MAXX ®

Mess- und Probenahmetechnik GmbH

Programming instructions

Software Version 5

```
         MAIN MENU
  PROGRAMS
  MANUAL SAMPLE
  MEMORY              ▼
 03.02.2014    14:34:02
```

MAXX ®

Contents

PROGRAMMING

The menu structure is similar to a directory tree and is split up in main menus and submenus.

NOTE: Please note that not all menu items of this manual are absolutely relevant for your device. According to the supplied equipment, these may differ!

Assignment and function of keys

The apparatus is interactively programmed by the user.

Function of the keys:

Display of help texts. To activate the help text when selecting a new display, first press the arrow key pointing to the left.	Arrow key	◀
Move from one to the next menu	Arrow keys	▼ ▲
Select the desired menu	Enter key	↵
Move within the menu	Arrow keys	▼ ▲
Selection within the menu or scrolling within the data memory or bottle memory	Arrow keys	◀ ▶
Confirm the choice (is automatically marked with a ✔)	Enter key	↵
Entry/change of values	Arrow keys	◀ ▶ ▼ ▲
Confirmation of entered values	Enter key	↵
Return to higher menu level	Back key	↺
Initialization (reset) display	Back key + Enter	Press both keys at the same time ↺ ↵
Terminate sleep mode (only portable samplers)	Back key	↺ Press for at least 5 sec.
RESET / reset to factory settings (**NOTE:** all settings and data will be deleted!)	Back key	↺ Keep pressed when switching on

NAVIGATION

The sampler can be operated by means of the control unit. With the ARROW KEYS, the ENTER KEY and the BACK KEY you can move from one screen to another. An arrow on the display shows that there are further selection possibilities (see illustration).

```
     MAIN MENU
🗐 PROGRAMS
🖐 MANUAL SAMPLE
🔢 MEMORY            ▼
21.03.2012   16:09:45
```
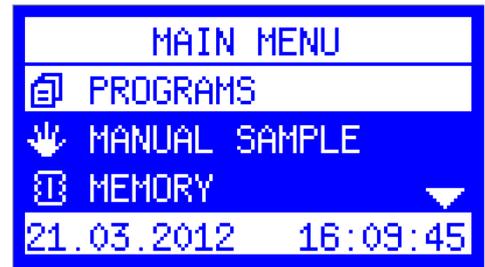
Example:

Press the "DOWN" arrow key two times to select the line DATA MEMORY.

Now press the ENTER KEY to display the data memory or to choose another selection possibility.

Remark: The arrow pointing downward on the right side (bottom) of the display indicates that there are further selection possibilities.

Menu variants:

The top line indicates that you can navigate to the right or to the left by pressing the arrow keys.

The bottom line indicates with which key the action is executed or terminated.

```
PROGRAM NO.   ◀ 1 ▶
🕐 TIME
INTERVAL:        00:06
FILL TIME:      002:00
   BACK ↺    NEXT ⏎
```

Here you can set a parameter. The top line shows which value is to be set. The next line indicates the possible range of values. An entry is possible directly by means of the number keys or by selecting the digit with the right / left arrow keys and by setting them with the up / down arrow keys. The selected digit is displayed inversely (cursor). Confirm the entry by pressing the ENT key or abort it by pressing the BACK key (in this case the initial value is not changed). The arrows show that a digit can be changed.

```
🕐 SAMPLING INTERVAL
  min.2min MAX.99:59h
00:06 hh:mm

BACK ↺    NEXT ⏎
```

Settings with selection menus

The cursor is positioned on the current selection line (inversely) and can be moved up or down.

The arrow on the right side of the window indicates that there are further entries which can be displayed by scrolling up or down.

Depending on the menu, the display will show in which direction you can scroll.

```
┌─────────────────────────┐
│ 🗄 SYSTEM SETTINGS       │
│ 🔎 LANGUAGE             │
│ 🔄 DISTRIBUTOR          │
│ ⏻ MAX. SUCTION TIM▼     │
│ BACK ↺    NEXT ↵        │
└─────────────────────────┘
```
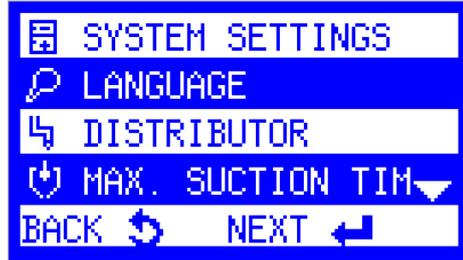
Selection of individual menu points

In the selection menus, additional program settings

are displayed. All the settings which have been activated by pressing the ENTER key or which are already active are marked with a ✔ symbol.

```
┌─────────────────────────┐
│ ⎍ FILL MODE            │
│ ✔TIME RELATED          │
│  SAMPLE RELATED        │
│                         │
│ ZURÜCK ↺   NEXT ↵      │
└─────────────────────────┘
```

MAXX®

Mess- und Probenahmetechnik GmbH

MAIN MENU STRUCTURE

PROGRAMS
- STATUS/STOP →
- START →
- CHANGE →

MANUAL SAMPLING
- IN CURRENT BOTTLE
- IN BOTTLE X

DATA MEMORY
- SAMPLING DATA
- TEMPERATURE DATA
- MEASURING DATA
- BOTTLE PROTOCOL
- BOTTLE ARCHIV

DIAGNOSIS/TEST
- COMPONENT TEST →
- OUTPUTS TEMPCARD →
- DIGITAL INPUTS →
- ANALOG INPUTS →
- VERSION INFO →
- IP-ADDRESS →

SETUP
- DATE/TIME →
- SYSTEM SETTINGS →
- SLEEP MODE (only portable devices) →
- PASSWORD →
- SERVICE →

Description of the main menu structure with submenu levels 2 and 3
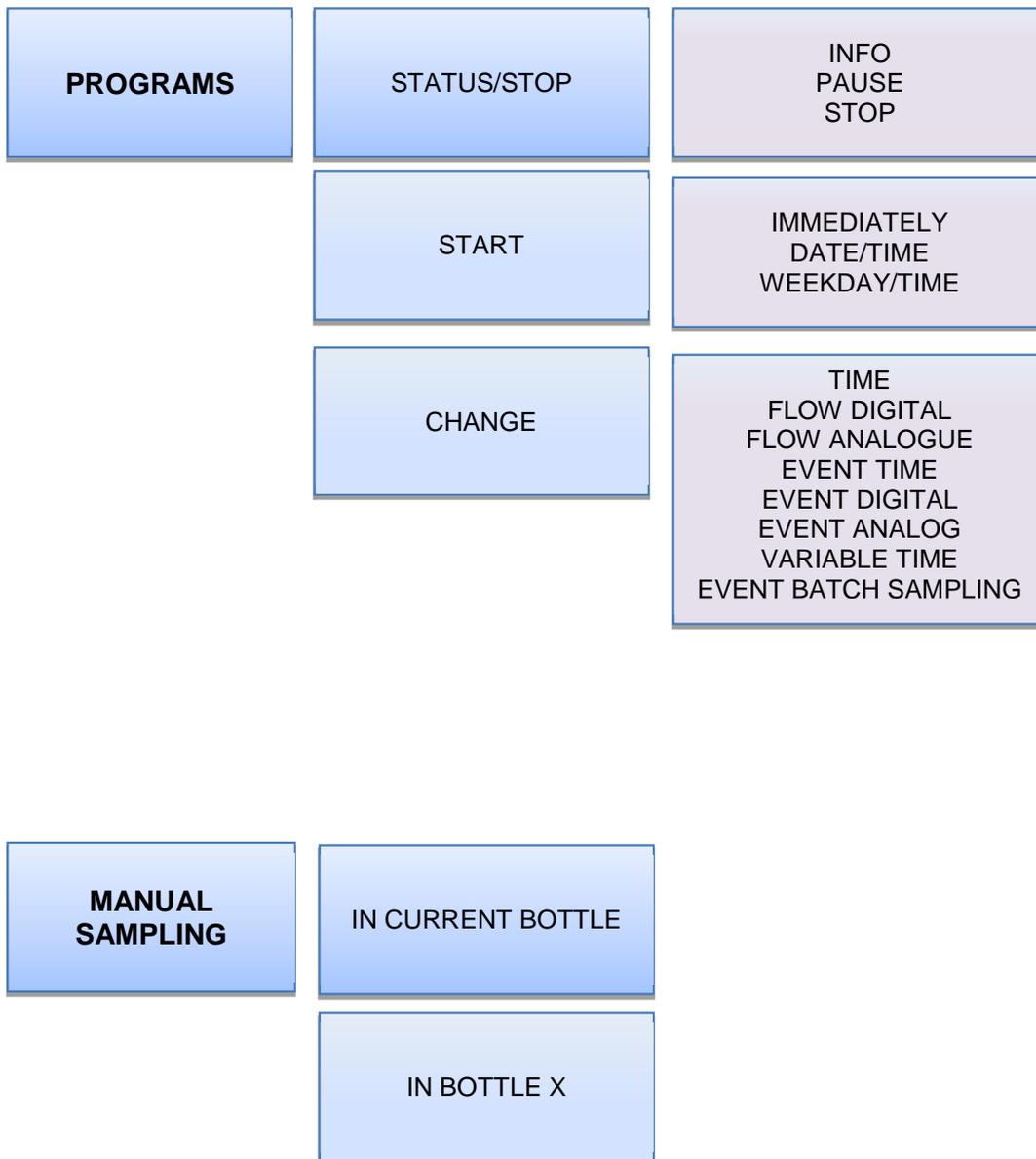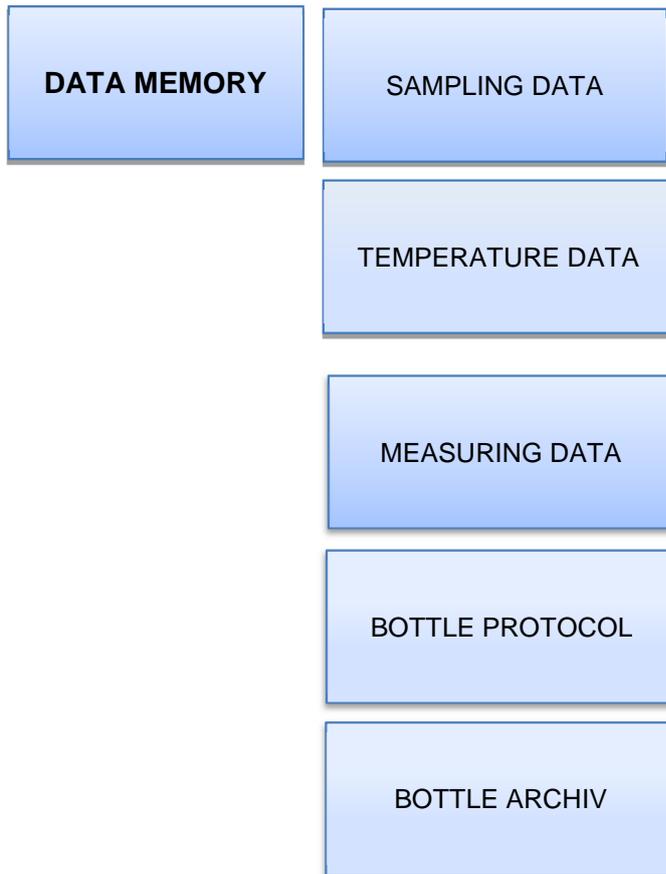
PROGRAMS	STATUS/STOP	INFO PAUSE STOP
	START	IMMEDIATELY DATE/TIME WEEKDAY/TIME
	CHANGE	TIME FLOW DIGITAL FLOW ANALOGUE EVENT TIME EVENT DIGITAL EVENT ANALOG VARIABLE TIME EVENT BATCH SAMPLING

MANUAL SAMPLING	IN CURRENT BOTTLE
	IN BOTTLE X

DATA MEMORY

SAMPLING DATA

TEMPERATURE DATA

MEASURING DATA

BOTTLE PROTOCOL

BOTTLE ARCHIV

DIAGNOSIS/ TEST	**COMPONENT TEST**	• PUMP • PINCH VALVE • VALVE SYSTEM • DISTRIBUTOR • DIGITAL OUTPUTS
	OUTPUTS TEMPCARD	LOWER HEATING : COOLING : UPPER HEATING :
	DIGITAL INPUTS	FLOW DIGITAL; EVENT DI3 DI4 DI5 DI6 DI7 DI8 (only if I/O board is installed) DI 9-12
	ANALOG INPUTS	ANALOG 1: ANALOG 2: ELECTRODES 1: ELECTRODES 2: PT 1000 SENSOR OP.VOLTAGE.: 13,8 V FLOW: xxx l/s (m3/h)
	VERSION INFO	-SOFTWARE VERSION -SERIAL NO. PLC -START VALUES -DATALOGGER VERS. -TEMP.CARD VERSION
	IP ADDRESS	Display of IP address (only if WEB-Board is installed)

SETUP	DATE/TIME	DD.MM.YYYY hh:mm
		15.08.2013 13:56

	SYSTEM SETTINGS	• LANGUAGE
		• DISTRIBUTOR
		• MAX. SUCTION TIME
		• PRE-PURGE
		• POST-PURGE
		• RINSE BEFORE SAMPL.
		• CALIBRATE VAR SYSTEM
		• AERATION TIME
		• PUMP POWER
		• LOG ENTRIES
		• INTERNAL TEMP.
		• ANALOG SIGNAL
		• DISPLAY
		• STATUS LED
		• PAUSE DURATION
		• FREELY PROG. INPUTS
		• OUTPUT SIGNALS
		• MAX. SAMPLE VOLUME
		• MIN. SAMPLE VOLUME

SLEEP MODE (only portable devices)	• ACTIVE
	• INACTIVE

PASSWORD	• CHANGE PASSWORD
	• CHANGE PROGRAMS
	• CHANGE SETTINGS
	• PROGRAM STOP

SERVICE	Setting of base parameters (only for service technicians) Password protected

Description of the displays with explanation

DISPLAY	DISPLAY	EXPLANATION / FUNCTION
PROGRAMS		
STATUS/STOP	• INFO	Display of program details
	• PAUSE	Interruption of the running program (max. 120 min)
	• STOP	Stop the current program or all programs
START	• IMMEDIATELY	Program start can be:
	• DATE/TIME	• immediately • with date/time (dd:mm:yyyy hh:mm)
	• WEEKDAY/TIME	• with weekday/time (day; hh:mm)
CHANGE	PROGRAM No. [xx]	Change the program parameters like mode of operation (time, flow, event…), interval etc. Selectable operating modes: • TIME • FLOW DIGITAL • FLOW ANALOG • EVENT TIME • EVENT DIGITAL • EVENT ANALOG • EVENT BATCH SAMPLING
MANUAL SAMPLING		
IN CURRENT BOTTLE		Sample extraction into <u>current</u> bottle
IN BOTTLE X		Sample extraction into selectable bottle X
DATA MEMORY		
SAMPLING DATA		Display of data of the single bottles
TEMPERATURE DATA		Temp. sampling compartment. Temp. Ambient, PT1000 Temp.
MEASURING DATA		Option: data of external sensors like pH, Cond., Temp °C if connected
BOTTLE PROTOCOL		data of each bottle, like start/end of filling time, requested/taken samples
BOTTLE ARCHIV		data archive "bottle protocol" of the last 50 program cycles

DIAGNOSIS/TEST		
COMPONENT TEST	• PUMP • PINCH VALVE • VALVE SYSTEM • DISTRIBUTOR • DIGITAL OUTPUTS	Possibility of a functional check of the components
OUTPUTS TEMPCARD		Display STATUS of: - Lower heating (OFF / ON) - Cooling (OFF / ON) - Upper heating (OFF / ON)
DIGITAL INPUTS		Display of (DI=digital input): Flow digital: 0 Event: 0 DI3 DI4 DI5 DI6 DI7 DI8 (only if I/O board is installed) DI 9-12
ANALOG INPUTS		Display of: ANALOG 1 ANALOG 2 ELECTRODES 1 ELECTRODES 2 PT 1000 SENSOR (Option) OPERATING VOLTAGE FLOW: xxxx l/s (m3/h)
DISPLAY OF VERSION		• Display of the firmware version • Serial No. PLC • No. of startvalues • Software version of datalogger • Software version of Temp. Board
IP ADDRESS		Display of IP address (only if WEB-Board is installed) Default IP: **192.168.1.1** Default PORT: 47234

SETUP		
DATE/TIME		Setting of date/time
SYSTEM SETTINGS	• LANGUAGE	Setting of the language
	• DISTRIBUTOR	Selection of distributor type
	• MAX. SUCTION TIME	Setting of the maximum suction time (0-600 sec.)
	• PRE-PURGE	Pre-purge = purge of suction hose **PRIOR** of the sample extraction (0 - 99,99 sec.)
	• POST-PURGE	Post-purge = active purging of the metering vessel **AFTER** the sample extraction (0 - 99,99 sec.)
	RINSE BEFORE SAMPLING	Option to rinse intake line with source liquid prior to each sample, 1 to 3 rinses.
	• VAR CALIBRATION	Volume calibration for Peristaltic Pump or option:VAR Vacuum system for flow-proportional sampling
	• AERATION TIME	Time until pinch valve is opened for drain off of sample
	• PUMP POWER	Adjustable from 70 % to 100% (not available for Peristaltic Pump)
	LOGENTRIES	set of the Log entries. Log interval for Temp.-board and PT1000 can be adjusted 1….60 min
	• INTERNAL TEMPERATURE	-Via NTC
		-Via PT1000
		-Limit value (1 - 20 °C)
		-Delay time (1 - 60 min.)
		(Example: limit value 7°C, delay time 10 min. An alarm message is sent if the limit value is exceeded for 10 min.)
	• ANALOG SIGNAL	Selection:
		0-20 mA
		4-20 mA
		Calibration (adjustment with signal of plant)
	• DISPLAY	- always switched on
		- switch off after certain time (0-999 sec.)
		- contrast
		- max. brightness
		- min. brightness
	STATUS-LED (Option)	Option only for P6. LED at handle flashes green: if program is active red: indicates any ERROR

	•DURATION OF PAUSE	Program can be interrupted for 10-120 min. for example for cleaning .After expiry of the time entered the program is automatically resumed.
	• PROG. INPUTS	Programmable inputs: input signal to start a program e.g. via an external pulse. Four inputs are available.
	• OUTPUT SIGNALS	REMARK: **this feature is only available if the optional I/O add-on board is connected** (5 output signals).
		In the basic version (without the add-on board) **1** fixed output is available for the collective malfunction message which can be used via an optional signal relay. With this feature, however, the possible (malfunction) messages can be configured individually for each of the 5 signals.
	MIN. SAMPLE VOLUME	**only for Peristaltic or VacuumVAR system!** setting of the **min. sample volume** which shall be taken
	MAX. SAMPLE VOLUME	**only for Peristaltic or VacuumVAR system!** setting of the **max. sample volume** which shall be taken
SLEEP MODE	•ACTIVE	**Only at portable samplers:** If the sleep mode has been activated and the program is to be started in 20 min. at the earliest, the message „Attention device switches to sleep mode" is displayed for 30 sec. Thereafter the display is switched off and only activated again 2 min. prior to the program start.
	• INACTIVE	Sleep mode is deactivated
PASSWORD	• CHANGE PASSWORD	- In general the password can be changed.
	• CHANGE SETTINGS	- A password for settings can be entered.
	• CHANGE PROGRAMS	- A password for changing programs can be entered
	• STOP PROGRAMS	- A password for stopping programs can be entered
SERVICE		Setting of base parameters (only to be done by a service technician) (Password protected)

![MAXX Mess- und Probenahmetechnik GmbH logo]

Examples of programming

Programming of a time-proportional sampling program

```
┌─────────────────────────────┐
│        MAIN MENU            │
│ ▣ PROGRAMS                  │
│ ♆ MANUAL SAMPLE            │
│ ▦ MEMORY              ▼     │
│ 16.03.2012    04:24:37      │
└─────────────────────────────┘
```

Select PROGRAMS in the main menu

```
┌─────────────────────────────┐
│      ▣ PROGRAMS            │
│ ⓘ STATUS/STOP             │
│ ⚑ START                    │
│ ↻ CHANGE                   │
│ BACK ↻     NEXT ↵          │
└─────────────────────────────┘
```

Select CHANGE

```
┌─────────────────────────────┐
│ PROGRAM NO.    ◀ 1 ▶        │
│ ⊙ TIME                     │
│ INTERVAL:        00:06      │
│ FILL TIME:      002:00      │
│   BACK ↻     NEXT ↵        │
└─────────────────────────────┘
```
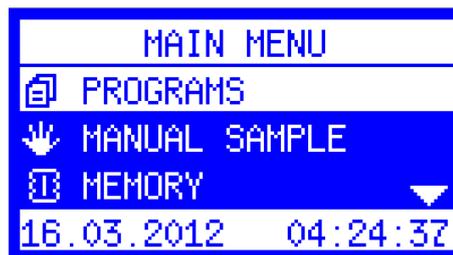
Select PROGRAM NO. 1 (out of 12).

Programs No. 2-12 can be selected by pressing the left or right arrow key.

Press ENTER to edit the program.

```
┌─────────────────────────────┐
│ PROGRAM 1 MODE             │
│ ✔ ⊙ TIME                  │
│   ᴨ FLOW DIGITAL          │
│   ∿ FLOW ANALOGUE   ▼      │
│ BACK ↻     NEXT ↵          │
└─────────────────────────────┘
```

Selection of the sampling mode TIME

(Sampling is effected in fixed time intervals)

```
┌─────────────────────────────┐
│ ⊙ SAMPLING INTERVAL        │
│  min.2min MAX.99:59h        │
│ 00:06 hh:mm                 │
│                             │
│ BACK ↻     NEXT ↵          │
└─────────────────────────────┘
```
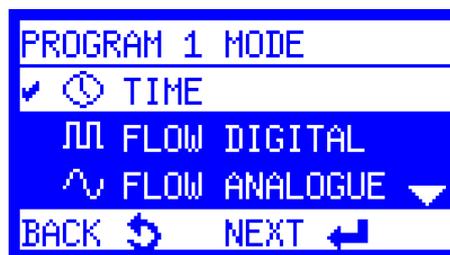
Set the sampling interval (time interval between the single sample extractions).

Setting of sample volume (ml) (only for Peristaltic Pump and VAR Vacuum)

The min. and max. sample volume can be predefined in
SETUP ⟹ SYSTEM SETTINGS

⟹ MIN. SAMPLE VOLUME

⟹ MAX. SAMPLE VOLUME

```
🕐 SAMPLE VOLUME
MIN.  1   MAX.   250
00150 ml

BACK ↻    NEXT ↵
```
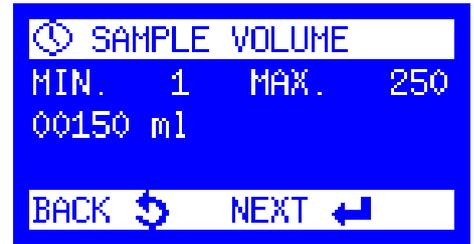
Set the BOTTLE FILL TIME
(here: each bottle is filled for 2 hours.)

Range: 00:02 up to 168:00 (hhh:mm)

```
🕐 FILL TIME
hhh:mm  00:02 - 168:0
002:00 hhh:mm

BACK ↻    NEXT ↵
```

Programming can be terminated…..

```
      INFO
SETTINGS COMPLETE
MORE SETTINGS

            END ↵
```

...... and the program can be started directly.

```
    📑 PROGRAMS
🕐 STATUS/STOP
🏁 START
🔄 CHANGE
BACK ↻    NEXT ↵
```

Besides the standard programming there are several special program functions which can be activated selectively with each operating mode.

In the menu „MORE SETTINGS", you can find a list with all special functions available. Please find following a detailed description.

SPECIAL PROGRAM FUNCTIONS

Beside the standard programming features the unit also offers the following special functions:

PROGRAMS ⇒ CHANGE ⇒ TIME/FLOW/EVENT ⇒ **MORE SETTINGS**

```
       INFO
SETTINGS COMPLETE
MORE SETTINGS

END ↵
```

SPECIAL FUNCTIONS

If "**MORE SETTINGS**" has been chosen, the following special functions are available depending on the single operating modes:

- **PROGRAMMING OK**

    When all the desired settings have been entered, and this function is selected all settings are confirmed and the display returns to the START menu.

```
MORE SETTINGS 1
 PROGRAMMING OK
 SERIAL SAMPLES
 BOTTLE SELECTION  ▼
BACK ↻    NEXT ↵
```

- **SERIAL SAMPLES**

    Number of samples per sample extraction means that each requested sample extraction consists of x samples. If e.g. the value 3 is entered, 3 samples are extracted successively. When activating this function, particular attention has to be paid to the bottle volume in order to avoid overfilling. This function is useful if several single sample extractions shall be effected in a very short time
    to obtain a bigger sample volume.

```
SERIAL SAMPLES
  SPLS/EXTRACT. 1-20
05

BACK ↻    NEXT ↵
```

- **BOTTLE ASSIGNMENT**

    (First bottle / last bottle)
    The first and the last bottle of a sampling cycle can be defined. With this function a **group of bottles** can be assigned to a certain program. An activation of this function is recommended if the function "Program linkage" is
    used. The bottle group is always defined by the settings "first bottle" and "last bottle".

```
BOTTLE SELECTION
ALL BOTTLES
BOTTLE SELECTION

BACK ↻    NEXT ↵
```

    Example:
   In program 1 bottle **1** up to bottle **6** and
    in program 2 bottle **7** up to bottle **12** are selected.
    Thus, after the start of program 1, bottles 1 – 6 are filled accordingly and after the start of program 2, bottles 7 – 12 are filled.

_____

-   MIXED SAMPLE

(This menu is only available if the distributor variant with "mixed sample bottle" is already factory set.)

```
COMPOSITE SAMPLE
✓INACTIVE
 DEP. ON NO OF SAMPEL
 TIME-DEPENDENT
 03.02.14 16:55:18    ⇕
```

The mixed sample is always filled into a separate bottle and can be effected time- or sample-related.
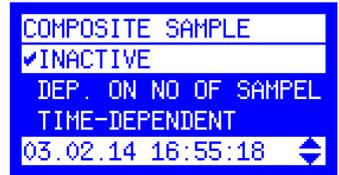
Time-related:

If the time-related sample extraction is selected, an interval in minutes has to be entered.

Sample-related:

If a sample-related sample extraction is selected, the number of samples after which a mixed sample is to be taken has to be entered.

-   PROGRAM PAUSE

(Program pause = delayed program start:

Delay between the end of program X and the start of the next program. Defers the program cycle in the continuous mode by the time entered.

```
PROGRAM PAUSE
hhh:mm      0 - 999:59
000:00

NEXT ↵
```
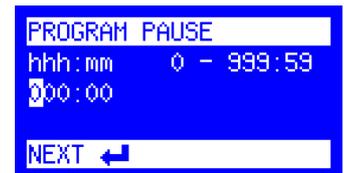
This function is only possible if a program has been started in the „**continuous operation**" mode and leads to a deferred start (by the time entered) of the next program.
Example: program 1 is edited with a program pause of 1 hour and is started at 8.00 h (24-hour cycle). Thus the program will be terminated at 8.00 h the next day and the program cycle will only be started again at 9.00 h due to the entered program pause of 1 hour. So, every day the program start will be deferred by 1 hour.

-   QT-AUTOMATIC (Q= flow, T=time)

(this feature is **only** available **at flow-dependent programs!**)

```
Qt AUTOMATIC
 DEACTIVATE Qt
 MIN. QT-TIME
 MAX. Qt-TIME
BACK ↻    NEXT ↵
```

Time-flow automatic (MINIMUM and/or MAXIMUM Qt-TIME have to be set)
This function enables that in the flow mode (**independently** of the flow signal) a sample is extracted at least after xxx minutes or at the earliest after xxx minutes. Both functions can be activated separately or together.

Minimum QT-time: minimum time between two sample extractions.
An activation of this function is reasonable if there is only a weak flow signal and thus the sampling interval would be very long. Thus a sample extraction is quasi enforced to obtain at least a minimum sample volume**.**

Maximum QT-time: maximum time between two sample extractions.
An activation of this function is reasonable if there is a strong flow signal (e.g. due to rain) and thus the sample interval would be very short. Sample extractions are quasi inhibited in order to avoid the very quick filling of the bottles. If the bottles would be filled within a very short time there would be no bottles left to be filled within the remaining runtime of the sampling cycle.

- **C**OMBINED EVENT MODE

This function enables the combination of a **time-dependent** resp. **flow-dependent program** with an **event program (**e.g. in case of an exceedance of a limit value) and can be activated or deactivated**.**

```
COMBINED EVENT SAMP.
✓INACTIVE
 ACTIVE

BACK ↻    SELECTION ↵
```

For the event program the sampling interval and the bottle filling time have to be defined in hours and minutes (hh:mm).

Program run:
As soon as there is an event signal, the distributor moves to the next empty bottle (is recorded in the memory as event bottle). The sample extraction is effected according to the set values as long as the signal is present. If the signal is active longer than the bottle filling time set, further bottles are filled.
When the signal fades, the distributor moves to the next empty bottle and resumes the initially started sampling mode (time or flow). All this data is logged in the info memory.

- PROGRAM LINKAGE

(End of program 1 will start program 2. End of program 2 will start program x. The last program will start program 1 again or program x = CONTINUOUS OPERATION)
With this function it is possible to link one or several

```
PROG 1 LINK TO
 PROGRAM 1-12
01

BACK ↻    NEXT ↵
```

programs to each other (e.g. for weekend operation with different programs per day).

Program run:
End of Program 1 can trigger the start of Program 2.
End of Program 2 can trigger the start of Program X.

```
PRG. 1 END:
AFTER 1 CYCLE
AFTER X CYCLES
CONTINUOUS OPERATION
BACK ↻    NEXT ↵
```
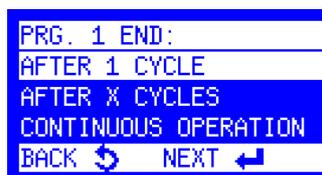
The last entered program starts Program 1 again or any other Program X.

In addition, the number of cycles can be set for each program.

• ABSOLUTE START TIME

By means of an **external pulse** (e.g. a palm button) a program is always started **at a fixed time** (e.g. 8°° h).

```
MORE SETTINGS 1
 PROGRAM SEQUENCE    ▲
✔START TIME ABSOLUTE
 BOTTLE FILLING TIM▼
BACK ↺    NEXT ↵
```

The program run time always results from the value set as bottle filling time.

Example: Number of bottles =   12
             Bottle fill time   =   2 h
             Program run time =   24 h

The program is automatically stopped after the entered run time (here: 24 h) and waits for the next external pulse (e.g. by means of a palm button).

```
ABSOLUTE START TIME
 INACTIVE
✔ACTIVE

BACK ↺    SELECTION ↵
```

This program feature ensures that the sampler always stays in the same time interval (here: 24 hours) and uses the same bottle assignment, independently of whether the start (external pulse) is before or after the programmed start time (here: 8.00 h).

```
PROGRAM START NO. 1

20.08.2014      08:0▲▼

DD:MM:YYYY hh:mm
```

• External pulse is triggered **before** the end of the program run time.
Example: you would like to change the bottles already before the expiry of the program run time and thus you trigger an external pulse at 6:30 h. Therefore the program stops at 6:30 h and starts again automatically at 8.00 h.

• External pulse is triggered **after** the end of the program run time.
Example: you can only go to the sampler after the program run time has expired e.g. 9:45 h. When you changed the bottles and trigger an external pulse, the program **automatically** calculates on which bottle the distributor has to be placed at the start time, moves to that bottle and starts sampling into this bottle.

Remark: If the function „ABSOLUTE START TIME" is activated /deactivated, also the first programmable input (PIN 40 to X5) is automatically activated/deactivated!

-   BOTTLE FILLING PAUSE (SÜV program)

Setting range: between 0-10080 min. (7 days).

This function enables a deferred sample extraction (filling pause) related to the bottles before the next bottle is filled.

The pause is entered in minutes.

Example:

Sampler with 24-bottle distributor system.
Bottle fill time: 2 hours.

- **without** programmed bottle filling pause:
 A bottle change is made every 2 hours, that means after **24 hours** all the 12 bottles are filled.

- **with** programmed **bottle filling pause** of 24 hours (1440 min.):
Bottle 1 is filled for 2 hours. Thereafter there is a bottle filling pause of 24 hours and only then the distributor changes to bottle No. 2.
Thus there is a delayed bottle filling of 24 hours between each of the individual bottles.
The whole program cycle in this example would be: 12 bottles x 26 h = 312 hours (2 hours fill time + 24 hours filling pause).
As a result of this setting, each bottle is filled with a delay of 26 hours per day.

PROGRAM START

After selection of the menu point "Program Start", the program to be started (1-12) has to be selected with the left or right arrow key and has to be confirmed by pressing the Enter key.

```
PROGRAM START ◀ 1 ▶
🕐 TIME
INTERVAL:        00:06
FILL TIME       002:00
BACK ↻    NEXT ↵
```

• Program START OPTIONS
There are several possibilities to start the program:

```
PROGRAM START PRG. 1
IMMEDIATELY
DATE/TIME
WEEKDAY/TIME
BACK ↻    NEXT ↵
```

-   IMMEDIATELY

The program is started immediately.

-   DATE/TIME

The program start is effected on the selected date and at the selected time in the format: dd:mm:yyyy hh:mm. (Also in the past or in the future!)

Important remark: Fixed assignment of bottle number and time of day!
With this start option the program can also be started in the past/future for example to stay in a 24-hour daily cycle. Thus a fixed assignment of bottle number and time of day is achieved.
Example: 10th of May, 12 bottles, 2 h bottle fill time:
- desired: 24-hour cycle with start at 8°° h
- however, the program is only started at 11:20 h. The setting would be:
  10.05.yyyy 08:00
- the software automatically calculates on which bottle position the distributor has to be placed (according to our example it would be bottle 2) and automatically changes to this position at the first requested sample extraction!

-   WEEKDAY/TIME

The program start is effected on the selected weekday and at the selected time in the format: day; hh:mm.

• PROGRAM END OPTIONS

After having defined the start conditions, the program end can be set as follows:

- **AFTER 1 RUN**

  Program is terminated after 1 run.

- **AFTER X RUNS**

  Program is terminated after X runs.

- **CONTINUOUS OPERATION**

  The program is repeated indefinitely.

- **DATE/TIME**

  The program can be terminated at a certain date/time.

```
PRG. 1 END:
AFTER 1 RUN
AFTER X RUNS
CONTINUOUS OPERATION
BACK 🔄   NEXT ↵
```

```
PRG. 1 END:
AFTER X RUNS          ▲
CONTINUOUS OPERATION
DATE/TIME
BACK 🔄   NEXT ↵
```
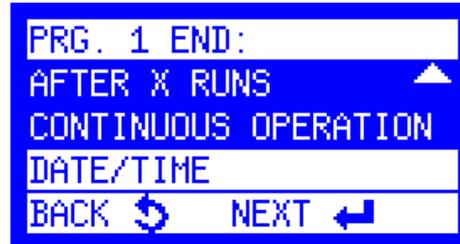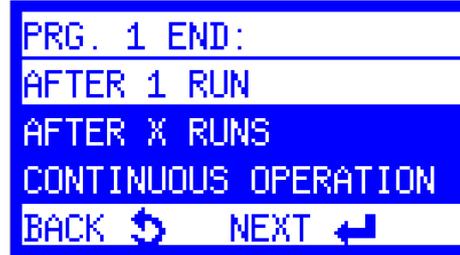
• Program STATUS / STOP

Here the status (active/inactive) of programs is displayed. The status of programs 1 – 12 can be checked by pressing the arrow keys (right/left).

```
🗔 PROGRAMS
⊘ STATUS/STOP
🏳 START
🔄 CHANGE
BACK 🔄   NEXT ↵
```

- **STATUS / STOP**

  When pressing the Enter key, the following is displayed:

  STATUS ACTIVE = Program has been started/ is active or
  STATUS INACTIVE = Program has not been started

```
🕐 PROGRAM ◀ 1 ▶
STATUS: ACTIVE



↵ FOR MORE OPTIONS
```

- INFO

  Display of information regarding the currently running program: current bottle, samples requested and samples taken, next sample extraction or bottle change.

  After selection of INFO all details regarding the running program are shown. The single screens can be displayed by pressing the up/down arrow keys.

```
PROGRAM 1
INFO
PAUSE
STOP
BACK 🔄   NEXT ↵
```

```
🕐 PROGRAM  1
PRESENT BOTTLE:    1
SPLS REQUESTED:    1
SPLS TAKEN:        0
20.03.12 05:37:35  ⬍
```

-   PAUSE

     The program can be interrupted for a period of
10-120 minutes (e.g. for cleaning). The exact time
can be entered in the menu "SETTINGS". The pause
can be terminated manually or it is
automatically terminated after the entered xxx
minutes.

```
PROGRAM 1
 INFO
PAUSE
STOP                  ▼
BACK  ↻    NEXT ↵
```

-   STOP

     An active program can be stopped/aborted.

```
PROGRAM 1
 INFO
PAUSE
STOP                  ▼
BACK  ↻    NEXT ↵
```

     If several programs are active all these programs can
be stopped at the same time.

```
PROGRAM 1 STOP
NO
YES
STOP ALL PROGRAMS
BACK  ↻    NEXT ↵
```

FLOW-PROPORTIONAL SAMPLE EXTRACTION

According to the output signal of your flow meter either the operating mode flow analog or flow digital can be selected in the program settings.

```
┌──────────────────────────┐
│ ▦ SYSTEM SETTINGS        │
│    AERATION TIME      ▲  │
│ ◐ PUMP POWER            │
│ ≈ ANALOQUE SIGNAL     ▼ │
│ BACK ↺     NEXT ↵       │
└──────────────────────────┘
```
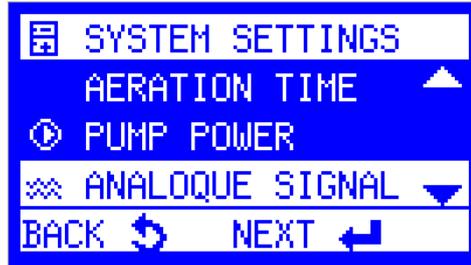
FLOW ANALOG – set resp. calibrate -

Under „SETUP" -> „SYSTEM SETTINGS ->ANALOG SIGNAL" the analog input can be set to the default values 4-20 or 0-20 mA or it can be adjusted/calibrated to the plant's signal.

To ensure that the sample extraction is effected according to the plant's signal we recommend a calibration.

Calibration of the analog input 0/4-20 mA:
Connect the sampler to the plant's signal. Set 0/4 and 20 mA by means of the SPS or an analog signal transmitter and confirm these values according to the menu instructions.

```
┌──────────────────────────┐
│ ≈ ANALOG SIGNAL         │
│ ✔ANALOG 4-20 mA         │
│  ANALOG 0-20 mA         │
│  CALIBRATION            │
│ BACK ↺     NEXT ↵       │
└──────────────────────────┘
```

1. Connect 0/4 mA and confirm.

2. Connect 20 mA and confirm.

3. Calibration OK, confirm.

FLOW ANALOG

The only difference between the programming of the flow analog mode and the flow digital mode is the definition of the sampling interval. Point of reference in the flow analog setting is the maximum flow at 20 mA, which can be set as l/s or m3/h.

```
┌──────────────────────────┐
│ ∿ SET FLOW              │
│ 20mA CORRESPOND TO      │
│ 00000 l/s               │
│                         │
│ BACK ↺     WEITER ↵     │
└──────────────────────────┘
```

FLOW DIGITAL

In the FLOW DIGITAL mode, the sampling interval results from the incoming pulses. The filling time can either be **time-related** or related to a **certain number of samples**. If **time-related** is selected there is a further menu to limit the number of samples (samples/bottle) to avoid overfilling (overfill protection).

```
┌──────────────────────────┐
│ ⊓⊔ SAMPLE AFTER         │
│    1 - 9999             │
│ 0003 PULSES             │
│                         │
│ BACK ↺     NEXT ↵       │
└──────────────────────────┘
```

EVENT-PROPORTIONAL SAMPLE EXTRACTION

When selecting this sampling mode, the sampler will be triggered from an **external "event" signal** (**digital pulse**), e.g. from a connected pH-meter, level sensor etc..
A sample is extracted according to the programming as long as the signal is present. When the signal drops; the sampler waits for the next signal (trigger) and then fills the next empty bottle. Which „event" sample has been filled into which bottle is recorded in the info memory.

```
PROGRAM 1 MODE
  ⊙ EVENT TIME        ▲
  ▥ EVENT DIGITAL
  ⊠ EVENT ANALOGUE▼
BACK  ↻    NEXT ↵
```

The following settings are possible in the event mode:

EVENT TIME
In this mode, the sample extraction will be **time-based, e.g. 2 minute Interval**. This means, that after the **event** (**digital signal**) has triggered the sampler, the samples will be taken in a 2 minute interval.

EVENT DIGITAL
In this mode, the sample extraction will be **flow-based (digital pulse from a flow-meter)**. This means, that after the **event** (**digital signal**) has triggered the sampler, the samples will be taken after e.g. 5 pulses from the flow meter.

EVENT ANALOG
In this mode, the sample extraction will be **flow-based (analogue signal from a flow-meter)**. This means, that after the **event** (**digital signal**) has triggered the sampler, the samples will be taken according the analogue signal from the flow meter

BATCH SAMPLING

Other than at the „classic" event sampling, the bottle change is **not** effected with each signal but according to the programmed time (e.g. every 2 hours). Thus the bottles are always assigned to a fixed time pattern.

```
PROGRAM 1 MODE
  ▥ EVENT DIGITAL    ▲
  ⊠ EVENT ANALOGUE
  ⊙ BATCH SAMPLING
BACK  ↻    NEXT ↵
```
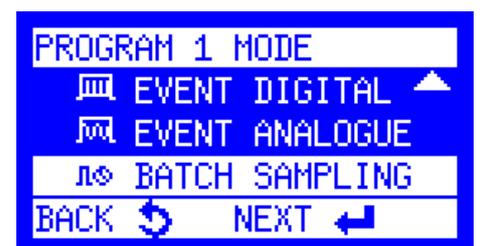
Example:
When a tank is discharged by means of a pump, each switch-on/switch-off of the pump would lead to a bottle change in the classic event mode. In the batch sampling mode, however, this is not requested and thus can be avoided by activating the batch sampling function which means that samples are only extracted as long as the signal is active (the pump is running). During the bottle filling time of 2 hours there can thus be several pump cycles which activate the sample extraction, however, are only considered as 1 event.
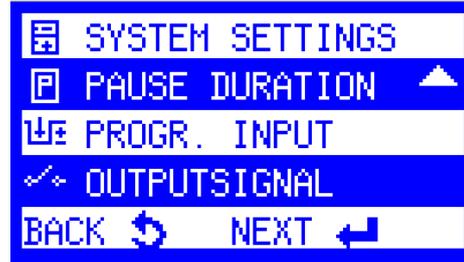
FREELY PROGRAMMABLE INPUTS:
PROGR. INPUT

ADDITIONAL INPUT 1

ADDITIONAL INPUT 2

ADDITIONAL INPUT 3

```
┌─────────────────────────┐
│ 🖳 SYSTEM SETTINGS       │
│ P  PAUSE DURATION    ▲   │
│ ⊞ PROGR.  INPUT         │
│ ⁄⁺ OUTPUTSIGNAL         │
│ BACK ↻    NEXT ↵        │
└─────────────────────────┘
```

There is **1** programmable input in the basic version.
With the option "I/O extension board" further **3** inputs are available.

Each input can be programmed individually according to the following list:

• **NO FUNCTION**
> reset of setting

• **PROGRAM START PULSE**
> if selected, program x can be started (**external start)**

• **PROGRAM STOP PULSE**
> if selected, program x will be stopped (terminate with ESC)

• **PROGRAM RUN DURING PULSE**
> A program is executed as long as there is a continuous signal. If the signal   drops, the
program will be stopped.

• **BOTTLE CHANGE PULSE**
> Pulse signal: **<= 3sec** means "advance to next bottle"
>
> > **>= 5 sec** means "move to bottle No. 1"

• **SAMPLING PULSE**
> A pulse triggers the sample extraction
>
> The pulse signal has to be > 50 ms!
>
> **Remark**: This function is only possible if **no** program is running. In this case
> the unit is controlled externally (e.g. via SPS).

• **MANUAL SAMPLE**
> A manual sample is triggered.
> There is no registration in the info memory (ideal for official samples or tests).

• **ACKNOWLEDGE ERROR**
> Accumulated error messages can be acknowledged.

OUTPUT SIGNALS

In the basic version (without extension board) a collective malfunction message is **always** available on output 8 (Pin 12/ 23). This message can be processed via an optional signal relay.

```
🔢 SYSTEM SETTINGS
📄 PAUSE DURATION        ▲
📊 PROGR. INPUT
✓ OUTPUTSIGNAL
BACK 🔄   NEXT ↵
```
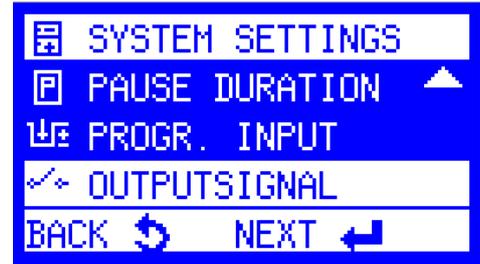
With the option "I/O extension board" further 5 freely configurable output signals are available.

OUTPUT SIGNALS

OUTPUT SIGNAL 1
OUTPUT SIGNAL 2
OUTPUT SIGNAL 3
OUTPUT SIGNAL 4
OUTPUT SIGNAL 5

Each output signal (1-5) can be programmed individually according to the following list:

• PROGRAM ACTIVE

Selection: „PROGRAM ACTIVE" or
„PROGRAM XX ACTIVE"

• PROGRAM TERMINATED

Selection: "PROGRAM TERMINATED" or
"PROGRAM XX TERMINATED"

• ERROR ACTIVE

Selection: „ DELETE ERROR"
„ GENERAL FAILURE"
„ ERROR ELECTRODES"
„ ERROR SUCTION"
„ ERROR DISTRIBUTOR"
„ MAX. SPL/BOTTLE „
„ ERROR ANALOG SIGNAL A1"
„ POWER FAILURE"
„ DOOR OPEN"
„ INTERNAL TEMPERATURE"
„ EMERGENCY CUTOFF"
„ SUCTION TIME"

• SAMPLING ACTIVE

• BOTTLE CHANGE

• DISTRIBUTOR ON POS. 1

• MESSAGE INVERTED

• OUTPUT SIGNAL OFF (switch off/reset of the output signal)

MESS AGES – description -

	Text / meaning	Description
	PROGRAM ACTIVE	When program is started a contact is activated for the whole duration of the program
	PROGRAM TERMINATED	Contact at program end
	ERROR ACTIVE	Contact in case of an error
	SAMPLING ACTIVE	Contact at each sample extraction
	BOTTLE CHANGE	Contact at each bottle change
	DISTRIBUTOR ON POS. 1	Contact when distributor moves on position 1
	MESSAGE INVERTED	Permanent contact (high). Only when there is an interruption (e.g. cable break) a message is triggered.
	OUTPUT SIGNAL OFF	Deactivation of output signal

ERROR MESSAGES

Error code	Text / meaning	Description
1	ERROR DISTRIBUTOR	Distributor is blocked, pulse generator or light barrier are defective.
2	ERROR SUCTION	No water, hose clogged, no vacuum (check system)
4	ERROR LIQUID SENSOR	**Vacuum system:** Sensors are soiled with deposits or there is still water in the metering vessel. **Peristaltic pump:** if there is any dirt in the tube in front of the sensors
5	VOLTAGE LOST - END	DATE/TIME end of voltage lost
6	CHARGE STORAGE BATTERY	If battery voltage is lower than 11,5 V in idle operation or lower than 11,10 V with switched on pump
7	STORAGE BATTERY EMPTY	If battery voltage is lower than 11,15 V in idle operation
10	ERROR ANALOG SIGNAL A1	Error message if the calibrated limit values are exceeded by 2 mA for at least 2 min.

11	DOOR OPEN	Door of sample bottle compartment is not closed (only possible with door contact option)
12	INTERNAL TEMPERATURE	If the temperature in the sample compartment rises over a certain (adjustable) limit value for a certain (adjustable) period of time (only possible if a temperature board is installed)
13	ERROR PINCH VALVE	If the pinch valve does not reach the cutoff current e.g. if it is not plugged in (only in VAR or pneumatic operation)
14	ERROR VALVE SYSTEM	If the valve system does not reach the cutoff current e.g. if it is not plugged in (only in VAR or pneumatic operation)
15	EMERGENCY CUTOFF	Current flow at an output of the controller is too high or there is a short circuit 1= error at a digital output 2=pinch valve/valve system error 3=over-current pump /distributor hardwaremessage 4=motor current distributor, software message 5=pump current too high, software message
19	NO ANALOG SIGNAL	Error message if the calibrated limit values of analog inputs 2-9 are exceeded by 2 mA for x minutes (has to be ordered separately by the customer!).
20	POS1 NOT FOUND	If distribution reference position is not recognized
21	ERROR BOTTLEVALVE	If bottle valve reference position is not recognized
28	PUMP BLOCKED	If pump does not start
29	Water sensor (only Peristaltic Pump)	1 = upper before lower Sensor 2 = maximum time between the sensors exceeded
31	PROGRAM PARAMETERS	Program System: Configuration error, Program cannot be started. (1-12)

LOG MESSAGES (MEMORY)

Log code	Meaning	Description
1	ERROR	Log code 1 includes all error codes
2	PROGRAM START	Date/time as well as the number of the started program
3	PROGRAM END PROG.	Date/time of the terminated program
4	START PROGRAM PAUSE	Date/time of program pause start
5	END OF PROGRAM PAUSE	Date/time of program pause end
6	SYSTEM START	Date/time of device start or restart after a power failure
9	BOTTLE CHANGE	Date/time of a bottle change
10	SAMPLE EXTRACTION	Date/time of a sample extraction triggered by a program
12	BTLE CHANGE REQUESTED (REMOTE)	Bottle change triggered via a programmable input (only possible if no program is active)
14	VOLTAGE LOSS START	Date/time of the start of a power failure
15	EVENT START	Date/time of the start of an event
16	END OF EVENT	Date/time of the end of an event
18	END OF SLEEP MODE	Date/time of the end of the sleep mode, only possible at portable samplers
19	CONDUCTIVITY SAMPLE MEDIUM	- 1st value: CV of pair of electrodes 1 when detecting water - 2nd value: CV after pre-purge -3rd value: limit value for water detection at pneumatic module or CV for pair of electrodes 2 at VAR module
20	TEMPERATURE REGULATION	1st value: internal temperature 2nd value: temperature of evaporator plate 3rd value: ambient temp. around control housing
21	BOTTLE STATISTICS	No. of samples requested, total No. of samples taken during program run time. This data is logged after a program has been terminated.
22	SINGLE STATISTIC	Data of a bottle will be logged after the bottle change

23	ACCESS WITH PASSWORD	Date/time of access to a menu which requires the extended password, e.g. service menu, stop program, change settings etc.
24	PT1000 °C/U-BATT	Temperature values of the PT1000 sensors as well as the operating voltage of the controller. Logging interval: every 10 minutes.
26	SPL REQUESTED (REMOTE)	Sample extraction requested via a programmable input (only possible if no program is active)
27	SPL REQUESTED (EVENT)	Sample extraction triggered via an event program
28	ANALOG VALUE A1	mA signal values, (logging interval can be set in SYSTEM SETTINGS -> LOGENTRIES) (log of current value, no average value calculation) 1st value: measured value at logging time 2nd value: lower limit value 3rd value: upper limit value
29	ANALOG VALUE X	mA signal values. Logging interval: each x-minutes. 1st value: No. of channel 2nd value: average value of logging interval 3rd value: upper limit value (has to be ordered separately by the customer)
30	OVERFILL PROTECTION Value **1**= Drop sample **2**= Switch to next bottle	The overfill protection function has been activated in flow-dependent sampling mode 1st value: the requested sample was dropped. 2nd value: the requested sample was filled into the next bottle.
31	SAMPLING SUPPRESSED	**only with active Q/T-function!** Samples are suppressed when **flow** is too **HIGH**
32	SAMPLING ENFORCE	**only with active Q/T-function!** Samples are enforced when **flow** is too **LOW**
35	TOTAL VOLUME	At the program stop the total volume of all samples requested during the program run is added up (only at VAR and peristaltic pump systems)

36	FLOW WHEN SAMPLING	Logging of flow at the time a sample extraction has been triggered (only at VAR and peristaltic pump systems)
37	RWA-DWA STATUS	Values are logged when the rain weather pulse divider is activated or deactivated. Selection is made per weekday from 00:00 – 23:59. (Only available at the Limburg sampler version)

ANNEX – VACUUM VAR variable sampling system-

The VAR variable sampling system enables a flow-proportional sample extraction for the *Vacuum system*, that means the sample volume varies automatically according to an analog flow signal (0/4 - 20mA).

Example:
- the selected range is 0 to 20 mA
- the max. sample volume at **20 mA** is fixed to **200 ml.**

That means at an analog signal of e.g. **10 mA,** a **100 ml** sample would be extracted. Thus the sample extraction is always proportional to the flow.
At this system the sampling interval is **fixed** (e.g. every 10 min.) and the sample volume **varies** (the volume changes according to the mA signal).

Thus a sample extraction **proportional** to the flow is guaranteed.

When putting the sampler into service, the system has to be **calibrated.** How to do the calibration is described in the following:

SET UP ⇨ SYSTEM SETTINGS ⇨   VAR CALIBRATION

```
┌─────────────────────┐
│ ▤ SYSTEM SETTINGS   │
│ ⏻ POST PURGE      ▲ │
│    VAR CALIBRATION  │
│    AERATION TIME   ▼ │
│ BACK ↻   NEXT ↵     │
└─────────────────────┘
```

• CALIBRATION VAR Vacuum
1. Setting of suction height (range)

```
┌─────────────────────┐
│ SET SUCTION HEIGHT  │
│ 2-3 METERS          │
│ 3-4 METERS          │
│ 4-5 METERS        ▼ │
│ BACK ↻    NEXT ↵    │
└─────────────────────┘
```

2. Start **lower** value

There are 3 consecutive calibration cycles which are started automatically.

```
┌─────────────────────┐
│ VAR CALIBRATION CYCLE│
│                     │
│ START LOWER VOLUME  │
│                     │
│ BACK ↻    NEXT ↵    │
└─────────────────────┘
```

Please collect the samples of all 3 cycles in a measuring glass!

(Volume of the measuring glass >= 2000 ml)

```
┌─────────────────────┐
│        INFO         │
│                     │
│     PLEASE WAIT     │
│                     │
└─────────────────────┘
```

3. ACTUAL VALUE lower value

Please enter the total volume of the 3 cycles.

```
VAR CALIBRATION CYCLE
ENTER ACTUAL VOLUME
060 ml

                NEXT ←
```
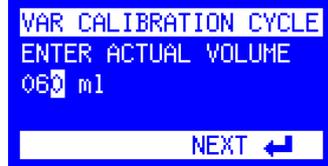
4. INFO after the completion of the calibration of the lower value.

The displayed value has no relation to the volume.

```
        INFO
    LOWER VOLUME
     CALIBRATED
     VALUE:1000
                NEXT ←
```

5. Start **upper** value

Again there are 3 consecutive calibration cycles which are started automatically.

Please also collect the samples of all 3 cycles in a measuring glass!

```
VAR CALIBRATION CYCLE

START UPPER VOLUME

                NEXT ←
```

6. ACTUAL VALUE upper value

Here the total volume of all 3 cycles of the upper value calibration is entered.

(Volume of the measuring glass >= 500 ml)

```
VAR CALIBRATION CYCLE
ENTER ACTUAL VOLUME
260 ml

                NEXT ←
```

7. INFO after the completion of the calibration of the upper value

This value corresponds to the average volume in ml.

```
        INFO
    UPPER VOLUME
     CALIBRATED
     VALUE:86
                NEXT ←
```

Now, the system is calibrated and can be operated.
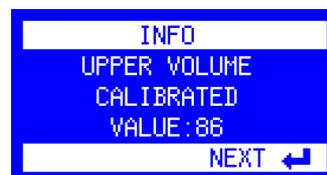
REMARK:
A correct functioning is only possible when the analog input has been synchronized/calibrated to the signal of the plant! Otherwise there might be wrong sample volumes!

ANNEX – Calibration Volume of PERISTALTIC PUMP -

The single sample volume is defined by 2 capacitive sensors and a measuring tube and is highly accurate.

We recommend to calibrate the system every time a new sampling point and from time to time, depending on the customer-specific accuracy requirement.

The Peristaltic Pump enables as well a flow-proportional sample extraction, that means the sample volume varies automatically according to an analog flow signal
(0/4 - 20mA).

Example:
- the selected range is 0 to 20 mA
- the max. sample volume at **20 mA** is fixed to **200 ml.**

That means at an analog signal of e.g. **10 mA,** a **100 ml** sample would be extracted. Thus the sample extraction is always proportional to the flow.
At this system the sampling interval is **fixed** (e.g. every 10 min.) and the sample volume **varies** (the volume changes according to the mA signal).

Thus a sample extraction **proportional** to the flow is guaranteed.

When putting the sampler into service, the system has to be **calibrated.** How to do the calibration is described in the following section:

SET UP ⇨ SYSTEM SETTINGS ⇨ VAR CALIBRATION


```
SYSTEM SETTINGS
   RINSE BEF. SAMPL ▲
   VAR CALIBRATION
   LOG ENTRIES      ▼
BACK ↩   NEXT ↵
```

• CALIBRATION -Peristaltic Pump-

1. Start of calibration

CALIBRATION is always the **1st** step on-site with any new sampling point.


```
CALIBRATION MENU VAR
CALIBRATION
RECALIBRATION

BACK ↩        NEXT ↵
```

2. Start **UPPER** value

There are 3 consecutive calibration cycles which are started automatically.


```
VAR CALIBRATION CYCLE

START UPPER VOLUME

            NEXT ↵
```

Please collect the samples **of all 3 cycles** in a measuring glass!
(Capacity >=2 liters)

```
         INFO
      PLEASE WAIT
```

3. ACTUAL VALUE upper value

Please enter the total volume of the 3 cycles.

```
VAR CALIBRATION CYCLE
ENTER ACTUAL VOLUME
1250 ml

ABORT    ↺   NEXT   ↵
```

The upper value is calibrated

```
         INFO
     UPPER VOLUME
      CALIBRATED

              NEXT  ↵
```

4. Start **LOWER** value

There are 3 consecutive calibration cycles which are started automatically.

```
VAR CALIBRATION CYCLE

START LOWER VOLUME

BACK ↺        NEXT  ↵
```

(Capacity >=200 ml)
Please collect the samples **of all 3 cycles** in a measuring glass!

```
         INFO

      PLEASE WAIT

```

5. ACTUAL VALUE lower value

Please enter the total volume of the 3 cycles.

```
VAR CALIBRATION CYCLE
ENTER ACTUAL VOLUME
075 ml

ABORT    ↺   NEXT   ↵
```

6. INFO after the completion of the calibration of the lower value.

Now, the system is calibrated and can be operated!

```
         INFO
     LOWER VOLUME
      CALIBRATED

              NEXT  ↵
```

• **RECALIBRATION**
If you are not absolutely satisfied you can do a **RECALIBRATION** to improve the accuracy.
Go to the next entry "RECALIBRATION". The procedure is the same and can be done several times, as long as you are not satisfied with the result.

```
CALIBRATION MENU VAR
CALIBRATION
RECALIBRATION

BACK ↺        NEXT  ↵
```

REMARK:
A correct functioning for the flow-proportional-sampling is only possible when the analog input has been synchronized/calibrated to the signal of the plant (see SETUP -> SYSTEMSETTING -> ANALOG SIGNAL)!! Otherwise there might be wrong sample volumes!
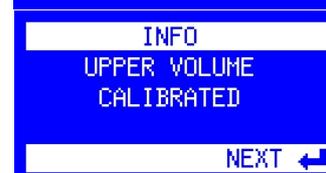
ANNEX – CONNECTION TO A PC-

• Direct connection via mini USB cable

1. In order to establish a connection to the sampler, the Maxxware Connect Software has to be installed __first__ (see installation remarks on next page).
2. Thereafter the sampler can be connected directly to a PC by means of a standard mini USB interface. Select „USB" as connection type in the connect software.

• IP connection via RJ45 cable

Default IP-Adresse of the Web-Board:

192.168.1.1

Default Router access:
User: **maxx**
Passwort: **6299**

Default Webserver access:
User: **maxx**
Password: **6299**

1. Setting of ports**:**

Pay attention that the ports are set correctly when establishing a network connection:

Ports:
maxxware Connect: http: **47234**
Router: http: **80**
                    https: **443**

example how to connect to **the router**:
http://192.168.1.1
https://192.168.1.1

example how to connect to **maxxware connect:**
http://192.168.1.1:47234

2. Check the IP-address at the sampler

The IP address can be displayed on the sampler display in the menu "DIAGNOSTICS/TEST", "IP- ADDRESS".

3. Direct connection of a Notebook/PC at the sampler via **RJ45** cable
  (only possible with installed WEB board)

For direct connection the IP address at the PC has to be set in the range of 1 – 254, __except__ the number 1, for example: 192.168.1.**2**

Now, enter the following login data at the PC under „**Network connection** „ -> „**LAN connection**" -> „**Properties**"->" **Internet protocol version 4 (TCP/IPv4)**"-> „**Properties**"->**Use the following IP address**"-

IP address: 192.168.1.x (x = 1 - 254, **except 1**)
Subnet mask: 255.255.255.0
Standard gateway: not required

LED Status UMTS Router

Note: GSM is used as a general term for UMTS/EDGE/GPRS.

| description	function
COM	Lights green when a connection is established Lights green + red when PPP link is available
STATUS	Lights green when the VPN connection is established Lights red during initializing, Firmware-update or error
DATA	Flashes green during PPP traffic via GSM Flashing green according to the signal strength (see table below)

flashing frequency of **LED signal**	valency	signal quality
900ms on, 100ms off	20…31	High
200ms on, 200ms off	13…19	Normal
100ms on, 900ms off	0…12	Low
Off	99 (not detectable)	unsufficient

ANNEX - INSTALLATION REMARKS FOR THE CONNECT SOFTWARE

- Runs with Windows XP, Vista, 7
- Installed MS-Internet-Explorer from version IE7
- For further information and support, please use the online help function in „connect"

1. Click on the file connect.exe to start the installation.
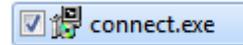
2. If during the installation process a security remark regarding the driver software is   displayed, click on "**Install this driver anyway**".

3. When the installation has been executed properly, click on „Finish": Now the „Connect" program will start automatically.

4. The connection to the sampler can now be established via **USB**.

5. The software is equipped with an online help function which explains each symbol /   function.