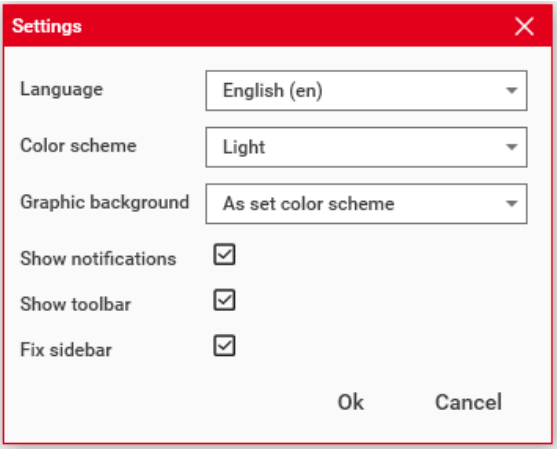
4 Requirements

HEWIN is a Windows application that requires the installation of **.NET8** . If .NET8 is not available on the PC, it is possible to start the installation of **.NET8** during the installation of HEWIN.
.NET8 is a runtime environment by Microsoft.

5 Application settings

The application settings include the language (German or English) and the colour scheme used (light or dark).
It is also possible to set the background of graphic displays independently of the colour scheme.
A change of language only becomes active the next time the application is restarted.

The application settings are hidden at the bottom of the main menu.



6 Information on HEWIN

The current software version is displayed in the information on HEWIN, as well as information on the End User Licence Agreement (EULA).

When displaying the information, the third-party licences used in the application can be displayed via the "Licences" link. This opens a new window in the file explorer. All licences used are stored in the pre-selected folder.

7 Recordings

7.1 General

Recordings are reports of measured values created with an HMG 4000 or another device. The current file format is **.herf4**, which is used by the HMG 4000.

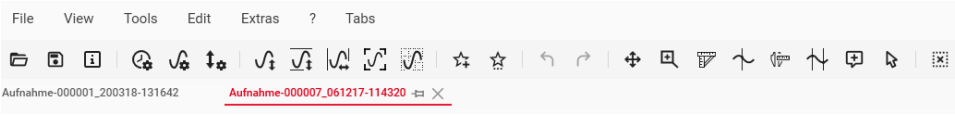
HEWIN V01 is also able to read files in the older herf format. This format is used by HMG 30x0, HMG 2500 or other older devices.

Storage is only possible in the current format.

Recordings are displayed in tabs. The file name is displayed on the tabulator; if it is "hovered over" with the mouse, the complete file path appears.

Tabs can be pinned using the pin icon. Pinned tabs are automatically opened the next time the programme is started.

The tabs are operated via the context menu (click on the tab with the secondary mouse button) or via the tabs menu.



Recordings can be roughly divided into 2 different types:
Measurement curve recordings and **event logs**.

Measurement curve recordings are isochronous. This means that all measured values were recorded at the same time interval, which is not the case with event logs.

Instead, the measured values are saved when an event occurs. For these reasons, not all functions are possible with event logs and event logs are also displayed differently.

When displaying a measurement curve recording, the individual measurement points are connected by lines. If the image is zoomed in so much that the individual measurement points are more than 20 pixels apart, the actual measurement points are labelled.

When displaying a measurement curve recording, the individual measurement points are connected by lines.

Open recordings are signaled by the red dot next to the icon.

7.2 "File" menu

Recordings can be opened, saved and closed via the file menu with the functions **Open**, **Save**, **Save as**, **Save all** and **Close**.

Attachments

Additional files can be attached to a recording file.
To do this, select **Attachments** in the file menu. Attachments can then be added, deleted, opened or saved in the dialogue that appears.

Export

Recordings can be exported in CSV format or in TDMS format.
CSV is a universal format for saving data in a table.
TDMS is a special format from National Instruments.

The data to be exported can be specified during export. It is possible to export the current view or the current recording.
When exporting the current view, only the data that is currently displayed is exported, while in the other case, the values that lie outside the displayed area or that are currently hidden are also exported. When exporting, the file name of the export file is requested.

It is also possible to export all open recordings or all recordings in a specified folder. In these cases, you have to specify the output folder. The file name is then assigned automatically.

It is also possible to change the display of the time during export. For example, it is always possible to export the time in seconds.

When exporting in CSV file format, you can choose between the standard settings of the operating system or special settings.
With special settings, the text format, the characters for line breaks, the separator for the values, the decimal separator, the format for the date and time or for time span can be specifically defined.
When selecting a user-defined time format, click on the question mark to display a list of all possible format specifications.

Import

Importing is only possible from CSV files. After selecting a file, the text format can be selected, as well as the list character, decimal separator and time format used. You can also specify whether the file contains headers.

The text format only has an effect if umlauts or other special characters are used in headers.

With the "**Automatic detection**" button, HEWIN attempts to find the appropriate settings automatically.

At the bottom of the window, there is a preview of how the columns are interpreted. In the first column, you can select whether it is a time specification or a measured value or whether the column should be ignored. The other columns must contain measured values. However, they can also be ignored.

If a column cannot be interpreted, it is marked in red.
Only the first lines in a file are considered. If there are entries further down in the file that cannot be interpreted, this is not displayed as an error before the entire file is read in.

If HEWIN recognises that the measured values were recorded at an equidistant distance, it creates a measurement curve, otherwise it creates event log.

Create PDF

The dialogue for setting the page formatting offers various options for the definition of options for the page margins as well as for the header and footer.
To do this, click on the left, right and centre of the header and footer and specify what should be displayed there.

Properties

Information about the recording is displayed here.
The content of the information depends on when and how the recording was created. It also logs when channels are removed or added.

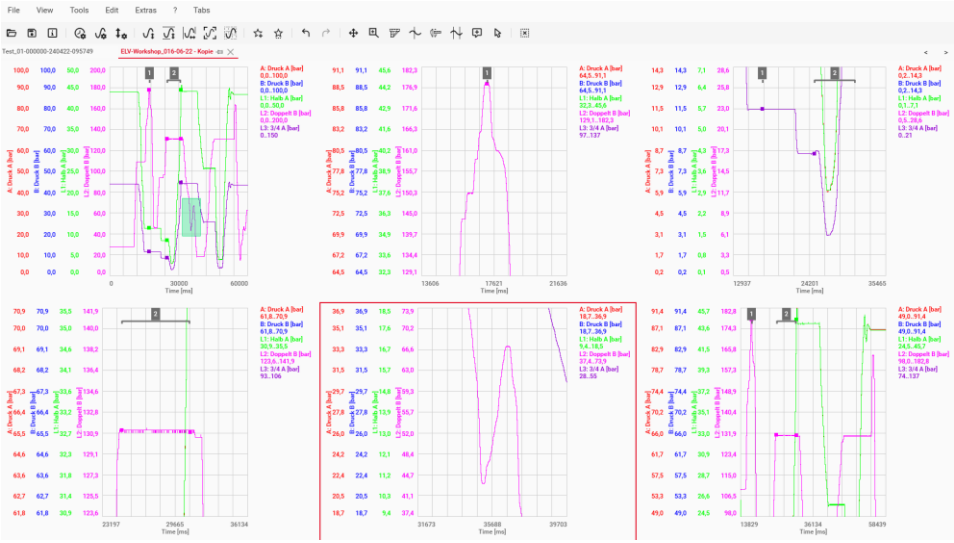
Recent files

The most recently opened files are displayed here. Files can be pinned using the pin symbol. Pinned files are always displayed at the top. This allows you to memorise important files that you want to open frequently. Pinning a recently opened file should not be confused with pinning a tab.

7.3 "View" menu

Layout

HEWIN can split a tab with an open recording into up to six different views.
By clicking on a view, it is selected and additionally outlined in red.
Menu items, button commands etc. then always refer to the currently selected view (outlined in red).
The first view (top left) serves as the master. If you zoom in another view, for example, the zoomed area of the selected view is highlighted in green in the master view.
This allows you, for example, to display the entire curve in the first view and the details in the other views.
This allows you to see which details you are currently looking at in the first view.



Time settings

The time can be displayed in milliseconds, seconds, minutes, hours or days or as a time span (hh::mm::ss).
The displayed decimal places are calculated automatically. If a recording has the date and time when it was made, the date and time can also be used as a time specification.
All these settings always belong to one view. For example, the time can be displayed in ms in certain detailed views and only in minutes in others.

Channel settings

The displayed range and the colour can be set separately for each channel here.
You can also use the check boxes at the beginning to specify whether the channel is displayed and whether there is a scaling axis to the left and or right.
All these settings belong to one view.
For example, channels can be displayed with different colours in special detail views than in the other views.

Scale settings

There are a total of five buttons / menu items for scaling in the toolbar at the top, as well as in the context menu and in the view menu:

"Scale measured values as large as possible" scales to the largest and smallest value that occurs in the displayed range.

"Newly align" moves the view so that it fits the set grid. See "Scale settings".

"Scale to measuring range" scales to the measuring range limits.

"Show complete time range" sets the current view to the entire time range.

"Total view" is a combination of scaling to the measuring range and to the entire time range.

In the "Scale settings" dialogue, you can also specify whether channels are scaled together and how coarse or fine the grid should be.

Bookmark view / Bookmarked views

"Bookmark view" saves the current view (outlined in red) as a bookmarked view.

"Bookmarked views" opens the menu for editing all bookmarked views

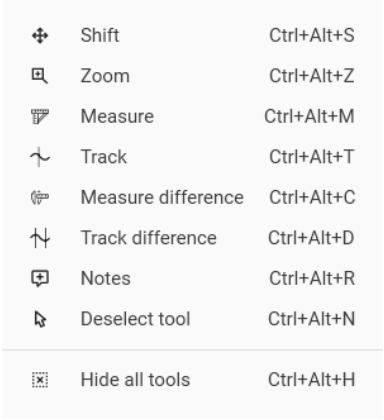
Transfer reference settings

The settings of the current recording can be easily transferred to one or all other open recordings via the dialogue window.
It is also possible to apply settings from a saved recording to the current recording or all open recordings.

The checkboxes are used to specify which settings are to be applied.

7.4 "Tools" menu

Various tools are available here for editing a view in the recording.



The selected tool always applies to everything that is newly created in a view.

Example:
In the first view, measurements are taken with the ruler. Then select the calliper gauge and work with it in the second view. The ruler remains in the first view until you click on it with the calliper, for example.
Clicking the **Deselect tool**, the tool is no longer active, but the views are retained.
Clicking the menu item **Hide all tools**, all calipers, trackers, etc. will disappear.

Quick tools

There is also a quick version for the **Push** and **Zoom** tools.
The quick tool is activated when you click on a graphic while holding down the Shift key or the Control key. The quick version of the slide tool (shift key) or the zoom tool (control key) then becomes active and remains active until the mouse is released again. Using one of these two quick tools does not change the selection of the normal tool.

Example:
The ruler is selected as a tool. Clicking on the graphic while holding down the shift key, the move tool appears and the graphic can be moved. When you release the mouse, the ruler is active again.

7.5 "Edit" menu

Various tools are available here for editing the recording.

Add calculated channel

The dialogue box can be used to add calculated channels from one or more other channels to the recording.

Add filtered channel

A filtered (smoothed) channel can be added to the recording via the dialogue box.

Add derived channel

A time-derived channel can be added to the recording via the dialogue box.
This allows the speed of measured value changes to be calculated.

Overlay recordings

Recordings with the same sampling rate can be overlaid via the dialogue box.

Extract recording

The current view is extracted as a new recording file.

Increase sampling rate

When the sampling rate is increased, the intermediate measuring points are removed and the file size is reduced accordingly.
This function can also be used to adjust recordings that were recorded at different sampling rates for comparison or overlaying.

7.6 "Extras" menu

Create image

A new window opens in which the current view is displayed as an image.

Table view

A new window opens in which the current view is displayed as a measured-values table.

7.7 "Tabs" menu

Various tools are available here for pinning, detaching, opening and closing tabs, as well as an overview of all open tabs.

Create new window

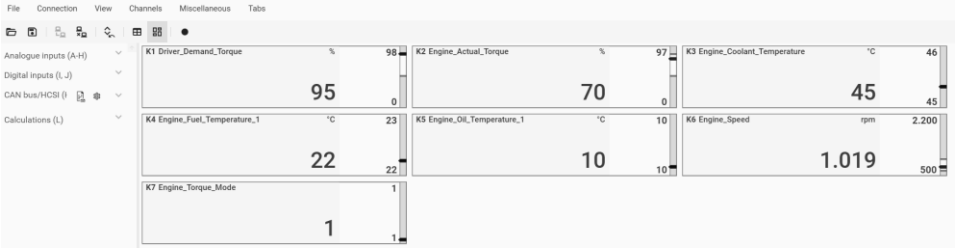
A new recording window opens in which further tabs can be opened.
If 2 windows are open, the tabs can be moved from one window to the other by clicking on the tab and then dragging the tab.

8 HMG 4000

An HMG 4000 connected to the PC can be operated in this function area.

The measured values are displayed on the right and the channels are displayed on the left in the tree. Click on it to change the settings for a channel.

A cogwheel is also shown for CAN bus. Click on this to open the dialogue window for the general CAN settings.
A symbol file can be selected at the bottom of Evaluate messages. These symbols are then available for the individual channels.



8.1 "File" menu

With **Load file** and **Save file as** the current settings of the HMG 4000 can be loaded from a file or saved in a PC file.

8.2 "Connection" menu

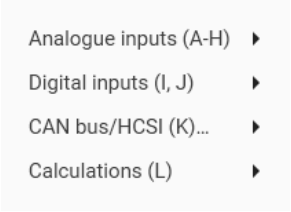
The USB connection to the HMG 4000 can be established and disconnected via the dialogue box.

8.3 "View" menu

This menu contains various setting options for the measured value display.

8.4 "Channels" menu

This menu contains various setting options for the measuring channels.

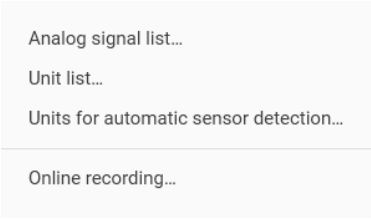


There is another cogwheel button behind CAN bus / HCSI. Click on it to open the general settings for the CAN bus.
A symbol file can be selected at **Evaluate messages**. These symbols are then available for the individual channels.
The search function can be used to search for specific symbols.

It is also possible to select all channels of a symbol file directly using the symbol button next to the cogwheel.

8.5 "Miscellaneous" menu

In this menu, the analogue signal list and the unit list can be edited and other settings can be made.



An online recording can also be started here.

8.6 "Tabs" menu

Create new window

A new HMG window opens in which another HMG can be connected to the PC.

Ongoing recordings are signaled by the red dot next to the icon. 

9 CAN symbols 

In this function area, symbol files for the CAN bus are opened, created or changed using the symbol editor.

Ongoing recordings are signaled by the red dot next to the icon. 

9.1 Symbol types

There are different types of forms: **messages**, **signals**, **multiplexers** and **enumerations**.

Messages

A message has a name, which must be unique, a frame type and a message ID. A message can contain signals or multiplexers.

Signals

A signal always belongs to a message, either directly or via a multiplexer.

A signal is used to extract values from a CAN message.
It has a name that must be unique within the CAN message.

A signal describes the representation of a byte sequence within a received message, e.g. 16-bit temperature value.

Multiplexer

A multiplexer is always assigned to a message and may contain signals.
It is used to transmit different signals at the same place in a message. A multiplexer is basically an integer value in a message.

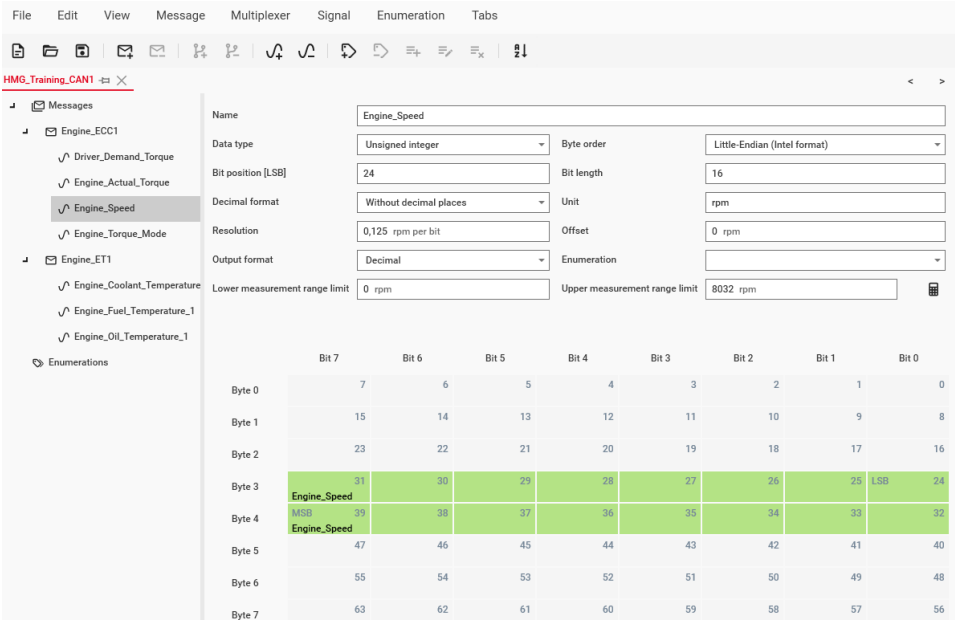
Signals that belong to a multiplexer have a multiplexer value and are only recognised if the multiplexer in a received message corresponds to the multiplex value of a signal.

Enumerations

Texts for individual values or value ranges can be defined in enumerations.
Enumerations can be assigned to signals.
An enumeration can be used in several signals at the same time. If the value of a signal corresponds to an associated enumeration value, the text stored there is displayed instead of the numerical value.
(This does not apply to measured values for the HMG 4000)

9.2 Structure of the application

The display of a symbol file is divided into two areas.
There is a tree on the left that shows the contents of the file. There you can also see the assignment of what belongs to a message or a multiplexer.
By clicking on an entry, values can be displayed and changed if necessary. The content of the elements is displayed to the right of the tree.



Signals and multiplexers are also visualised by a control element to support the user during creation/editing.
In the example shown above, the **Engine Speed** signal is selected.
Two bytes from bit position 31 are used and interpreted as a speed value between [0..8032 rpm] are interpreted.

9.3 Editing files

There are three options for adding new elements or deleting existing ones:

- Use the menu at the top.
- Use the toolbar below the menu.
- Open the context menu by right-clicking in the tree.

Open / Save

The **Open** and **Save** functions always refer to the HYDAC file format **.hecsf**.
This format is required for the HMG 4000, as the HMG 4000 cannot process **.sym** or **.dbc** symbol files directly.

If a symbol file is imported in .sym or .dbc format, it is always saved in HYDAC .hecsf format.

Import / Export

The following external file formats are supported:

- Peak symbol files (.sym)
- Vector DBC files (.dbc)

These formats can be imported into the HYDAC file format and the HYDAC file format can be exported to them.
It should be noted that each file format has its own special features and the formats are not 100 % compatible. There may therefore be restrictions in the exported file during import and subsequent export.

CAN FD messages in particular are not supported. Such messages are ignored during import.

When using these functions, the user is informed of this by a corresponding message.

Add

The **Add** function can be found in the **Edit**menu. It is used to integrate messages from other symbol files into the currently open one.

A dialogue opens in which specific messages can be selected.
If required, the entire file can also be transferred.

Your linked signals and multiplexers as well as enumerations used are also imported with the message. Message IDs are unique within a file and can only occur once.
If a message with the same message ID already exists in the open file, the entry is greyed out accordingly and cannot be selected.

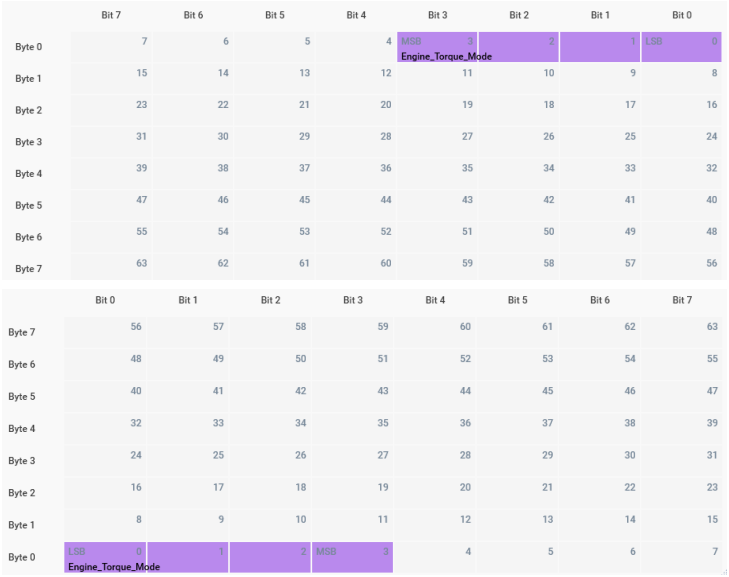
Extract

The **Extract** function is the reverse of Add. Individual messages can be selected here and saved as a separate file.
For example, if there is a large collection of messages in a file and you want to provide a file that only contains the messages that are currently required.

Byte order / bit order

The menu items **Change byte order** and **Change bit order** can be found in the menu item **View**.
A change only affects the visual display below the entries. Depending on the byte order and constellation of the signals, it may be helpful to change this view.

However, changing these two menu points has no effect on the symbol files themselves.



9.4 "Tabs" menu

Various tools are available here for pinning, detaching, opening and closing tabs, as well as an overview of all open tabs.

Create new window

A new recording window opens in which further tabs (symbol files) can be opened.
If 2 windows are open, the tabs can be moved from one window to the other by clicking on the tab and then dragging the tab.

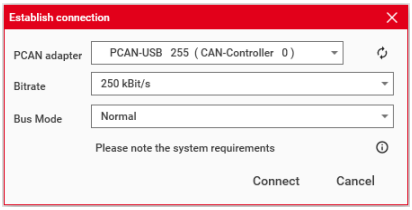
10 CAN Trace

In this function area, you can connect to a CAN bus via a PCAN-USB adapter to create CAN traces.

Ongoing recordings are signaled by the red dot next to the icon.

10.1 Establish connection

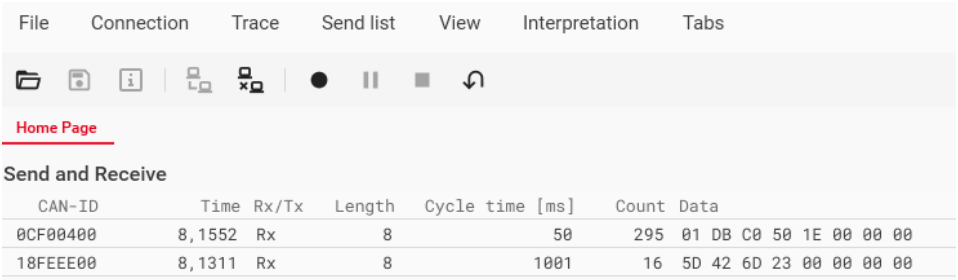
To establish a CAN connection via a PCAN adapter, click on the menu point **Connection / Establish**.



You can select the desired adapter, transfer rate and bus mode in the connection dialogue that opens.
To update the list of connected adapters, press the icon on the right side of the frame.
Please note the system requirements of the bus system.

10.2 Send and receive

In the "**Start page**" tab, the current messages on the CAN bus are displayed grouped by CAN ID.
This view can be cleared using the "**Reset**" button in the toolbar.



10.3 "Send list" menu

The send list offers the option of sending configurable CAN messages at the push of a button or cyclically.
The display of the send list can be customised via the menu of the same name "**Send list"** . The same menu contains the options to **create**, **edit** or **delete** CAN messages.

Save send list

The current status of the list is saved in the application beyond the end of the programme.
The list can be saved explicitly as a file (.hecmf) under the menu item **Send list / Save**.

Load send list

A send list is loaded from a file via the **Send list / Load** menu.
The current list in the application can be overwritten or the loaded messages can be added to the current list.

Send a message

To send a message, select it and then press the **space bar** or use the appropriate menu item in the **Send list**menu.

Edit message

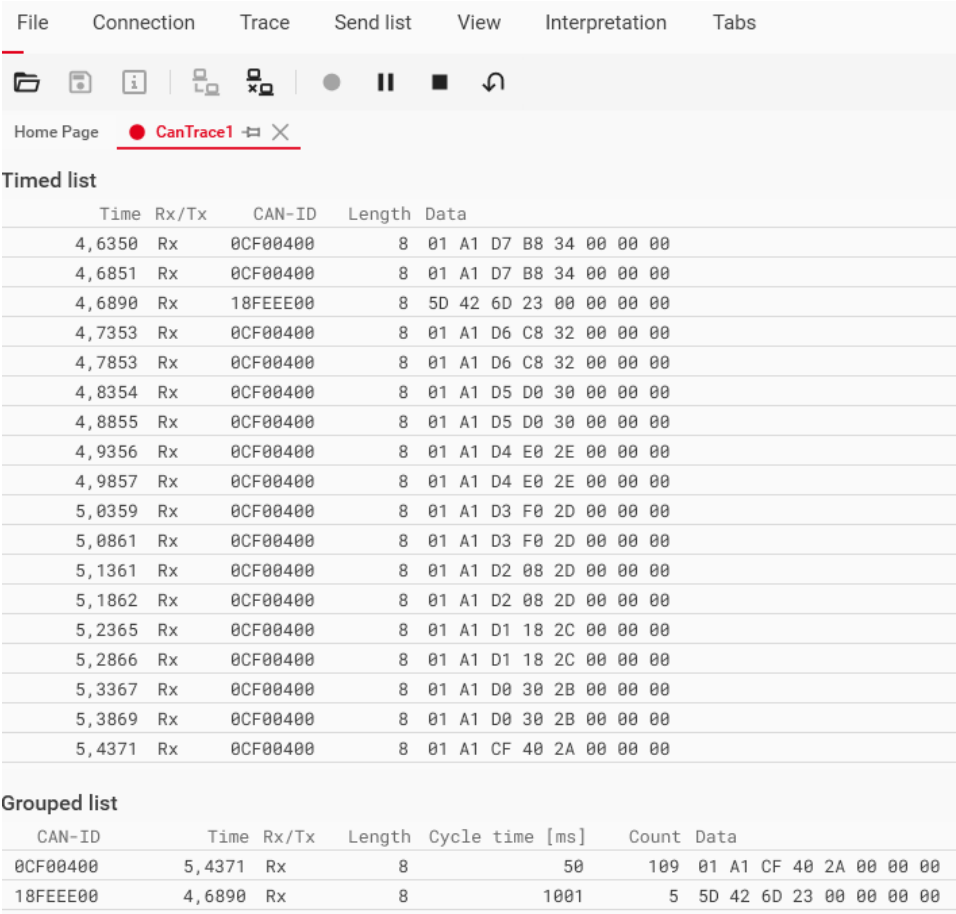
To edit a message, select it and then press the **Enter key** or use the **double-click**.
A dialogue box opens with the possible settings.

Display

The send list can be displayed horizontally below or vertically next to the send and receive list.

10.4 Record trace

The menu point "**Recording / Start**" starts a new recording. The application shows the tab with the currently running recording.
All CAN messages are listed in descending order of time in the "**Timed list**" area.
In the "**Grouped list**" area, the recorded messages are grouped by CAN ID.
In addition, the cycle times between the messages with the same CAN ID are calculated as well as the frequency of the message.



The displayed time of a message is relative to the start time of the recording.

You can pause, continue, stop or reset the recording in the toolbar or in the "**Recording**" menu. Resetting the recording does not change the start time, but only clears the message history.

Import file

You have the option of importing files from other formats via the menu item "**File / Import**" and converting them to the HYDAC "**.hectf**" format.

PEAK CAN TRC files with the extension ".trc" are supported in versions 1.0-2.1.

Export file

A trace file can be exported via "**File / Export**". Exporting to the PEAK CAN TRC format version 2.1 is supported.

Buffer settings

The buffer size and buffer type can be defined in the menu point "**Trace**".
With the linear buffer, the recording runs until stopped manually or until the buffer has reached its size. The ring buffer overwrites itself once the buffer size has been reached.

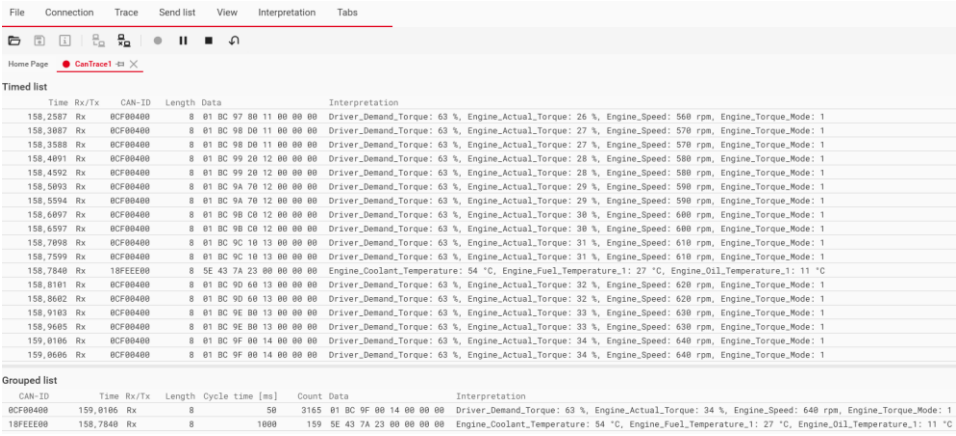
10.5 "Interpretation" menu

It is possible to interpret the data of the CAN messages.
To do this, you can select the protocol used in the "**Interpretation**" menu if standard information about a message is sufficient.

Load symbol file

You have the option of selecting a symbol file (.hecsf format) via the menu point "**Load symbol file**".
This lists the individual signals with their name and their interpreted value.

Hold the mouse cursor over an interpretation to see the signals listed one below the other.
Clicking on the interpretation opens a window in which the values can also be seen.



Save symbol file in the recording

If a symbol file is selected and you save the trace, the selected symbol file is saved with it.

This can be removed again via the menu item "**Interpretation / Remove symbol file**".

10.6 "Tabs" menu

Various tools are available here for pinning, detaching, opening and closing tabs, as well as an overview of all open tabs.

Create new window

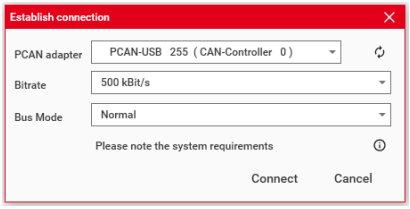
A new window opens in which traces can be created via an additional connection with an additional CAN adapter.
If 2 windows are open, the tabs can be moved from one window to the other by clicking on the tab and then dragging the tab.

11 CANopen

HYDAC CANopen devices can be configured and parameterised in this function area.

11.1 Establish connection

To establish a CAN connection via a PCAN-USB adapter, click on the menu point **Connection / Establish**.



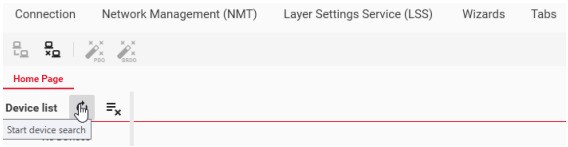
CAN adapter

You can select the required adapter in the connection dialogue that opens. To update the list of connected adapters, press the icon on the right side of the frame.

In addition, the transmission rate and the bus mode must be specified.

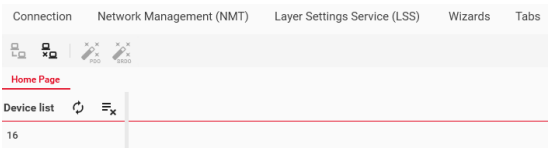
11.2 Start device search

You can start the device search in the device list area.



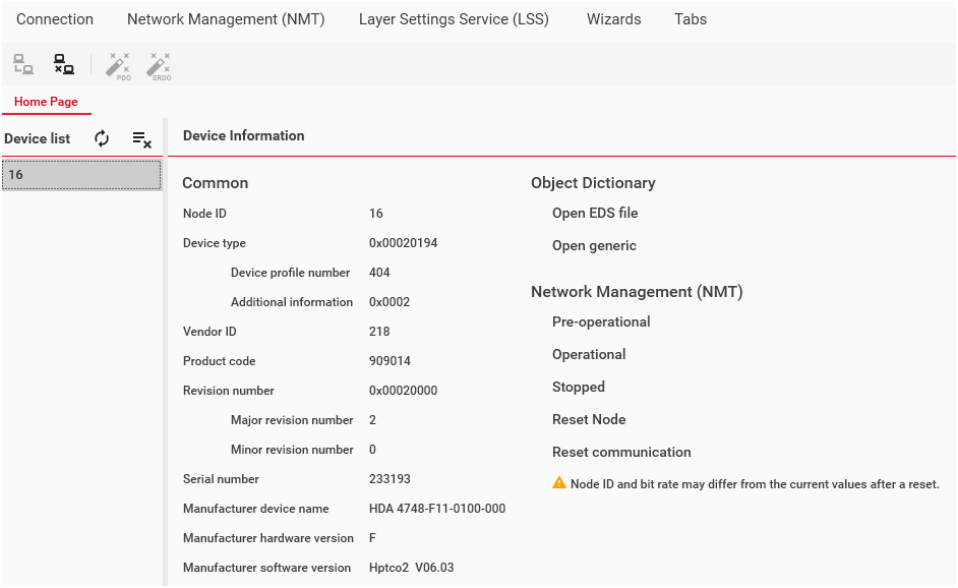
All devices found are then displayed in the device list.

The device list is a current image of the devices connected to the CAN bus.
The participants are listed by CANopen Node-ID.



11.3 Device information

If an entry is selected from the device list, the device information appears. Information such as product code, serial number, software version, etc. is generally listed here.



11.4 "Network Management (NMT)" menu

The "**Network Management (NMT)**" menu allows you to set the status of all connected devices.

The states/actions are:

- Pre-Operational
- Operational
- Stopped
- Reset
- Reset communication

NMT commands for a node

The NMT commands can be sent to the selected node in the "**Device information**" view.

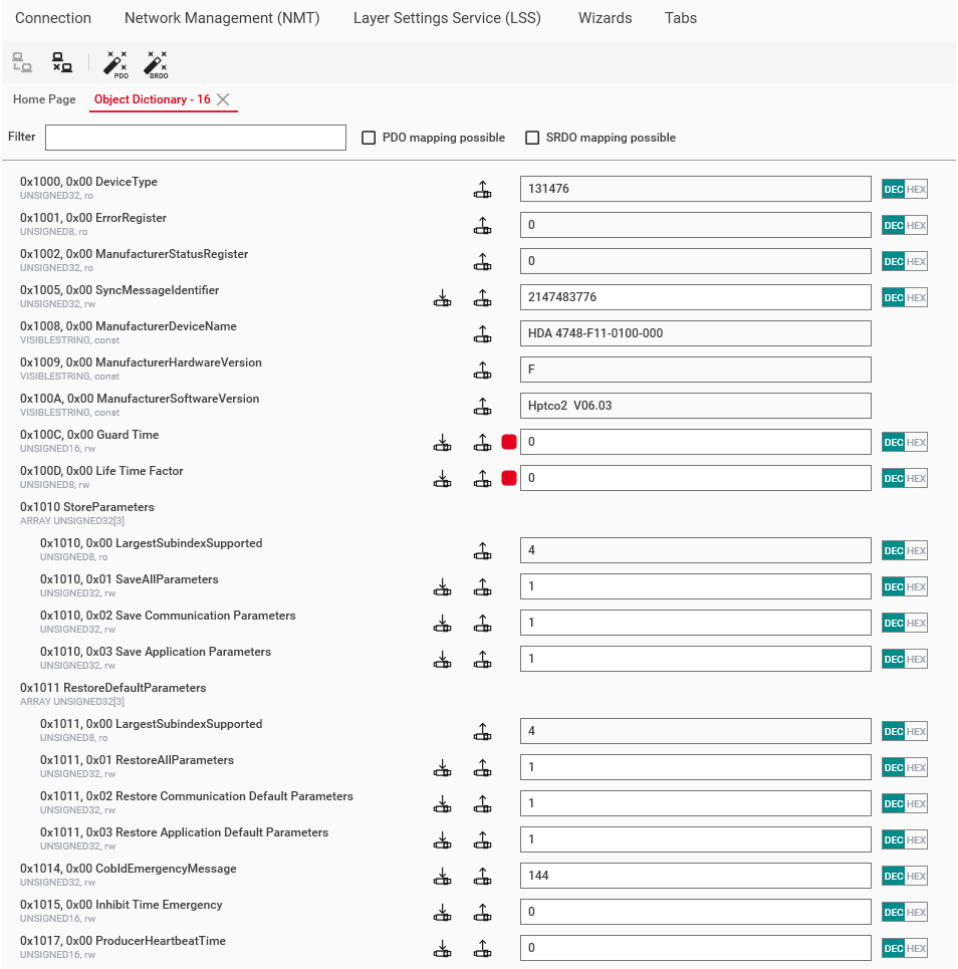
11.5 Object directory

The object directory of a device can be accessed via two options. Firstly by opening an EDS file and secondly via generic access by index and subindex.

Open EDS File

After opening the EDS file, all entries are initially read out. There are read and write buttons in front of each data field of the entries, depending on the access rights. If an entry cannot be read or written, a red note appears.

All entries can be read and written using the buttons at the bottom. There are also options for setting the original values with "Restore". The "Save" action is required so that written values are persistently saved in the device.



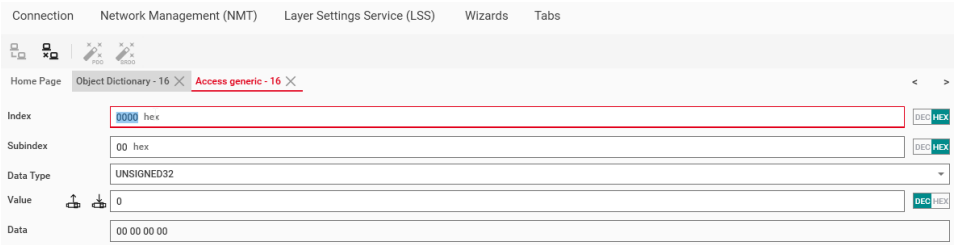
EDS files can only be opened for HYDAC ELECTRONIC GMBH devices.

Open generically

With generic access, you have the option of manually reading or writing entries in the object directory using the specified index, subindex and data type of the entry.

The "Value" field can be edited and the "Data" field is always the representation of the value in data bytes.

The buttons for reading and writing the entry are located to the left of the input field for the value.



11.6 "Layer Settings Service (LSS)" menu

The Layer Setting Service (LSS) provides functions for configuring nodes. The Node-ID and the bitrate can be set via the LSS.

LSS address

The LSS address of a device consists of the following values:

- Vendor ID (fixed HYDAC ELECTRONIC)
- Product code
- Revision number
- Serial number

Configure device

The dialogue for configuring a subscriber is started via the menu point "**Layer Setting Service (LSS) / Configure device**".

Important: The device has to be in "Pre-Operational" mode.

Set LSS address:
The method used to search for a device.

Global Only one device may be connected to the bus
Selective Address is known and is specified
Fast Scan More recent method, not supported by all devices

Set Node-ID and bitrate:
Node-ID: 1-127, or 255 (= not configured)
bitrate: Bitrates according to standard table

Click on "**Transfer**" to transfer the settings to the device.
However, the change to the Node-ID only becomes active after the device has been reset.
The bitrate must be activated manually. The menu item "**Layer Setting Service (LSS) / Activate configured bitrate**" is available for this purpose.

Detect non-configured devices

The dialogue for detection of non-configured devices is started via the menu point "**Layer Setting Service (LSS) / Configure device**".
The number of devices found is a minimum figure, as all devices respond in the same way.

Activate configured bitrate

The menu point "**Layer Setting Service (LSS) / Activate configured bitrate**" activates the bitrate in the previously configured devices. HEWIN also adjusts its bitrate accordingly.
(You can see this in the information bar at the bottom of the main window.)

11.7 "Wizards" menu

In addition to LSS, the following wizards are offered in the "**Wizards**" menu. However, these are only available once an EDS file has been loaded and the EDS file tab has been selected.

Note: The wizards are only available for HYDAC devices.

PDO wizard

First select the PDO to be configured. The PDOs supported by the device are listed in the combo box.
On the next page of the dialogue, settings can be made for the COB ID and type of transmission.

Not every device supports all settings.

The third page is used to configure the entries in a mapping. The size of the mapping is calculated, so it cannot be edited directly.
The number of mapping entries and the individual entries themselves are set. With RPDOs, you have the option of inserting dummy entries.

On the last page of the wizard, you will see a summary of the OD entries and their data, which are sent to the device by clicking on "**Transfer**".

SRDO wizard

First select the SRDO to be configured. The SRDOs supported by the device are listed in the combo box.
On the next page of the dialogue, settings can be made for the validity and mode of transmission.
The validity also sets the direction of transmission. In other words, whether the SRDO is sent or received. If "**No**" is selected, the SRDO is deactivated.

CAN-ID1 is the ID of the non-inverted data.
CAN-ID2 is the ID of the inverted data.

The third page is used to configure the entries in a mapping.
The mapping size is calculated, so it cannot be edited directly. The number of mapping entries and the individual entries themselves are set.

With SRDOs in the receive direction, you have the option of inserting dummy entries. Two entries can be swapped at the right-hand edge of an object.

On the last page of the wizard, you will see a summary of the OD entries and their data, which are sent to the device by clicking on "**Transfer**".

11.8 "Tabs" menu

Create new window

A new window opens in which another connection can be created via an additional connection by means of an additional CAN adapter.
If 2 windows are open, the tabs can be moved from one window to the other by clicking on the tab and then dragging the tab.

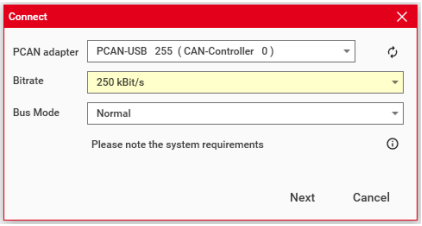
Ongoing recordings are signaled by the red dot next to the icon. 

12 SAE J1939

HYDAC CANopen devices can be configured and parameterised in this function area.

12.1 Establish connection

To establish a CAN connection via a CAN adapter, click on the menu point "**Connection / Establish**".



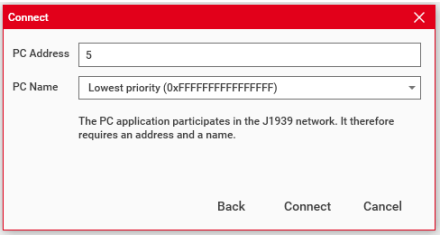
CAN adapter

You can select the required adapter in the connection dialogue that opens. To update the list of connected adapters, press the icon on the right side of the frame.

In addition, the transmission rate and the bus mode must be specified.

Address and name

Each J1939 device requires an address and a name. The PC application must therefore also have an address and a name.
By default, "**5**" is preset as the address and the name with the lowest priority.
Both can be edited, however, there is an extra dialogue with detailed settings for the name, which can be accessed via the button with the pencil "**Edit**".



12.2 Device search

You can start the device search in the device list area.
The application sends a request to all subscribers of the J1939 network, a request for so-called "**Address Claiming**". This means that each device must register with its address and name.
Devices that have registered are then displayed in the device list. The PC application attempts to read out the software ID of the device.

The device list is a current image of the devices connected to the CAN bus.
The devices are listed by address.

12.3 Device information

If an entry is selected from the device list, the associated device information appears. This generally contains information such as serial number, software version, etc.

12.4 Object directory

Object directories are proprietary extensions of HYDAC ELECTRONIC GMBH devices with a J1939 interface and do not comply with any standard. Object directories are used to read and write device settings.

The object directory of a device can be accessed via two options. Firstly by opening a **JEDS file** and secondly via generic access via index and subindex.

Open JEDS File

After opening the JEDS file, all entries are initially read out. There are read and write buttons in front of each data field of the entries, depending on the access rights. If an entry cannot be read or written, a red message appears.

All entries can be read and written using the buttons at the bottom. There are also options for setting the original values with "Restore". The "Store" action is required so that written values are persistently saved in the device.

The steps to change an entry are:
1. Start edit mode
2. Change value
3. Write value
4. Save
5. Reboot device

Generic access

With generic access, you have the option of manually reading or writing entries in the object directory using the specified index, subindex and data type of the entry.

The "**Value**" field can be edited and the "**Data**" field is always the representation of the value in data bytes.

The buttons for reading and writing the entry are located to the left of the input field for the value.

12.5 Request device details

The device details can be activated in the settings. This provides a more detailed view in the device information regarding the data traffic of the sent or received parameter groups.

Request parameter group

If the device details are activated, it is also possible to request individual parameter groups from the device.

To do this, enter the requested number in the PGN field.
Click on "**Send**" to wait until the requested data is available. In the "**Data**" area, the received data is now displayed as bytes and as a character interpretation.

Note:
Not all parameter groups are supported and not all are sent on request. Example: PROPB. This is sent cyclically from the device to everyone.

12.6 Address claiming list

A new view is displayed with the menu item "**Extras / Address Claiming List**". This shows the address claiming processes in chronological order.
This means that if a device reports its name in the J1939 network or address claiming is required, this is documented here.

12.7 "Tabs" menu

Create new window

A new window opens in which another connection can be created via an additional connection by means of an additional CAN adapter.

Ongoing recordings are signaled by the red dot next to the icon. 

13 IO-Link

HYDAC IO-Link devices can be read out, configured and parameterised in this function area.

The application works together with the HYDAC programming adapter "*ZBE P1-xxx*" to connect to the respective sensor.

The ZBE-P1 must have a series status index of at least B. Older devices cannot be used with HEWIN. The serial status index is the fourth character of the serial number. In addition, at least firmware version 2.11 is required. However, devices with series status index B can be updated to the current version.

The device-specific files (IODDs) can be downloaded from the Internet or read from local folders.

Ongoing recordings are signaled by the red dot next to the icon.

All parameters and data displayed in this function area are device-dependent and may vary depending on the connected device.

13.1 "View" menu

Direct parameters

The specific IO-Link parameters are displayed here.

ISDU

The specific IO-Link ISDUs can be read out and changed here.

Process data

The process data of the connected device is displayed here.

Identification

The device-specific identification data can be read out and partially changed here.

Parameters

The device-specific identification data can be read out and partially changed here.
The connected device can be reset to the factory settings.

Monitoring

The current process and operating data (usage data) of the connected device is displayed here.

Operating data is only displayed if a device is connected that stores the usage data internally.

Diagnostics

The current diagnostic data of the connected device is displayed here.

Events

Internally saved events of the connected device is displayed here.

Library

The device information read from the IODD is displayed here.

You can also search for a more up-to-date IODD and create the HEDD file for the HMG 4000.

13.2 "Menu" menu

Read all menu entries

Reads all data from the device and updates the menus.

Write all menu items

Writes all changes made to the device.

Cyclic update

Activates the automatic update of all readable entries
(diagnostics, monitoring, parameters, identification)

13.3 "Operating data" menu

Display / Loading

You can display the current operating data (usage data) here.
A new window will open.

The operating data (usage data) depends on the device and may vary depending on the connected device.

13.4 "Miscellaneous" menu

Create HEDD

Here, the IODD file is exported as a "*HEDD file*".

The HEDD file can then be used in the HMG 4000.

Clone device settings

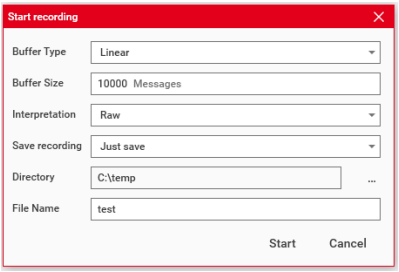
Transfers the device settings of a device or a selected device configuration file to another device.

Set upload flag parameters

Sets the DS upload flag in the device.

Record trace

Starts the recording of an IO-Link trace.



Settings

The path for the IODD directory is defined here.

13.5 "Tabs" menu

Create new window

A new window opens in which another connection with an additional IO-Link device can be created.

Ongoing recordings are signaled by the red dot next to the icon. 

14 IO-Link Trace

You can analyse and edit IO-Link traces in this function area.

Ongoing traces are signaled by the red dot next to the icon.

14.1 "Recording" menu

Create measured value recording

This function is used to generate and open a measured value recording from the IO-Link trace.

14.2 Interpretation

It is possible to interpret the CAN trace data.

Raw data

File Recording Interpretation Tabs

test-000009_241017-084345

Time	MC	CKT	OD	PDin	CKS
0,0000	F1	94	00	00 05	2E
0,0025	F1	94	00	00 05	2E
0,0050	F1	94	00	00 05	2E
0,0075	F1	94	00	00 05	2E
0,0100	F1	94	00	00 05	2E
0,0125	F1	94	00	00 05	2E
0,0150	F1	94	00	00 05	2E
0,0175	F1	94	00	00 09	1E

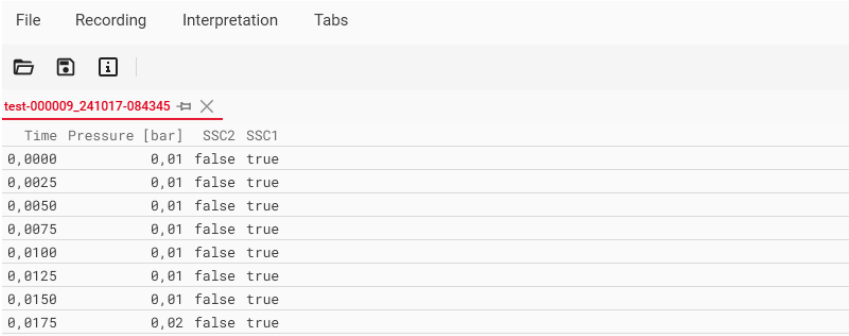
M-Sequence

File Recording Interpretation Tabs

test-000009_241017-084345

Time	R/W	Channel	Adress	Type	Checksum	OD	PDin	Event Flag	PD status	Checksum
0,0000	R	ISDU	Idle	Type 2	14	00	00 05	No Event	Valid	2E
0,0025	R	ISDU	Idle	Type 2	14	00	00 05	No Event	Valid	2E
0,0050	R	ISDU	Idle	Type 2	14	00	00 05	No Event	Valid	2E
0,0075	R	ISDU	Idle	Type 2	14	00	00 05	No Event	Valid	2E
0,0100	R	ISDU	Idle	Type 2	14	00	00 05	No Event	Valid	2E
0,0125	R	ISDU	Idle	Type 2	14	00	00 05	No Event	Valid	2E
0,0150	R	ISDU	Idle	Type 2	14	00	00 05	No Event	Valid	2E
0,0175	R	ISDU	Idle	Type 2	14	00	00 09	No Event	Valid	1E

Process data



Time	Pressure [bar]	SSC2	SSC1
0,0000	0,01	false	true
0,0025	0,01	false	true
0,0050	0,01	false	true
0,0075	0,01	false	true
0,0100	0,01	false	true
0,0125	0,01	false	true
0,0150	0,01	false	true
0,0175	0,02	false	true

14.3 "Tabs" menu

Various tools are available here for pinning, detaching, opening and closing tabs, as well as an overview of all open tabs.

Create new window

A new recording window opens in which further tabs can be opened.
If 2 windows are open, the tabs can be moved from one window to the other by clicking on the tab and then dragging the tab.

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Note

The information given in this brochure refers to the described operating conditions and applications. For applications and operating conditions not described, please contact the relevant technical department.

If you have any questions or suggestions or encounter any problems of a technical nature, please contact your HYDAC representative.

Subject to technical modifications.