VISY-X
VISY-Setup V 4.3
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1 Introduction

The VISY-Setup configuration program is part of the VISY-X system (volume information system). With the VISY-X system, highly precise, continuous level measurements in up to 16 tanks are carried out directly at the petrol station. The product temperature and the water level at the tank bottom are gauged simultaneously.

The basic system specification includes up to sixteen VISY-Stick level sensors, the VISY-Command control unit and the VISY-Setup configuration software. It is possible to expand this system by also connecting the VISY-Stick or VISY-Reed Interstitial, VISY-Stick or VISY-Reed Sump Manhole/Dispenser, and the VISY-Input and VISY-Output modules.

The data supplied by the VISY-Sticks are evaluated by the VISY-Command and stored temporarily. They can be forwarded to a superordinate system (e.g. central computer, BoS, PoS). Communication with a petrol station computer system or PC takes place through an RS-232 or RS-485 interface, depending on system setup. For measurement analysis, a range of protocols for conventional petrol station computer systems is available.

1.1 System requirements

- Operating system: Windows 95, 98, ME, NT, 2000, XP, Vista and Windows 7
- CD-ROM drive (for program installation)
- Hard drive (with at least 4 MB available space)
- An interface for communication with the control unit (serial, Ethernet or modem)

1.2 In this manual...

... you are guided step-by-step through how to install and use the VISY-Setup configuration software, and individual program functions are described.

All the steps that you need to take to prepare VISY-X for connection to a host computer are documented. To set up and configure the host computer, you must have received the necessary training and authorisation to carry out the tasks required.

This manual assumes that you are familiar with your workstation, have basic Windows application skills and know how to use the mouse.

Useful tips and information in these instructions that should be observed are in italics and identified by this symbol.
The initial configuration is described in section „3 Configuring the control unit“. Default values or values that have been left blank (this concerns tank tables in particular) can be customised in the configuration program.

If you modify a pre-existing configuration, the display windows on your screen may differ from the screenshots in this manual (initial configuration). However, these differences have no impact on the procedures described in this manual.

2 Software installation

2.1 Installation

If an older version of VISY-Setup is already installed on your PC, please uninstall this first. To do this, go to Control Panel and double-click on “Add or Remove Programs”, then select “VISY-Setup” from the list of installed programs. Click on “Remove” and follow the on-screen instructions.

1. Close all running Windows applications.
2. Insert the CD-ROM into the CD-ROM drive.
3. In Windows Explorer, open the CD-ROM drive and go to the directory containing the “Install VISY-Setup” program.
4. Run the “Install VISY-Setup” program.
5. Follow the on-screen instructions.

2.2 VISY-Setup program layout

2.2.1 User interface and conventions

In this manual, references to the keys of the PC’s keyboard are enclosed in square brackets. Definitions, where required, follow in round brackets. Example: key [Enter] (Return). Whenever you are instructed to enter a parameter, you are given the acceptable input format. Example: “0 … 99999” corresponds to a maximum of five numbers (no other characters).

The VISY-Setup application can be operated using either the mouse or the PC’s keyboard. This manual gives priority to operation by mouse.

To execute a function using the keyboard, you simply need to press the corresponding function key or press the [Alt] key plus the underlined letter in the function name. Example: The “Close” function can be executed using the [Alt] and [C] keyboard shortcut. Submenus can be called up using the function keys [F1], [F2], ....
Some functions or menus are represented by on-screen buttons, which are activated when you click on them with the mouse. These are enclosed in quotation marks in this manual. Example: “Close” button

To close (acknowledge) messages, you can either click on the “OK” button using the mouse or press the [+] (Return) or [ENTER] key on the keyboard.

The instruction “… click on …” refers to a single click of the main button on the mouse.

2.2.2 Menu guidance

VISY-Setup is a menu-driven program, which means that you are guided through each of the individual sections of the program by a menu structure. From the main menu, you can access a series of submenus and the functions they contain.

![Figure 1: Drop-down list (1), button (2), menu items (3)](

Functions and displays vary depending on the sensors that are in use. Black font indicates that they are available. They are unavailable if greyed out. Functions that are greyed out are either unavailable in the current configuration or they are not supported by this version of VISY-Command.)
### 3 Configuring the control unit

To configure the control unit, please proceed in the order described in this section.

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#### 3.1 Preparations

1. Switch on the control unit (VISY-Stick terminals and power supply connection)
2. Connect the control unit with the PC or notebook computer (e.g. via serial or network/modem connection), see:
   - Technical Documentation VISY-Command … (German) – Art. No. 207182

If the control unit is equipped with a newer model of interface (VI-2 and higher), please make sure that the service port is set to service mode (configurable by means of DIP switch S1: switches S11 and S12 in “off” position).

If you wish to simply prepare the configuration, you can use VISY-Setup in simulation mode. The control unit does not need to be connected in this case. The configured values can be transferred to VISY-Command at a later time. See section 3.2 “Launching the program > virtual device”.

#### 3.2 Launching the program

Once you have connected the control unit to your computer (see section “3.1 Preparations”), you can start the VISY Setup program. As soon as VISY-Setup has started, a selection window opens in which you can select the desired type of connection for the data transmission.
3.2.1 “Languages” button

Clicking on the “Languages …” button opens a submenu in which you can select the desired language for all VISY-Setup displays.

3.2.2 “Serial Connection” tab

From the “Serial Port” drop-down list, it is possible to select the COM port to which the service port of VISY-Command is connected.

Serial port autodetection: To initiate autodetection of the serial port to which VISY-Command is connected, click on the “Autodetect” button.

3.2.3 “Network Connection” tab

Enter the host name / IP address and the port number into the designated input fields.

3.2.4 “Modem Connection” tab

The “Modem” selection box displays all the available modems on your PC that are installed and working correctly under Windows. Select the one that you wish to use for communication with VISY-Command and enter the phone number into the appropriate input field.
3.2.5 **“Virtual Device” tab**

Here, you can perform and save your configuration even if VISY-Command is not currently connected. The data can be transferred to a VISY-Command whenever necessary. From the drop-down list, select the firmware version of the VISY-Command that you wish to simulate.

3.2.6 **“Connect” button**

Depending on which tab is currently open, an attempt to connect to VISY-Command is initiated when you click on the “Connect” button. First, a check is carried out to determine whether VISY-Command has new functions that are not supported by your version of VISY-Setup. If this is the case, the following message will appear on the screen:

![Warning](image)

Figure 3: VISY-Setup version warning

Acknowledge this message by clicking on “OK”. The configuration program is launched and you can proceed to configure the control unit without further interruption.

To make use of the new functions of the control unit that are not supported by your version of VISY-Setup, you will need a program update. To download the latest VISY-Setup version, please visit the FAFNIR website (www.fafnir.com).

3.3 **Sensor terminal and tank number**

From this point onwards, you will frequently encounter the term “sensor terminal”. For the sake of clarity, the relationship between sensor terminal and tank number is defined as follows:

The sensor terminal number refers to the transducer VP… inside VISY-Command. Here, a VISY-Stick sensor is attached to a specific sensor terminal. Each sensor terminal inside VISY-Command is labelled with its own unique terminal number.
The tank level measurement sensors (VISY-Sticks) must be connected to the correct sensor terminal as determined by their tank number.

Example: VISY-Stick for tank no. 1 is to be connected to sensor terminal no. 1 of the VP... transducer, which ensures that, for downstream analysis systems (host computers), the level measurement values for tank no. 1 will be transferred. VISY-Stick for tank no. 2 is to be connected to sensor terminal no. 2 of the VP... transducer, etc.

Up to three sensors of different types can be connected to one sensor terminal at the same time, e.g. one “VISY-Stick” type sensor, one “VISY-Stick/Reed Interstitial” and one “VISY-Stick/Reed Sump Manhole”.

The allocation of the “VISY-Stick/Reed Sump Dispenser” measuring value sensors corresponds to the dispenser number. A tank assignment by sensor terminal number is neither necessary nor logical in this case.

With VISY-Setup 4, it is possible to configure the following sensors and display their results and status:

<table>
<thead>
<tr>
<th>Sensor</th>
<th>Object of measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>VISY-Stick</td>
<td>Tank filling level</td>
</tr>
<tr>
<td>VISY-Stick/Reed Interstitial</td>
<td>Double-walled tanks</td>
</tr>
<tr>
<td>VISY-Stick/Reed Sump Manhole</td>
<td>Manhole sump</td>
</tr>
<tr>
<td>VISY-Stick/Reed Sump Dispenser</td>
<td>Dispenser sump</td>
</tr>
</tbody>
</table>

The menu item descriptions that follow also name the type of sensor or device to which the menu item applies.

3.4 “Current Values [F1]” menu item

As soon as VISY-Setup has connected to VISY-Command, you are first presented with an overview of current tank data. The sensor terminal no. 1 and the “VISY-Stick” sensor are shown first by default.

Select a probe terminal number from 1 to 16 and the sensor type to display its data.
Figure 4: Example of available measured values (configured)

If measured values are shown (see Figure 4), this means that VISY-Command has already been configured. These measured values are available to the host computer as a matter of course. However, which measured values are retrieved from the control unit depends on the type of host computer.

Depending on the sensor, some data fields may not apply.

### 3.4.1 Probe Status

This display is relevant to the following sensors: VISY-Stick, VISY-Stick/Reed Interstitial, VISY-Stick/Reed Sump Manhole, and VISY-Stick/Reed Sump Dispenser.

- **Statuscode and Statusmessage**
  
  The operating status of the sensors is represented by a numerical code and explanatory information is provided by a brief status message in text format. You will find a list of status codes and their meaning in section “4 Status messages”.

  > If a value other than “0” is displayed in the “Statuscode” field, the sensor is no longer working normally and the field’s background colour turns red.

- **Battery**
  Displayed in wireless mode only and indicates the battery voltage of the transmitter.

- **RF Field Strength**
  Displayed in wireless mode only and indicates the reception quality.
3.4.2 Age of measured values

This field informs you how old the measured values are. In "wireless mode", this information is particularly interesting because in this mode is no continuous transmission of sensor data. There is also a possibility that data may not be received due to interference at the time of transmission and then displaying the age of measured values becomes particularly important.

3.4.3 Product Level / Level (mm)

- **VISY-Stick**: Product filling level for the upper float (product float). The installation offset of the sensor, the offset of the product float and the product-specific immersion depth of the float are all taken into account.

- **VISY-Stick/Reed Interstitial (wet application)**: Filling level in the monitoring chamber (leak detection fluid between the walls of a double-walled tank).

- **VISY-Stick/Reed Interstitial (dry application)**: Fluid filling level at the lower apex of the tank (monitoring of the dry chamber between the walls of a double-walled tank).

- **VISY-Stick/Reed Sump Manhole**: Fluid filling level in the manhole of the tank.

- **VISY-Stick/Reed Sump Dispenser**: Fluid filling level in the dispenser sump.

3.4.4 Water Level (mm)

This display is relevant to the VISY-Stick level sensor.

This is the value computed by the control unit for the lower float (water float) of the VISY-Stick level sensor. The installation offset of the sensor and the product-specific immersion depth of the float are taken into account.

- The water filling level is shown as “0” whenever the float comes to rest on the guard ring at the bottom end of the probe tube or if the value has fallen below the specified threshold with mud layer suppression activated.

- If the water float cannot sink as far as the guard ring, e.g. due to a sludge layer at the tank bottom, it is possible to correct the displayed water level to 0 by activating the mud layer suppression (section 3.7.12).
3.4.5  **Product Temperature (°C)**

This display is relevant to the VISY-Stick level sensor. 

This is an average product temperature that the sensor transmits to the control unit.

3.4.6  **Real Filling Volume (Litres)**

This display is relevant to the VISY-Stick level sensor.

VISY-Command calculates this value from the product filling level, provided a correct tank table has been sent to the control unit. This value equates to the actual volume of product in the tank.

⚠️  *If no tank table is available for the tank concerned, a value of “0” will be displayed here.*

3.4.7  **Temperature-compensated Filling Volume (litres)**

This display is relevant to the VISY-Stick level sensor.

This value indicates the filling level of the tank for a reference temperature previously set in the tank table (see Chapter 3.8). VISY-Command is capable of calculating the temperature-compensated filling volume from the product filling level, the product temperature and the reference temperature provided a correct tank table has been sent to the control unit.

⚠️  *If no tank table is available for the tank concerned, a value of “0” will be displayed here.*

3.4.8  **Ullage (litres)**

This display is relevant to the VISY-Stick level sensor.

VISY-Command calculates this value from the real filling volume and the permissible filling ratio, provided a correct tank table has been sent to the control unit. This value indicates the size of the unfilled volume in the tank.

⚠️  *If this value is displayed with a negative sign, this means that the tank has been filled higher than the permissible level. Please note that this does not necessarily mean that the product has reached the overfill prevention sensor (GWG) because the tank tables have only limited accuracy.*
If no tank table is available for the tank concerned, a value of “0” will be displayed here.

3.4.9 Product Alarm

This display is relevant to the following sensors: VISY-Stick, VISY-Stick/Reed Interstitial, VISY-Stick/Reed Sump Manhole, and VISY-Stick/Reed Sump Dispenser.

VISY-Stick:

As soon as one of the four alarm parameters is reached, the control unit generates the corresponding alarm message, which is then displayed by the external peripheral equipment (VISY-View, VISY-Quick, host computer, etc.).

The host computer must support this function.

Some host computers can generate alarms independently. In this case, the alarm thresholds have to be set in the host computer. If alarm thresholds are being set in both the VISY-X system and in the host computer, please make sure that the alarm thresholds that you have set are identical in both systems.

VISY-Stick/Reed Interstitial (dry application):

A product alarm is triggered if fuel is detected in the intermediate chamber of a double-walled tank.

Sump Manhole and Sump Dispenser sensors:

The product alarm is triggered if fuel is detected in the sump.

3.4.10 Water Alarm

A water alarm is displayed for the VISY-Stick level sensor.

As soon as an alarm parameter is reached, the control unit generates the corresponding alarm message, which is then displayed by the host computer.

The host computer must support this function.

Some host computers can generate alarms independently. In this case, the alarm thresholds have to be set in the host computer. If alarm thresholds are being set in both the VISY-X system and in the host computer, please make sure that the alarm thresholds that you have set are identical in both systems.
3.4.11 Level Alarm

The level alarm is displayed for the following sensors: VISY-Stick Interstitial, VISY-Stick/Reed Sump Manhole and VISY-Stick/Reed Sump Dispenser.

As soon as an alarm parameter is reached, the control unit generates the corresponding alarm message.

3.4.12 Product Density / Sump Density

In the display fields “product density” and “sump density” the density values are shown unless one VISY-density module is mounted above suction pipe and/or one module is mounted underneath the suction pipe at the probe tube of the VISY-Stick Advanced.

Following information of the product density are displayed:

- **Position**: Position of the VISY-density module on the VISY-Stick Advanced
- **Density**: Measured density in the area of the VISY-Density module.
- **Temperature-compensated Density**: Measured density in the area of the VISY-density module compensated to the previously set reference temperature of the tank table (see Chapter 3.8).
- **Temperature at Density Meter**: Measured temperature in the area of the VISY-Density module.
- **Density Alarm**: If the temperature-compensated density leaves the configured range of the alarm threshold, is here an alarm message to be seen.

3.5 "Control Unit [F2]" menu item

Click on “Control Unit [F2]” in the main menu on the left-hand side of the screen to display the current configuration and to make changes.
Figure 5: Menu item “Control Unit [F2]”

3.5.1 Hardware version of control unit
Displays the hardware version of the connected control unit.

3.5.2 Software version of control unit
Displays the software version of the connected control unit.

3.5.3 Serial number of control unit
Displays the serial number of the connected control unit.

3.5.4 Minimum version of VISY-Setup
This is the minimum version of VISY-Setup that will support the functions of the control unit.

3.5.5 Host computer
This is where you enter the appropriate code for the host computer (e.g. petrol station control system or cash system), which you will find in the VISY-Setup configuration table provided. The latest configuration table is included with each VISY-Command with delivery of the control unit.
3.5.6 Use custom host port parameters

Here, you can modify the parameters of the host port if these are intended to differ from the host computer’s default settings.

The checkbox determines whether the field for custom port parameters is activated:

□: The default settings assigned to the host computer are used.
☑: You can enter custom port parameters.

The following window appears:

Figure 6: Drop-down lists for custom host port parameters

To change these parameters, click on the drop-down list “▼”. Select the desired parameter and click on “OK” to confirm.

3.5.7 Expansion interface activated

The expansion interface of the control unit enables data to be sent to peripheral equipment (e.g. VISY-View). To activate this option, click inside the “Extension Interface activated” checkbox. If no items of peripheral equipment are connected, the expansion interface does not need to be activated.

This function is supported only by interface versions higher than VI-3 with firmware higher than 3.06, and by VISY-View with firmware higher than 1.13.

3.5.8 Wireless mode activated

This function has to be enabled before a wireless version of VISY-Command can be activated. To do this, click inside the “Wireless Mode activated” checkbox.

Depending on the build type, the control unit is preconfigured to work in wired or wireless mode, which means that this option does not normally need to be changed unless the system is converted after delivery from the factory.
Please note that the control unit carries out an internal reset whenever this option is enabled or disabled, and all measured values remain at zero (0) until new data are supplied by the sensors.

3.5.9 Timeout in wireless mode

An error message is displayed automatically if VISY-Command does not receive any data from a sensor within the number of hours entered here.

The time that should elapse before an error message is displayed can be entered only in the form of a whole number rounded to the nearest hour (permissible values 1 to 99).

To maximise the battery life of the transmitters in wireless mode, the data from the sensors are sent only periodically every few minutes and are stored by the control unit. To avoid the presence of outdated data in the event of a disruption, e.g. radio path interrupted by a vehicle parked over the manhole, the data are erased by the control unit automatically after a specific period of time. To signal the error, the status of the sensor is set to code 11.

The time that should elapse before the most recently received data are erased is determined by the timeout setting and can be any whole number from 1 to 99 hours. Under favourable transmission conditions (permanently unobstructed line of sight between transmitter and receiver aerial), a timeout value of a few hours should be satisfactory. Under unfavourable conditions (e.g. high-frequency traffic stations with manholes in the carriageway or parking area), it is advisable to increase the timeout accordingly to suppress unnecessarily error messages.

3.5.10 Search for probes

With the “Search for probes” function, you can ensure that sensors connected to the VISY-Command are searched for automatically and their device numbers ascertained. For each sensor type, a new search must be started. “Accept” transfers the found data to the VISY-Command.

Automatic probe search for the VISY-Stick probe functions as of firmware version 2.02.

Automatic probe search for Environmental sensors functions as of firmware version 4.02, if the Multi Probe protocol has been set. Otherwise, only the tab for the VISY-Sticks will be displayed.
The Multi Probe protocol must only be set if the probe has a device number of 20000 or above.

RF version probes (wireless) cannot be automatically detected for technical reasons.

To start the search for probes, proceed as follows:

1. Click on the “Search for probes” button. A window containing blank fields appears on the screen.
2. Select the tab of the desired type of sensor (e.g. VISY-Stick).
3. If you now click on the “Start search” button, the control unit begins to search for the sensors of the selected type.
4. Once the search is complete, following data will be displayed for terminals 1…16:
   - Serial number
   - Software version
   - Length in mm
   - Number of floats (for VISY-Stick)

![Figure 7: Result of an automatic search for sensors (example)](image)

If no working probe is found at one or more terminals, the relevant row of the table is populated with zeros.
Before transferring the data, check whether the device numbers found actually match the terminals of the corresponding probes, or whether there has possibly been an incorrect assignment.

(5) To copy the serial numbers of the discovered sensors over to the control unit directly, click on “Accept”. While the serial numbers are being copied over, “Writing serial numbers …” is displayed in the status bar at the bottom.

(6) Click on “Close”.

Configuration step “3.7.3 Serial no. of the Probe / tank number” can be skipped if you choose to copy the sensor serial numbers over to the control unit directly.

3.5.11 Advanced settings

- **Communication address of control unit:**
  Reserved for future applications

- **Special function of service port:**
  The VISY-X system is able to communicate with an auxiliary tank gauging system in order to retrieve filling level and temperature data (see also “VISY-X Technical Documentation – VISY-Stick and VISY-Command”). The data protocol to be selected can be determined using the “FAFNIR Serial Monitor” application or a terminal program.

- **Parameter for special function of service port:**
  Clicking on the “…“ button (see figure 8) enables you to modify the parameters for the transmission of service port data (see Figure 9). After you have changed the necessary settings, click on “OK” to save the values.

Figure 8: Control Unit – Advanced Settings
Figure 9: Parameters for the transmission of service port data

- **Data protocol:**
  A choice of three data protocols is available
  - Standard VISY TLG
  - Multi Probe 1200 bps
  - Multi Probe 4800 bps

  *The data protocol depends on the serial number:*

  1. Data protocol for sensors with a serial number lower than 20,000:
     - VISY TLG

  2. Data protocol for sensors with a serial number of 20,000 or above:
     - Multi Probe 4800 bps (recommended),
     - Multi Probe 1200 bps (alternative)
     - VISY-TLG, if only VISY-Sticks are connected (alternative)

  *Multi Probe must be set mandatory:*
  - if VISY-Input 8 or VISY-Output 4 is used
  - if VISY-Density modules are used
  - if 2 or 3 sensors are connected to one sensor terminal.

  *Due to faster transmission, the data protocol Multi Probe 4800 bps should preferably be selected.*

3.6 "Date and Time [F3]" menu item

The more recent generations of interface (VI-2 and higher) for the control unit feature a built-in clock and calendar. This function enables you to set the time and date of the control unit. Click on “Date and Time [F3]” in the main menu on the left-hand side of the screen to make changes in this menu.
3.6.1 Date and time of PC

To copy the date and time from the PC to the control unit, click with the pointer on the “Transfer from PC” button.

3.6.2 Date and time of control unit

Displays the time of the control unit.

3.6.3 Enter date and time

These fields allow you to enter the time and date manually. To accept the current date and time settings, click with the pointer on the “Accept Input” button.

3.6.4 Automatic daylight savings time (Europe)

The control unit supports the automatic changeover to Central European Summer Time and the return to Central European Time (on the last Sunday of March and October respectively). This function can be enabled and disabled using the checkbox.

3.7 “Probes [F4]” menu item

Click on “Probes [F4]” in the main menu on the left-hand side of the screen to display the current configuration and to make changes.
You will need the following information to hand before you can enter or modify the configuration data for the VISY-Stick sensors:

- Serial numbers of the sensors (on the sensors' type plate)
- Assignment of each sensor
- Installation Offset of the Sensor
- The type of product in each tank
- The product code, in cases where this is requested by the host computer

The configuration data that you may enter or modify in this menu are as follows:

### 3.7.1 Probe Terminal No.
Select a sensor and a sensor terminal from 1 to 16 to display its data. In the case of the VISY-Stick, the sensor terminal number corresponds to the tank number (from 1 to 16). Different data fields apply, depending on the type of sensor.

### 3.7.2 Data Source
This display is relevant to the VISY-Stick level sensor. Select either the VISY-Stick level sensor or the slave ATG.
3.7.3 Serial no. of the Probe / tank number

This display is relevant to the following sensors: VISY-Stick, VISY-Stick/Reed Interstitial, VISY-Stick/Reed Sump Manhole, and VISY-Stick/Reed Sump Dispenser. This is the serial number of the sensor installed in a particular tank, for example. The engineer is required to make a note of the serial number of the sensor at the time of installation.

⚠️ The serial number is a mandatory input field. If you do not enter a correct serial number, the control unit will fail to recognise the sensor and analysis cannot take place.

If “Slave-ATG” was selected under “Data Source”, please enter the tank number concerned. As a rule, this will be the same tank number as in VISY-Command.

3.7.4 Type of Probe

This display is relevant to the VISY-Stick level sensor.

Automatic display of sensor type. The following versions exist:

- VISY-Stick Standard
- VISY-Stick Advanced

3.7.5 Fixed Offset of the Probe

The installation offset is the difference in height between the lowest point of the tank bottom and the end of the probe tube. The exact calculation of the installation offset is described in the document:

- Technical Documentation VISY-Stick VISY-Reed (German) – Art. No. 207193

⚠️ The installation offset is required for the VISY-Stick level sensors only.

⚠️ The water filling level is shown as “0” whenever the float comes to rest on the guard ring at the bottom end of the probe tube or if the value has fallen below the specified threshold with mud layer suppression activated.
3.7.6 Offset of the Product Float

The product float offset is relevant to the VISY-Stick level sensor.

This option makes it possible to set a custom offset of ±300 mm for the product float, which, in VISY-Command, is added only to the product filling level. The entering of an offset for the product float is required only for custom applications outside the petrol station. For petrol station applications, this value can always be left at 0 mm because the appropriate corrections for the product float are carried out in VISY-Command automatically as part of the product selection (section 3.7.7).

3.7.7 Type of Product

This information is relevant to the VISY-Stick level sensor.
Indicates the product (e.g. regular petrol, diesel, Jet A, etc.) stored in the tank.

Selecting a product type is mandatory because the products differ in their density and thermal expansion coefficient – properties that are vital to the analysis process.

If you do not make any selection here (i.e. Type of Product = “-not configured-“), the data from the sensor will not be analysed. In this event, the status of the sensor as shown in the “Current Values [F1]” menu would be displayed with status code 99 along with the message “Probe / tank not configured”.

3.7.8 Type of Product – freely configured

If you intend to freely configure the product type, you must precisely identify the correct product density and thermal expansion coefficient parameters for your product and enter these into the system. If these parameters are incorrect, your VISY-X system will display incorrect results!

To specify the freely configurable product type, you will need to enter the necessary information as follows:

(1) Select the “-freely configured-“ item from the drop-down list. The following warning is displayed on the screen:
(2) If you have the exact data for the product density and thermal expansion coefficient, click on “Next >”. If you wish to cancel, click on “Cancel” and select one of the predefined products.

(3) In the window that opens, enter the product density at 15 °C in g/litre. The parameter must be between 600 and 1200. Then click on “Next >”.

(4) If the density of your product is $\geq 900$ g/litre, water detection will not be possible and the water float must be removed. In addition, you will be given the following warning:
Figure 14: Warning – no water detection possible

(5) Click on “OK”. In the window that opens, enter the product’s thermal expansion coefficient in thousandths per degree Celsius. The parameter must be between 0.0000 and 1.9999. Then click on “Finish”.

Figure 15: Inputting the thermal expansion coefficient

(6) Click on “Accept” to save your input in the control unit or, if you wish to make changes, click on the “…” button next to the Type of Product option.

3.7.9 Product Name

This information is relevant to the VISY-Stick level sensor.

This field displays the product name used, where applicable, and determines what will be seen on a display screen (e.g. VISY-View). The field accepts free text up to a maximum of 16 characters.

3.7.10 Product Code

This information is relevant to the VISY-Stick level sensor.

Some host computers work with product codes. You can determine whether or not a product code is required from the configuration table provided. The product codes depend on the host computer concerned.
Normally, the product code is numerical. Alternatively, however, some host computers (e.g. host 105, 111, 112, 115) permit the use of letters for the product code. In this case, the product code has to be entered in the form of the decimal ASCII value that corresponds to the letters desired.

Example: A = 65, B = 66, C = 67, … / a = 97, b = 98, c = 99, …

3.7.11 Dispenser Sump ID

This information is relevant to the VISY-Stick/Reed Sump Dispenser sensor.

This input field enables you to enter the number of the dispenser in which the VISY-Stick/Reed Sump Dispenser sensor is installed. Many dispensers contain more than one dispenser point number. In these instances, we recommend that you enter the lowest of the dispenser point numbers into this field.

3.7.12 Mud layer suppression activated

This information is relevant to the VISY-Stick level sensor.

If a layer of fuel sludge forms on the bottom of the tank, this could cause the water float to rise and constantly trigger a water alarm even though there is no water in the tank. To compensate for this situation, it is possible to enable the mud layer suppression function. While this function is active, all measured water values below the current float position are suppressed. It is not until the water float rises above the current position that the delivery of measured water values is resumed and an alarm is triggered where appropriate.

Before you enable this function, you must take suitable measures to ensure that there is no water at the tank bottom and the water float is resting on the layer of sludge. The enabling of this function does not work if

- the water float is resting on the guard ring at the bottom end of the probe tube, or
- the layer of sludge is too high (limited to 30 mm above the bottom end of the probe tube so that water or sludge is not taken in undetected), or
- communication with the VISY-Stick level sensor is interrupted.

The status of the mud layer suppression function is disregarded whenever a configuration is saved or loaded (see section 3.12) because it would neither be logical nor safe to have these parameters transmitted to a different control unit unverified. For this reason, the mud layer suppression function always has to be enabled manually when required.
3.7.13 Enabling the mud layer suppression function

(1) Tick the checkbox to enable mud layer suppression. The following warning appears:

![Warning – calculating new water float position](image)

Figure 16: Warning – calculating new water float position

(2) Click on “OK”. The mud layer suppression function is enabled and the respective limit value is displayed in the text field provided no error has occurred. If an error does occur, the following window will appear:

![Error enabling mud layer suppression](image)

Figure 17: Error enabling mud layer suppression

(3) Click on “Cancel” and rectify the malfunction. Restart from the beginning.

3.7.14 Disabling the mud layer suppression function

(1) Click inside the checkbox to remove the tick. The following warning appears:

![Warning – the saved limit value will be lost](image)

Figure 18: Warning – the saved limit value will be lost
Click on “OK” if you are certain that you wish to erase the saved value. 0 mm is displayed in the mud offset field.

3.7.15 Level & volume alerts of VISY-Stick

The “Alarm configuration …” button opens a window in which you can enter four product and two water alarm parameters in millimetres or litres. Whenever these alarm parameters are reached, the corresponding alarm messages will be generated. For large tanks, the volume unit litres (l) can be changed in cubic meters (m³) as required.

![Figure 19: Example of a product and water alarm configuration](image)

**Product alarm**

1. From the drop-down list “▼”, select the unit of measurement for the alarm (mm, litres, m³).

   ![Alarm parameters in litres are evaluated only if a tank table has been configured for the tank.](image)

2. Enter the desired numbers for the four possible alarms (“Very High”, “High”, “Low”, “Very Low”)

**Water alarm**

1. From the drop-down list “▼”, select the unit of measurement for the alarm (mm, litres, m³).
Alarm parameters in litres are evaluated only if a tank table has been configured for the tank.

(2) Enter the desired numbers for the four possible alarms (“Very High”, “High”, “Low”, “Very Low”)

Test alarms …

The “Test Alarms …” button opens a window from which you can test whether the downstream alarm monitors are functioning correctly.

Use this function with caution, particularly if the downstream alarm monitors trigger audible alarms or automatic notifications to a head office.

![Figure 20: Window for testing the six alarms](image)

To test a product or water alarm, click on the relevant button. As long as one of the buttons is active, VISY-Command sends alarm messages in the selected protocol to all downstream alarm monitors. As soon as you click on “Close”, all virtual alarms cease and the window closes.

3.7.16 VISY-Stick/Reed Interstitial alarm configuration

The “Alarm configuration) …” button opens a window in which you can enter two alarm parameters in millimetres, if necessary. An alarm parameter of zero (“0”) disables the alarm concerned. The “High” alarm is triggered if the parameter entered here is exceeded. The “Low” alarm is triggered if the value measured is below the parameter entered here. In the case of the VISY-Stick/Reed Interstitial sensor, a distinction can be made between two types of application:
• **Wet application**  
The Interstitial probe measures the level of the safety fluid in the monitoring chamber of a double-walled tank. In the event of a leak, the safety fluid level drops.  
For this application, therefore, a sensible “Low” alarm parameter must be selected. (Specifying a “High” alarm parameter is optional.)

⚠️ For the VISY-Reed Interstitial Wet, 10 mm must be entered for the "Low" alarm value and 200 mm for the "High" alarm value.

• **Dry application**  
Here, the Interstitial sensor is used to monitor the dry chamber between the walls of a double-walled tank and measures the fluid level at the bottom of the tank.  
In normal condition, this area is dry. In the event of a leak, the fluid level in this area rises. For this application, therefore, a sensible “High” alarm parameter must be selected. There is no point in specifying a “Low” alarm parameter: disable the Low alarm by entering a zero (0).

⚠️ For the VISY-Reed Interstitial Dry, 0 mm must be entered for the “Low” alarm value and 10 mm for the “High” alarm value.

### 3.7.17 VISY-Stick/Reed Sump Manhole alarm configuration (manhole)

The “Alarm configuration …” button opens a window in which you can enter two alarm parameters in millimetres, if necessary. An alarm parameter of zero (“0”) disables the alarm concerned. The “High” alarm is triggered if the parameter entered here is exceeded. The “Very High” alarm is triggered if the parameter entered here is exceeded.

⚠️ For the VISY-Reed Sump Manhole, 10 mm must be entered for both alarms "Low" and "High".

### 3.7.18 VISY-Stick/Reed Sump Dispenser alarm configuration

The “Alarm configuration …” button opens a window in which you can enter two alarm parameters in millimetres, if necessary. An alarm parameter of zero (“0”) disables the alarm concerned. The “High” alarm is triggered if the parameter entered here is exceeded. The “Very High” alarm is triggered if the parameter entered here is exceeded.

⚠️ For the VISY-Reed Sump Dispenser, 10 mm must be entered for both alarms "low" and "high".
### 3.7.19 VISY-density alarm configuration

Via the "density alarm ..." button, the alarm thresholds can be entered for temperature-compensated product and/or bottom density within the measuring unit g/litre. Whether product-or sump density is measured depends on the position in which the density module is mounted on the VISY-Stick Advanced. If two VISY-density modules are mounted on a VISY-Stick Advanced, both the product and the sump density are measured. An alarm parameter of zero (“0”) disables the alarm concerned. The “High” alarm is triggered if the parameter entered here is exceeded. The “Low” alarm is triggered if the value measured is below the parameter entered here.

![Figure 21: Example configuration for product density alarm](image)

![Figure 22: Example configuration for sump density alarm](image)

### 3.8 “Tank tables [F5]” menu item

Tank tables are relevant to the VISY-Stick level sensor only.

Click on “Tank tables [F5]” in the main menu on the left-hand side of the screen to display the current configuration and to make changes.
3.8.1 Probe terminal no. / tank number

Select a sensor terminal number or tank number from 1 to 16 to display its data and to make any changes.

3.8.2 Reference temperature

As mineral oil products have a relatively high thermal expansion coefficient, it is sometimes useful to back calculate the real filling volume (the actual volume in litres present in the tank) to a standardised temperature, or reference temperature. The temperature-compensated filling volume derived in this way indicates how many litres would be present in the tank if the product temperature were at the reference temperature. The permissible parameter range is between -19.9 °C and 59.9 °C.

The tank table is not affected by the reference temperature as it always refers to the real filling volume. The reference temperature simply provides a means of converting the real filling volume determined from the tank table to the temperature-compensated filling volume.

The calculation of the temperature-compensated filling volume is deactivated if a reference temperature of -19.9 °C is entered. The temperature-compensated filling volume would then correspond to the real filling volume.
3.8.3 Permissible filling rate

In this field, you can enter the permissible filling ratio as a percentage of the total capacity of the tank. The permissible filling ratio equates to the value to which the overfill prevention sensor (GWG) is set. From this value the control unit determines the ullage up to the overfill prevention sensor (GWG).

3.8.4 Delivery threshold

In this field, you can enter the delivery recognition threshold as a percentage of the total capacity of the tank. This means that any increase in the filling volume would not be recognised from the control unit as being a fuel delivery until the value set here were exceeded. Volume increases below this threshold (e.g. caused by a thermal expansion of the product) are discarded. Parameters of 0.1% to 99.9% are permitted.

3.8.5 Volume unit

With this selection menu, the unit volume in litres can be changed to cubic meters (m³).

3.8.6 Inputting tank tables

A tank table contains a series of parameter pairings – filling level (in mm) and filling volume (in litres), which are interpolated to calculate the real volume of a tank. These calculations use as their basis the dimensions of the tank and its total capacity. The control unit is able to store a tank table of up to 128 parameter pairings per tank. As the accuracy of volume calculations made on the basis of tank tables increases with the quantity of parameter pairings, a minimum of 10 pairings are required for VISY-X measuring tables. The first parameter pairing must always be “0 mm” and “0 Litre” and the last pairing must always be equal to the tank diameter/height and the tank capacity.

It is possible to enter the parameter pairings manually, to copy a tank table from a different tank, to insert a table from the clipboard/a file, or to have the table calculated.

Before you attempt to edit a tank table, you will need to have the following information available to you:

- Height or diameter of the tank
- Total capacity of the tank
- Shape of the tank

(1) Edit Line:
Field for entering parameter pairings into the tank table. The “+ Insert” button copies the parameter pairing to the table. The “ Delete” button enables you to clear the row highlighted in the table. A maximum of 128 parameter pairings is permitted. You must enter at least ten parameter pairings before you can save the table in VISY-Command, otherwise the following warning will appear:
Figure 24: Warning – insufficient parameter pairings

Acknowledge this warning by clicking on “OK” and enter the remaining parameter pairings.

The first parameter pairing must read 0 mm / 0 litres and the last parameter pairing must be equal to the tank capacity and tank diameter/height.

The parameter pairings can be entered in any order. They are sorted in ascending order automatically as soon as they are inserted into the tank table.

(2) Delete All:
If you click on the “Delete All” button, all parameter pairings in the tank table will be deleted.

(3) Copy tank table from …:
Where tanks have identical dimensions, you can adopt the tank tables already created for other tanks. To do so, click on the “Copy tank table from …” button. The following window appears:

Figure 25: Copying a tank table from another tank

Select the tank from which you would like to copy a tank table. Confirm your selection with “OK”. The tank table is loaded.

(4) Copy to Clipboard:
Clicking on the “Copy to Clipboard” button copies the current tank table to the clipboard for later use.

(5) Insert Clipboard:
If you have previously copied a tank table to the clipboard, you can load this measuring table by clicking on “Insert Clipboard”.

(6) Save to file …:
Clicking on the “Save to file …” button saves the current tank table as a file with the name of your choice for later use. In this way, you can save and accumulate
multiple tank tables on your PC with a view to reusing them for future installations.

(7) Insert File … :
By clicking on the “Insert File …” button, you can select and insert a tank table from your database as long as it exactly matches the tank you are currently configuring.

(8) Calculate tank table:
In VISY-Setup, it is possible to have the tank tables calculated automatically.

Please note that the tank tables calculated by VISY-Setup does not deliver the accuracy of table developed by a tank manufacturer for specific tanks because, for example, VISY-Setup is unable to take tank fittings into consideration.

- Click on the “Calculate tank table” button. The “Calculate tank table” window is displayed:
  
  ![Figure 26: Calculating a tank table for a cylindrical horizontal tank](image)

- Now select whether the tank is cylindrical horizontal or vertical.

- Enter the desired number of parameter pairings (min. 10, max. 128), the maximum tank capacity in litres and the tank diameter respectively tank height in millimetres.

- Now click on the “Calculate” button.

  This calculation of the vertical tank assumes that the tank has a uniform cross section from top to bottom.

- The screen returns to the “Tank tables” menu. The table now contains the calculated parameter pairings.
3.9 “Input [F6]” menu item

This menu enables you to configure VISY-Input modules.

Click on “Input [F6]” in the main menu on the left-hand side of the screen to display the current configuration of the VISY-Input modules. A VISY-Input module has eight (8) inputs. For each input, it is possible to configure input events so that switch signals supplied by external units can be detected. The configurations that are in effect at the time the function is opened are displayed for each input of the selected VISY-Input module:

![Figure 27: Configuration of the VISY-Input module](image)

### 3.9.1 VISY-Input device

Select the VISY-Input module that you wish to configure (1 to 8).

### 3.9.2 Serial no. of the VISY-Input device

The serial number of the VISY-Input module is printed on the inside of the device. Enter this serial number into this field.

### 3.9.3 Table of input events

The table has the columns “Input”, “Active” and “Description”.
Input:
Input 1 to 8 of the selected VISY-Input module. The input number is supplemented by an asterisk “*” if the configuration for this input has yet to be transferred to the control unit following a change.

Active:
This field indicates whether an event has been assigned to the input concerned.

Description:
This field displays the event configuration assigned to the input concerned.

3.9.4 Selecting an input
A single click on the description field opens the input events editor.

An input event consists of four elements:

1. Event Source Type:
   This field describes in general terms which external unit is supplying the monitoring signal. At present, the following options are available for selection:
   - Not active (deactivates the input) or
   - Leak detection for tank, product line, delivery line, manhole or oil separator.

2. Tank / Sensor Terminal No.:
   This field describes which tanks or sensor terminals are being monitored by the external unit assigned to this input.
(3) **Event Trigger:**
External monitoring units may report several different events. The options listed are dependent on the monitoring unit selected in the “Event Source Type” field. The options describe specifically which events should be detected by the input you are configuring.

(4) **Alarm / Active if input:**
In this section, you should specify whether the signal delivered by the external unit is supplied by an open or a closed switching contact.

**Exiting the input events editor:**
If you click on “OK”, the main menu appears and the configuration is displayed in the table; if you click on “Cancel”, the input events editor simply closes and the main menu is displayed once more.

If the configuration for an input was modified, this is indicated by an asterisk next to the input number. At this point in time, the modified configurations have not yet been saved in the control unit.

“Accept”: When you click on the “Accept” button, the configuration for the selected VISY-Input module is transferred to the control unit and saved. Upon successful transfer, the asterisk next to the input number is no longer displayed.

“Discard”: When you click on the “Discard” button, any modifications that you have made to the configuration are discarded and the previously saved settings are retrieved.

**3.10 “Output [F7]” menu item**

This menu enables you to configure VISY-Output modules.

Click on “Output [F7]” in the main menu on the left-hand side of the screen to display the current configuration of the VISY-Output modules and to make changes.
3.10.1 VISY-Output device no.

Select the VISY-Output module that you wish to configure (1 to 8).

3.10.2 Serial no. of the VISY-Output device

The serial number of the VISY-Output module is printed on the inside of the device. Enter this number into this field.

3.10.3 Timeout (minutes)

VISY-Output gives you the option to have the outputs assume a defined state if communication with the control unit were to fail. If the box contains a timeout value of more than zero (0) minutes, the outputs will retain their present state for the duration of the timeout in the event of a communication failure, after which they will assume the state specified in the “Output action following timeout” field. A timeout of zero (0) minutes disables this function.

3.10.4 Output action following timeout

This field enables you to configure how the outputs should behave on expiry of the timeout period in the event of a communication failure. The function can be disabled by entering a timeout of zero minutes.
3.10.5 Operating mode

For the operating mode, you can select either “Standard” or “Failsafe”. For more information on operating modes, please refer to the documentation supplied with the VISY-Output module.

3.10.6 Relay delay (Yes/No)

With the relay delay enabled, the (alarm-)triggering events have to be stable for a defined period before the output relay is activated.

The events that activate the outputs of the VISY-Output module are configured in the “Output-Event [F8]” menu (see below).

3.11 “Output-Event [F8]”

This menu is used to configure the output events that should activate the outputs of VISY-Output.

![Figure 30: Configuration of output events](image)

The events, e.g. alarm messages, can be the processing of measured values supplied by the sensors, or the signals of external units (e.g. leak detection) that are recorded by VISY-Input modules.

Click on “Output-Event [F8]” in the main menu on the left-hand side of the screen to display the current configuration of the output events and to make changes.
As soon as you view this menu item, the output events stored in the control unit are displayed in a table. The table contains up to 64 saved events. The first events are normally visible directly, the remaining events can be viewed using the cursor keys on the keyboard, by dragging the thumb of the vertical scroll bar up and down, or by turning the mouse wheel.

Each output event has the columns “Event”, “Active” and “Description”.

**Event:**
Each output event is identified by a unique event number. The event number is supplemented by an asterisk “*” if the configuration for this output event has yet to be transferred to the control unit following a change.

**Active:**
This field indicates whether the output event has been activated.

**Description:**
This field displays the event configuration assigned to the input concerned.

A single click on this field opens the output events editor.

**Example:**
Output event “2” occurs whenever the leak detection of tank 1, 2 or 3 reports any one of the events “System error”, “Pressure/vacuum request” or “Pressure/vacuum loss”. In this case, it is relay output “3” of VISY-Output module “2” that would be activated.
3.11.1 Output events editor

The output events editor contains the following data fields: “Event ID”, “Event Source Type”, “Tank/ Probe Terminal No.”, “Event Trigger, “VISY-Output device” and “Relay Terminal”:

1. **Event ID:** Displays the output event number selected. Read only.

2. **Event Source Type:**
   This field describes in general terms which signal source is supplying the monitoring signal. At present, the following options are available for selection: Not active (deactivates the output event), Tank content, VISY-Stick/Reed Interstitial, VISY-Stick/Reed Sump Manhole, VISY-Stick/Reed Sump Dispenser, Pressure/ vacuum leak detection tank, Pressure/ vacuum leak detection product pipe, Pressure/ vacuum leak detection filling pipe, Pressure/ vacuum leak surveillance man hole or Oil separator surveillance.

3. **Tank / Sensor Terminal No.:**
   This field indicates the tanks or sensors connected to the sensor terminals that are monitored as part of this output event.

4. **Event / Signal trigger:**
   The sensors connected to the control unit supply different alarm signals. Even external monitoring units may report several different events through their switch outputs. The options listed in this “Event Trigger” section are therefore dependent on the option selected in the “Event Source Type” field. The options selected in the “Event Trigger” section describe specifically which (alarm-triggering) events the output event you are configuring should respond to.

5. **VISY-Output device:**
   With the three criteria “Event Source Type”, “Tank/ Probe Terminal No.” and “Event Trigger”, you have defined the event that should be used to switch the outputs of a particular VISY-Output module. Use this section to select the VISY-Output module concerned.

6. **Relay Terminal:**
   In this section, you can select the output or outputs of the VISY-Output module that should be activated whenever the defined event occurs.

**Exiting the output events editor:**

If you click on “OK”, the main menu appears and the configuration is displayed in the table; if you click on “Cancel”, the output events editor simply closes and the main menu is displayed once more.
If an output event was modified, this is indicated by an asterisk next to the event number. At this point in time, the modified configurations have not yet been saved in the control unit.

(1) “Accept”:
When you click on the “Accept” button, the output events are transferred to the control unit and saved. The transfer progress is displayed in the status bar below the table. Upon successful transfer, the asterisk next to the input number is no longer displayed.

(2) “Discard”:
When you click on the “Discard” button, any modifications that you have made to the configuration are discarded and the previously saved settings are retrieved.

3.11.2 Relationship between an input event and an output event

The following input fields are available for both an input event and an output event:

- Event Source Type
- Tank / Sensor Terminal No.
- Event Trigger

In order for an input event to be able to prompt a response in a particular VISY-Output module, it is necessary to define a corresponding output event.

An output event is activated when the input event has been triggered and the output event is consistent with the following criteria:

(1) Event Source Type and
(2) at least one of the specified tank / sensor terminal numbers and
(3) at least one of the specified event triggers match.

In this scenario, the configured relay outputs would be activated for the specified VISY-Output module.

Special case oil separator:
In the “Tank/ Sensor Terminal No.”, at least one field must be selected as “Oil separator number”. 
3.12 “Save and Load [F9]” menu item

Click on “Save and Load [F9]” in the main menu on the left-hand side of the screen if you wish to save or load a configuration.

![Figure 32: “Save and Load [F9]” menu item](image)

The status of the mud layer suppression function (see section 3.7.12) is disregarded whenever a configuration is saved or loaded because it would neither be logical nor safe to have these parameters transmitted to a different control unit unverified. For this reason, the mud layer suppression function always has to be enabled manually when required.

3.12.1 Saving the configuration to a file

After you have completed your configuration, you can save the configuration data to your hard disk or portable data storage medium as a file with a particular name. Following a system failure, for example, you can now reload the configuration from this file and send it to the control unit.

To be able to use the “Station import” function in the “VISY-Tank” software application, the data have to be saved under a specific file name (see (3) in this section).

Once you have reviewed your configuration by consulting the “Current Values” and made any corrections, proceed as follows to back up and save the configuration data:

1. Click on the “Save Configuration to File” button
2. In the “Save As” dialogue window that opens, you can now save your configuration data to your hard disk or a portable data storage medium.
To save the configuration data, click on the “Save” button.

The “Save and Load” submenu is then restored to the screen.

After the configuration has been saved successfully, select a different submenu or click on “Close” to close the VISY-Setup application.

### 3.12.2 Load Configuration into Control Unit

Proceed as follows if you would like to transfer your saved configuration data to the control unit:

1. Click on the “Load Configuration into Control Unit” button.
2. In the “Open” dialogue window that opens, you can now import the desired configuration data into the control unit from your hard disk or a portable data storage medium.
3. To load the configuration data, click on “Open”.

![Figure 33: Loading a configuration](image)

(4) The configuration data are loaded

![Figure 34: Progress bar for the loading process](image)

(5) The “Save and Load” menu item is then restored to the screen.

(6) Select a different menu item or click on “Close” to close the VISY-Setup application.
4 Status messages

In the “Current Values [F1]” menu, the “Probe Status” field displays a status code and a status message.

The table below lists all possible status codes and explains their meaning and effect, the possible cause, and the measures that can be taken to restore normal operation.

Status messages 0 to 9 are generated by the VISY-Stick sensor (in wireless mode, also by the RF transmitter), status messages 10 to 99 are generated by the control unit.

⚠️ If any of status codes 0 to 7 is displayed, it is safe to assume that there is no disruption in the communication between the sensors and the control unit. Status messages are forwarded to the host computer only in cases where these are defined in the data protocol of the host.

<table>
<thead>
<tr>
<th>Code</th>
<th>“Message”</th>
<th>▶ Possible cause</th>
<th>✓ Required action</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>“Probe running”</td>
<td></td>
<td>✓ No measures required.</td>
</tr>
<tr>
<td>1</td>
<td>“Probe not running”</td>
<td>▶ The measured values are no longer being recorded and are set to “0” by the</td>
<td>✓ If this status is displayed permanently, it should be</td>
</tr>
<tr>
<td></td>
<td></td>
<td>control unit.</td>
<td>assumed that the probe has developed a defect.</td>
</tr>
<tr>
<td>5</td>
<td>“Probe cannot determine temperature”</td>
<td>▶ The temperature is no longer being recorded by the control unit and its value is set to 0.0 °C. The filling volume is no longer compensated for temperature. Product and water level continue to be processed.</td>
<td>✓ If this status is displayed permanently, it should be assumed that the probe has developed a defect.</td>
</tr>
<tr>
<td>6</td>
<td>“Probe cannot determine filling level”</td>
<td>▶ The product level and water level are set to “0” by the control unit, the temperature continues to be transmitted.</td>
<td>✓ If this status is displayed permanently, it should be assumed that the probe has developed a defect.</td>
</tr>
<tr>
<td>Code</td>
<td>&quot;Message&quot;</td>
<td>Possible cause</td>
<td>Required action</td>
</tr>
<tr>
<td>------</td>
<td>-----------</td>
<td>----------------</td>
<td>----------------</td>
</tr>
<tr>
<td>7</td>
<td>&quot;Reduced measuring accuracy&quot;</td>
<td>Powerful fluid movements prevent a fully accurate measurement. This may be the case during fuel deliveries, for example.</td>
<td>No measures required.</td>
</tr>
<tr>
<td></td>
<td>▶ Description</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>All measured values are processed normally. However, it must be assumed that maximum accuracy can no longer be achieved.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Relevant to wireless mode only: &quot;Checksum error: Probe - RF-transmitter&quot;</td>
<td>Dirty or damaged plug-in connection, loose connection, strong interference radiation, or VISY-RF transmitter defective.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>▶ Description</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>The RF transmitter is reporting an error in communication with the probe. The control unit stops receiving data from the probe.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Relevant to wireless mode only: &quot;RF-transmitter has no communication with probe&quot;</td>
<td>Dirty or damaged plug-in connection, connection cable defective, probe or VISY-RFT transmitter defective.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>▶ Description</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>The VISY-RFT transmitter is reporting that the probe is no longer responding.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>&quot;Checksum error: Probe – control unit&quot;</td>
<td>In wired operation, loose, dirty or damaged cable connection (including connectors and terminals) to the probe, or strong interference radiation.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>▶ Description</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Control unit is reporting an error in communication with the sensor or RF receiver.</td>
<td>In wireless operation, loose or damaged cable connection (including connectors and terminals) between RF receiver and VI… interface, or strong interference radiation.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>▶ Check cables, plug-in connections and terminal connections.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>▶ In wired mode, replace sensor, VP… transducer, VI… interface.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>▶ In wireless mode, replace RF receiver, VI… interface. Check surrounding area for powerful sources of radiation (e.g. three-phase cables, power switches, etc.).</td>
<td></td>
</tr>
<tr>
<td>Code</td>
<td>&quot;Message*&quot;</td>
<td>Possible cause</td>
<td>Required action</td>
</tr>
<tr>
<td>------</td>
<td>------------</td>
<td>----------------</td>
<td>----------------</td>
</tr>
<tr>
<td></td>
<td>&quot;No communication with probe&quot;</td>
<td>🔄 Probe not connected / available / defective, wiring fault, incorrect serial number configured for the probe, control unit (VI… interface or VP… transducer) defective.</td>
<td>☑ Take the necessary measures as appropriate to the possible causes.</td>
</tr>
<tr>
<td></td>
<td>The control unit is no longer able to establish data communication with the probe. The measured values are no longer being recorded and are set to “0” by the control unit.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>&quot;Incompatible Data&quot;</td>
<td>🔄 The sensor or its special version is not supported by the control unit.</td>
<td>☑ Ask the manufacturer if sensors and control unit are compatible and if updates are available. The type, version, and serial number of the control unit and the sensors will be required (e.g. the number of mounted float or density units).</td>
</tr>
<tr>
<td></td>
<td>The data communication with the sensor works without transmission errors, but the data cannot be interpreted by the control unit. The measured values are no longer being recorded and are set to “0” by the control unit.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>Relevant to wireless mode only: &quot;Waiting for first wireless transmission&quot;</td>
<td>🔄 Data from the probes are transmitted only periodically.</td>
<td>☑ Not required because of normal reset/switch-on behaviour. If data are still not being received following expiry of the configurable timeout in VISY-Command (1 – 99 hours), the status automatically changes from 13 to 11.</td>
</tr>
<tr>
<td></td>
<td>VISY-Command RF is reporting after the switch-on or a reset that no data have been received from the probes.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>99</td>
<td>&quot;Probe not configured&quot;</td>
<td>🔄 All connected probes/tanks initially display this status following delivery of the control unit. In order for communication with a sensor to be established through a particular terminal, it is necessary to enter the serial number of the sensor and also the type of product. Whenever this status is displayed, one or both of these entries must be missing.</td>
<td>☑ The control unit must be configured by using the VISY-Setup.</td>
</tr>
<tr>
<td></td>
<td>The control unit is assuming that the probe has not been connected. No data communication takes place through the associated terminal (tank 1 to 16). All measured values from this terminal are set to “0”.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Code</td>
<td>&quot;Message&quot;</td>
<td>Possible cause</td>
<td></td>
</tr>
<tr>
<td>------</td>
<td>-----------------------------------</td>
<td>-------------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td></td>
<td>&quot;Reset control unit.&quot;</td>
<td>A control unit reset is carried out after switch-on or if you press the Reset button. If this status is displayed permanently, even after you have pressed the Reset button, it should be assumed that the measurement control unit (VI... interface) is defective.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>▶ Description</td>
<td>✓ Replace the VI... interface inside the control unit.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>▶ Possible cause</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>▶ Required action</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
5  Error messages

If communication between VISY-Setup and the control unit is disrupted during configuration, the control unit will output an error message that is displayed in VISY-Setup.

Acknowledge an error message by pressing the [⏎] (Return) key. If the error message continues to be displayed, close the VISY-Setup program. Press the Reset button on the control unit again and relaunch the VISY-Setup program. If the error message continues to be displayed, please contact the technical support department of your distribution partner.

<table>
<thead>
<tr>
<th>Error message</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>ERROR 1</td>
<td>The control unit was unable to interpret the data received.</td>
</tr>
<tr>
<td>ERROR 2</td>
<td>The control unit was able to interpret the data received, but an invalid tank number was sent.</td>
</tr>
<tr>
<td>ERROR 3</td>
<td>The control unit was able to interpret the data received, a valid tank number was sent, but the parameter to be transmitted to the tank is invalid.</td>
</tr>
<tr>
<td>ERROR 4</td>
<td>The parameters to be transmitted to VISY-Command are valid, but VISY-Command is unable to save them.</td>
</tr>
<tr>
<td>ERROR 5</td>
<td>VISY-Command is unable to execute the desired function.</td>
</tr>
</tbody>
</table>

6  VISY-Setup version index

Changes and additions of the individual VISY-Setup versions can be found in the Release Notes, which can be found in this program’s installation folder.
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