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**EN-Manual** 

# Tank Truck Manager MultiTask



#### Important note

All explanations and technical information in this documentation have been produced and compiled by the author with the greatest care. Nevertheless, errors cannot be completely ruled out. Should you notice any inaccuracies, Sening GmbH would be grateful if you would inform them.

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info.smithmeter.com/literature/online\_index.html

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			versions in all modules of the system
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			- Multil evel parameter "Offset slope"
	05/03/2021	R. Leferink	removed
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	11/03/2021	R. Leferink	
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			"Main functions"
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			V1.13.0/1.13.0
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			profile
	06/09/2023	R. Leferink	<ul> <li>Faulty references removed</li> </ul>
			- Corrected DIP setting for inclination
			sensors at TAG-Interface
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			- Selection tag slope removed from
			sensor setup
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			- Update based on V1.14.0/V1.14.2

## 3 General

## 3.1 Guidance on using the manual

We have provided some orientation aids so that you can easily find the information you need in this manual.

The information in this manual ranges from imperative safety procedures and standardised guidelines through to specific handling procedures and advice. To differentiate these more easily, the information is marked with corresponding pictograms next to the relevant text.

These are intended not only to draw your attention to these passages, but also to help you to quickly find the information you want. The pictograms therefore visually symbolise the underlying textual content.

#### The following pictograms are used in this manual:



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### Danger

Danger of explosion caused by highly flammable gases and liquids.

### **Risk of malfunction**

Actions which may damage the equipment.

- Legal notice Actions which may have legal consequences.
- (P Procedure/step Action required
  - Input required e.g. via numeric keypad or function keys.
- $\odot$ Positive system response e.g. "The main menu now appears".
- $(\mathbf{R})$ Negative system response e.g. "If an error message appears ... "
  - 60 **Background information** Short tip.
- $\overline{\mathbf{X}}$ Option Non-standard case.
- £Э Function Functional description.







ATTENTION:

Pay special attention here.

## 3.2 Safety information



Attention: Before using equipment for the first time or commissioning, read carefully and act accordingly.

## 3.2.1 Pay special attention

The system contains high-grade precision components. It is therefore important to avoid mechanical effects not arising from operation (e.g. dropping).



ATTENTION:

Enclosure covers must not be opened when live!

Work on the Ex-proof terminals may only be carried out when equipment is in a de-energised state. National regulations must be adhered to when commissioning equipment. Function checks must be carried out in accordance with IEC / EN 60 079-17 regulations.

## 3.2.2Disposal

- Find out about all applicable regulations from the responsible local authorities. Ensure that the various materials are disposed of in an environmentally responsible way.
- S The operator is responsible to ensure that the general and local regulations applicable at the time of disposal are obeyed.

## 3.2.2.1 Disposal of functional group and/or machine

- After replacing a functional group and/or machine, we advise carrying out a correctly sorted disposal. Separate iron, non-ferrous metals, plastics, electronic waste, etc.
- Fuels, greases, oils, and objects or pipes contaminated therewith must be disposed of separately.

## 3.2.3Intended use

The basic functions of the MultiTask can be activated individually using a Feature Key. MultiTask Tank Truck MultiTask supports the following applications, combined at will:

- o NoMix
- o MultiSeal
- o MultiLevel
- o MultiFlow
- o EMIS2, EMIS4
- o TruckControl
- Vehicle Information System
- Some of the applications listed here may still be in the planning phase and are not yet included in the current version.
- Any usage beyond the above is to be considered as not conforming with the regulations. F. A. Sening GmbH shall not be liable for any damages resulting from such usage.
- Dependence of the operational of the operation of the operat
- C The system must only be installed, operated, maintained and serviced by persons who are familiar with these documents and have been instructed regarding the dangers and risks.
- Contact our service personnel in the event that you discover faults or defects during operation or if you have any reason to doubt the orderly operation of the equipment.
- C Unauthorised modifications to the equipment shall void any liability on the part of F. A. Sening GmbH for resultant damages.

## S Installation of the equipment or system on road tank trucks may only be carried out by a specialist company.

- This specialist company shall set up and test the entire system according to the testing criteria listed in the operating manual. The orderly setting up of the system must be certified.
- When setting up, operating and maintaining the system and equipment, the following points must be adhered to, along with all pertinent regulations, e.g. IEC / EN 60079-14. We can only guarantee lengthy and fault-free operation when you adhere to the following instructions.

## 3.3 Preventive measures

## 3.3.1To avoid accidents (due to possible gas ignition)



### Ex-protection regulations must be obeyed!

If cable glands for AI terminal boxes have to be replaced, you must use EX-approved glands.

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All modules are explosion-protected, electrical equipment, tested and certified for safety. Instructions on Ex plates must be followed unconditionally. In the event of a malfunction, the affected module must be completely replaced.

## 3.3.2To fulfil requirements of norms

- Wiring must be in accordance with the wiring plans provided. Colours of the wires conform with DIN 47100. Pay strict attention to the choice of colour!
- Carry out electrical installation in accordance with IEC / EN 60079-14.
- The installation of additional components within the enclosure or terminal boxes is not permitted, as this invalidates the approval for the equipment.
- The manufacturer's declaration of EMC conformity is only valid if the system is installed in complete accordance with the manufacturer's specifications (operating manual and instructions).

## **3.3.3To guarantee smooth and fault-free operation**

- Disconnect the power supply when welding on the vehicle.
- Always mount the cable entries with openings to the side or downwards to prevent the entry of water into the enclosure.
- Seal unused cable glands on the equipment so that they are watertight using blind plugs.
- Protect the terminal boxes and electronics boxes along with connectors against direct splashing of water (e.g. from tyres).
- Lay all cables in such a way that they cannot be damaged or buckled.
- Use the delivered blind plugs on AI terminal boxes.
- Fit all wires with wire end sleeves.
- All electrical connections use screw clamp technology. The cables are to be fed into the cable glands intended for this purpose in the enclosure, appropriate to the profile of the cables.

- A reliable and standardised electrical connection between the metal enclosure and the vehicle chassis must be established when installing the equipment. Corrosion-resistant screws/bolts (V2A) with additional lock washers are to be used.
- In order to avoid interference on the MultiTask system, it must be ensured that no nonsystem loads are connected to the power supply of the MultiTask system.
- To ensure proper operation of the MultiTask system, it is necessary that the current software version is used in all system modules.
- To ensure proper operation of the MultiTask system, it is not permitted to use different software versions not approved by TechnipFMC within the MultiTask system. When replacing individual system parts, such as the second display, it must be ensured that the appropriate software version is used for the subsequently added system parts.

The system is operated by a resistive touch panel, which is protected against scratches and damage by means of a thin, hard glass pane. The system is designed to be operated by directly touching the display. Operation using other input aids and the associated risk of damage is at your own risk.



There must never be a connection between the enclosure / outer screen and the 0V line. This could result in a malfunction.

## 3.3.4To make work easier for service personnel

- Mount the terminal boxes in an easily accessible location.
- The electronics casings should always be easily accessible.
- Cables without plug connectors may be shortened.
- Lightly grease the fixing screws for the lid before fitting, e.g. with copper paste, graphite grese, etc.

## 3.4 Cable routing in the vehicle

The device and the system were designed for use on a vehicle.

In order to ensure fault-free functionality, the guidelines identified in previous chapters must be followed during installation. If these regulations are not followed, faults may occur during operation.

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In the case of demonstrable non-adherence to the guidelines on incorrect installation (violation of applicable regulations), we shall not accept any liability nor provide any guarantee in the event of faults that may occur and any other claims that may arise as a result.



All cables are to be laid and shielded in such a way that they will not be damaged during operation (in the operator's way of working).



Fig. 1: Installation example

- A separate supply line is to be laid for power supply.
- Use a wire with a cross-sectional area of 1.5 mm<sup>2</sup>.
- The wire does not need to be shielded.
- Take +24V power directly from the plus pole of the battery using a fused line.
- Fuse the system with 8 A.
- Connect the 0 V wire as close as possible to the battery's ground connection.
- If the system power is controlled with a switch, the switch must be located within the +24 V supply line.
- The 0 V line must not be switched.
- Printers are not to be connected to a separate power supply.



D A N G E R O F E X P L O S I O N Any intervention or interference, whether mechanical or electrical, is prohibited.

## 3.4.1 Notes on explosion protection

All modules labelled with the  $\langle \underline{\xi} x \rangle$  symbol are items of explosion-protected electrical equipment, tested and certified for safety.



### Attention:

Any intervention or interference, whether mechanical or electrical, is prohibited.



### Ex-protection regulations must be obeyed!

## 3.5 Maintenance

No mechanical or electronic modifications to the equipment on the part of anyone other than the manufacturer are permitted.

If cleaning is carried out using a steam jet or with pressurised water, the equipment must be protected from the water jet. Never direct a steam jet directly at the equipment!



If moisture is detected in the equipment, and this moisture can be traced to incorrect cleaning, the guarantee will be refused.



All equipment is subject to regular safety testing in accordance with the Industrial Safety Ordinance ("Betriebssicherheitsverordnung"). Equipment and protective systems covered by RL 94/9/EC and operated in an Ex-zone are counted as systems requiring monitoring. The international IEC / EN 60079-17 standard shall apply, as may other, country-specific guidelines and regulations.

## 3.5.1 Maintenance plan

	Daily	Weekly	Monthly
Clean equipment from outside			X
Visual inspection	Х		
Inspection of stability of enclosure mounting		X	
Cable test		X	

## 3.5.2Downtime

The system is equipped with a real-time clock module, which is supplied with power via an internal power supply when the system is switched off. If this power supply is fully discharged due to a longer period of downtime, the system time may vary. The system date and time can be reset in the setup. When the W&M seal is set, only the time can be changed.



To avoid problems with system time during long periods of downtime, it is recommended that the system be powered on at least once a month for 60 minutes.

## 4 Component modules of the MultiTask system

## **4.1 Electronic components**

## 4.1.1 Overview of standard system components



Fig. 2: Overview of system components

## 4.1.2MultiTask - Installation

- G For custody transfer, the wetleg sensor interface for MultiTask/MultiLevel must be connected to the FAS W&M CAN bus.
- All inputs and outputs on the interface connected to MultiTask are freely configurable. The assignments of inputs and outputs in this document are recommendations.
- The MultiTask CAN interfaces on the FAS and the FAS W&M CAN bus must be connected in accordance with the following installation overview. Additional devices are connected via the serial interfaces.



Fig. 3: Installation

## 4.1.3Display interface — MultiTask

#### Part no.: MultiTask



Fig. 4: MultiTask with touch display

The display interface (part no. **MultiTask**) is connected via the internal CAN bus just like all other interface modules. The touch display is used to operate the system.

## 4.1.4Wetleg sensor interface - NM2WET2



Fig. 5: Wet leg sensor interface — NM2WET2

C The wetleg sensor interface (Part no. NM2WET2) determines the fill status of the tank truck compartments via the wetleg sensors (Part no. NS-2E/NS-F) installed in the respective pipework systems of the individual tank truck compartments. The status of the compartment is either empty or not empty/filled. For a non-empty compartment, this sensor system does not provide any information on the volume of product remaining in

the compartment. Short-circuits and breaks such as loosening of a plug result in the unsealing of the tank truck compartment. The status and changes to status of the wetleg sensors are transmitted via the FAS CAN bus to the MultiTask for further processing.

- The wetleg sensor interface is connected to the MultiTask FAS W&M-CAN bus.
- C3 Apart from the wetleg sensor connectors, the wetleg sensor interface also has two intrinsically safe inputs. The first of these inputs is used to connect the pneumatic main air pressure switch, Part no. NM2DSS. The air pressure switch recognises whether or not the pneumatic system is being supplied with compressed air. This information is also sent to the MultiTask via the FAS CAN bus.

#### Second wetleg sensor interface

- Tank trucks with more than 6 compartments require a second wetleg sensor interface which is also connected to the FAS W&M CAN bus. The address (node number) of the second or third wetleg sensor interface must be set using the DIP switches on the CPU board.
- Gerror The node number for the wetleg sensor interface as delivered is set to Node 1, the factory setting. This node number is valid if only one wetleg sensor interface is installed or if it is the first of up to four.
- For the second interface, node number 2 needs to be selected, for the third interface node number 3, etc., as in the following table.

Node Number	DIP switch no. 1 [2º]	DIP switch no. 2 [2 <sup>1</sup> ]	DIP switch no. 3 [2 <sup>2</sup> ]	DIP switch no. 4 [2 <sup>3</sup> ]
1	OFF	OFF	OFF	NC
2	ON	OFF	OFF	NC
3	OFF	ON	OFF	NC
4	ON	ON	OFF	NC
5	OFF	OFF	ON	NC
6	ON	OFF	ON	NC
7	OFF	ON	ON	NC
8	ON	ON	ON	NC

## 4.1.5TAG interface — NM2TAG

Part no.: **NM2TAG** Drawing: 51.351335 Wiring diagram: 51.351477



Fig. 6: TAG interface — NM2TAG

- C The TAG interface is used for reading and analysing TAG and listener signals. The TAGs are provided with a low intrinsically safe voltage via the product and vapour recovery hoses.
- The listener signals are returned to the on-board control electronics in the standard means via the limit sensor connector cable.
- Scan channel 14 can be used to connect an inclination sensor instead of for scanning connected TAGs. In this case, DIP switch 4 must be set to ON.
- The TAG interface is connected to the MultiTask FAS CAN bus.

### DIP switch settings — DIP 4:

DIP 4: If a inclination sensor is connected to scan channel 14, DIP switch 4 must be set to ON. The factory setting for this DIP switch is OFF.



For Ex-protection reasons, it is currently only permissible to install <u>one</u> TAG interface!

## 4.1.6I/O interface — NM2IO

Part no.: **NM2IO** Drawing: 51.351466 Wiring diagram: 51.351468



Fig. 7: I/O interface - NM2IO

- The I/O interface (output driver interface) serves to control solenoid valves which pneumatically start and stop discharge and loading. The I/O interface receives the instructions to control a solenoid valve from the MultiTask. Solenoid valves from the already certified NoMix system are preferred.
- The I/O interface can control 8 solenoid valves. In principle, all outputs can be freely configured. Normally, however, solenoid valves MV1 to MV6 are assigned to the tank truck compartments. They are used to start and stop product discharge. The two remaining solenoid valves (MV7 and MV8) are used to switch between loading and discharge (MV7 = loading permission valve and MV8 = discharge release valve).
- The IO interface is connected to the MultiTask FAS CAN bus.

## 4.1.7Overfill prevention amplifier — NM2ASEM2

### Part no.: **NM2ASEM2** Drawing: 51.352097

Wiring diagram: 62.352113\_1 62.352113\_2



Fig. 8: Overfill prevention amplifier — NM2ASEM2

The **NM2ASEM2** overfill prevention amplifier has 3 channels and does not have any overfill prote prevention ction solenoid valves. Activation of the limit sensor (tank full) is transmitted to the MultiTask via the FAS CAN bus; the MultiTask sends appropriate commands to the I/O interface to close the appropriate compartment solenoid valve and, if present, overfill prevention solenoid valve.

The overfill prot prevention ection amplifier is connected to the MultiTask FAS CAN bus.

### **DIP switch positions:**

DIP 1-3:

DIP switches 1 to 3 must be set to OFF (factory setting).

DIP 4:

For direct delivery tank trucks, DIP switch 4 must be set to "**OFF**"; for metering system tank trucks with MultiFlow and fully electronic control it must be set to "**ON**".

## 4.1.8SPD sensor interface - MSSPD-N2



- The SPD sensor interface monitors the openings for product discharge as required using the connected SPD sensors.
- The SPD sensor interface is connected to the MultiTask FAS CAN bus.

### Second SPD sensor interface

- C On tank trucks, where more than 20 SPD sensors are required, it is necessary to install a second SPD sensor interface which is also connected to the FAS-CAN bus. The address (node number) of the second or third SPD sensor interface must be set using the DIP switches on the CPU board.
- Ger The node number for the SPD sensor interface as delivered is set to Node 1, the factory setting. This node number is valid if only one SPD sensor interface is installed or if it is the first of up to four.
- For the second interface, node number 2 needs to be selected, for the third interface node number 3, etc., as in the following table.

Node number	DIP switch no. 1 [2º]	DIP switch no. 2 [2 <sup>1</sup> ]	DIP switch no. 3 [2 <sup>2</sup> ]	DIP switch no. 4 [2 <sup>3</sup> ]
1	OFF	OFF	OFF	NC
2	ON	OFF	OFF	NC
3	OFF	ON	OFF	NC
4	ON	ON	OFF	NC
5	OFF	OFF	ON	NC
6	ON	OFF	ON	NC
7	OFF	ON	ON	NC
8	ON	ON	ON	NC

## 4.1.9Optional extensions

### 4.1.9.1 GPS module – GPS4

Part no.: **GPS4** Drawing no.: P8000008083



Fig. 10: GPS module — GPS4

C Position information can be obtained by connecting a GPS module. We recommend fitting the GPS module at the top of the trailer, e.g. near the tail lights. A clear view of the sky is necessary and should not be impeded.

### 4.1.10 Printer (TM-U295 / SP-298)

Part no.: TM-U295 (352000) SP-298 (351250)

> The system is optionally delivered with a TM-U295 or SP-298 printer. The operation of the printer is described below. Aspects specific to individual printer models are listed separately.



Fig. 11: Printer - TM-U295

- To operate the printer, switch the power switch on the left hand side of the printer to on.
- Only the latest models have this switch.
- ③ If the **POWER** lamp is on, the printer is operational.

George You can only insert paper when the **PAPER OUT** and **RELEASE** lamps are on.

- **PAPER OUT** is always on when there is no more paper in the printing area of the print head.
- The **RELEASE** lamp indicates that the print head has been raised and paper is released.
- To raise the print head, press the **RELEASE** button.
- The RELEASE lamp indicates that the paper is released from the print head and can be inserted or removed.
- Insert the paper as far as it will go into the printer from the front (see diagram), pushed up against the right-hand guiding edge.
- The PAPER OUT lamp will go out.
- On the **TM-U295**: Press the button labelled **FORWARD**.
- On the **SP-298:** The paper is automatically drawn in after 5 seconds.

The print head is lowered and grips the paper. The **Release** lamp goes out and the printer is now ready to print.



### 4.1.10.1 TM-U295 — DIP switch settings / printer configuration

The following factory settings on the TM-U295 printer must be checked:



Table 1: TM-U295 printer configuration

### 4.1.10.2 SP-298 — DIP switch settings / printer configuration

The switches to set the operating mode of the SP-298 are located inside the device (see handbook).

The following factory settings on the SP-298 printer must be checked:



\* any switch position

Table 2: SP-298 printer configuration

### 4.1.10.3 Replacing ink ribbon

Remove the cover.

- Ger The cover has a gripping point on the upper right corner, and an arrow marking on the left lower rear corner. The cover can be easily removed by pulling carefully.
- Underneath the cover is the black cassette with the printer ink ribbon.
- It is easiest to remove the ink ribbon cassette when the printer is in RELEASE and PAPER OUT status.
- The Release status is indicated by the **RELEASE** lamp.
- If the lamp is not on, press the **RELEASE** button.
  - Pull the cassette gently forwards, pulling on the gripping point, until it noticeably releases.
  - Carefully move the cassette forwards so that the ribbon can be drawn out from underneath the feed rollers.
- You can now insert the new ink ribbon cassette.
- Before inserting the new cassette, tension it a little using the thumb wheel on the left (TM-U295) or right (SP-298) side of the cassette, turning in the direction indicated by the arrow.
  - When inserting, ensure that the ribbon is pushed underneath the pinch rollers.
  - Push the cassette until it locks into place in the printer.
  - Tension the ribbon with the thumb wheel again after insertion.

Replace the cover.

Ger The ink ribbon cassettes can be purchased from Sening:

- TM-U295 : Order no. 7100031
- SP-298: Order no. 7100157

## 4.1.11 Level gauge interface — MLIF

Part no.: **MLIF** Drawing no.: 51.351998 Wiring diagram: 61.351918



Fig. 13: Level gauge interface - MLIF

- The **MLIF** level gauge interface is part of the MultiLevel level gauge system, analysing the data from level gauge sensors, temperature sensors and inclination sensor.
- C3 The entire system is constructed as shown in the overall wiring plan, drawing no. P8000007732 and consists of various interface modules, depending on the configuration level.
- The level gauge sensor interface is connected to the MultiTask FAS W&M-CAN bus.

## 4.1.12 Temperature sensor - MLDTS-2

#### Part no.: MLDTS-2

Drawing no.: 51.351978 Wiring diagram no.: 61.351918

The MLDTS-2 temperature sensor is used for temperature measurement in the pipe system. It is connected to the level gauge interface - MLIF.

 All components are installed in a housing and are potted to protect against the effects of the weather.



Fig. 14: Temperature sensor - MLDTS-2

The components of the temperature sensor are essentially:

- Analogue temperature sensor type PT 1000, 1/3 DIN class B
- Analogue/digital converter circuit
- Microprocessor circuit for generating a digital 4–20 mA signal.

## 4.1.13 Slope sensor - MLIS

Part no.: **MLIS** Drawing no.: 31.351914 Wiring diagram no.: 51.351918

- The MLIS inclination sensor is used as part of the MultiLevel level gauge system on tank trucks for measuring the inclination in the longitudinal and transverse direction.
- It is connected to the dipstick interface-MLIF.



Fig. 15: Slope sensor - MLIS

• All components are installed in a housing and are potted to protect against the effects of the weather.
The components of the inclination sensor are essentially:

- Slope Sensor
- Analogue/digital converter circuit
- Microprocessor circuit for generating a digital 4-20 mA signal.

### 4.1.14 Flow meter pulse interface - FPI

Part no.: P8000017385 Drawing no.: P80017385 Connection diagram no.: P80017387

- The FPI interface (flow meter pulse interface) **FPI** is part of the MultiFlow metering system application, which performs the evaluation of pulse sensors, temperature sensors and other metering system sensors as well as the actuation of hose paths, additive pump and draining control.
- The entire system is constructed as shown in the overall wiring plan and consists of various interface modules, depending on the configuration level.
- ☐ In addition to the pulse inputs, the FPI has...
  - o Inputs for Pt100 temperature sensors,
  - o Input and output for metering systems with product change ("EPE2"),
  - o Inputs and outputs for controlling an additive pump,
  - Output for an integer split copy of the count pulses.

The FPI interface is connected to the MultiTask FAS CAN bus.

 $\Box$  The detailed description of the module can be found in the document [1].

## **4.2Mechanical components**

### 4.2.1Wetleg sensor - NS-2F

Part no.: **NS-2F** Drawing: 51.352205 Wiring diagram: 51.351346



Fig. 16: Wetleg sensor - NS-2F

- The wetleg sensors, part no. **NS-2F**, are to be mounted at the lowest point of the pipework for the respective compartments using the welding flanges.
- This lowest point is located on the underside of the pipework in front of the line valve flange (seen from the bottom valve) and/or in the loading coupling.
- The wetleg sensors should be installed upright from below.
- The wetleg sensors are electrically connected to the terminals on the wetleg sensor interface.
  - The detection height of the **NS-2F** wetleg sensor may, if needed, be adjusted with the help of different intermediate bushings. In order to extend the detection height, the bushing must be shortened on a lathe, or it can be removed entirely.
  - For tank trucks with two-sided discharge and two wetleg sensors per compartment, one wetleg sensor is located in the API coupling and the second before the delivery nozzle at the lowest point of the pipework on the opposite side.

### 4.2.2Solenoid valve – QMV1 / QMVBS

Part no.: **QMV1, QMVBS** Drawing: 51.352288, 51.24070 Wiring diagram: 51.351468



Fig. 17: Solenoid valve — QMV1D

- The 12-volt solenoid valves must be mounted in the control cabinet (Zone 1). The solenoid valves are electrically connected to the I/O interface.
- Manual activation of the solenoid valves must be blocked using either brass sleeves or seals.

### 4.2.3 Air pressure switch — NM2DSS

Part no.: **NM2DSS** Drawing: 51.351438 Wiring diagram: 51.351346



Fig. 18: Air pressure switch — NM2DSS

- The pneumatic "main air pressure switch" (part no. **NM2DSS**) is pneumatically connected behind the tilt valve.
- Electrically, it is connected to the first input of the first wetleg sensor interface (see Diagram No. **51.351346**).
  - The pressure switch detects that the pneumatic system of the tank truck has been provided with pressurised air via the roller switch on the control cabinet.

## All pressure switches must be installed facing downwards or diagonally with air intake facing downwards.

### 4.2.4Limit sensor cable

Part no.: **ASS-GW-GWGS** Drawing: 51.350149

### Numbers / colours of wires in cable

	Colour	Number
reed switch a	brown	2
reed switch b	pink	6
reed switch c	yellow	4
reed switch d	green	3
common line	grey	5
limit sensor	white	1
limit sensor	blue	7
1st additional contact from limit sensor cable	red	8
2nd additional contact from limit sensor cable	black	9

Table 3: Numbers / colours of wires in cable

### Magnet positions:

Magnet position		a	b	C	d
Product / ID no.					
unleaded super	1	•	•	0	0
diesel fuel	2	0	0	•	•
unleaded normal	3	•	0	0	•
unleaded super plus	4	0	•	•	0
(leaded super)	5	0	•	0	•
V-Power / Ultimate Diesel	6	•	0	•	0

=> reed switch closed

*O* => Reed contact open

**Table 4: Magnet positions** 

### 4.2.4.1 Bleeder resistors (ASS-GW-ESA, ASS-GW-ESU)

### Part no.: ASS-GW-GWGS

Drawing no.: 51.350149

The bleeder resistors serve to drain electrostatic charge. They are connected between the insulated product and vapour recovery nozzles and the tank truck chassis as shown in Drawing No. 51.250332 / Page and Drawing 51.250338 / Page.

### **4.2.5API couplings**

C As described below, various API couplings may be used depending on what is required. The same type must be used throughout a single tank truck, however. The "Type I" couplings have inductive or magnetic position sensors, which are connected to the SPD sensor interface.

### 4.2.5.1 API coupling — VKV1PA / VKV1PA-I

Part no.: VKV1PA / VKV1PA-I Drawing: 51.252269 / 61.252270



Fig. 19: API coupling — VKV1-I

C The pneumatically driven VKV1PA(-I) API coupling is used on tank trucks where loading and discharge takes place via the API coupling. The opening of the coupling on the VKV1PA-I is monitored with an inductive proximity sensor.

### 4.2.5.2 API coupling – VKV1 / VKV1-I / VKV1-S

Part no.: VKV1 / VKV1-I / VKV1-S Drawing: 51.251942 / 51.251943 / 51.251949



Fig. 20: API coupling — VKV1-S

The pneumatically driven VKV1(-I) API coupling is used on tank trucks where loading takes place via the API coupling and discharge via line valves on the discharge side. The opening of the coupling on the VKV1-I is monitored with an inductive proximity sensor.

4.2.6Line valve - DV100-3... / -4...

Part no.: **DV100-3 / DV100-3M** Drawing: 51.1996 / 51.20923

Part no.: **DV100-4 / DV100-4D DV100-4M** Drawing: 51.252022 / 51.252376 51.252377



Fig. 21: Line valve - DV100-4D

- The opening of the DV100-4D line valve, used to start and end discharge, is monitored by a pressure switch.
- G If the API coupling is not to be used for discharge, line valves may be used on the other side of the tank truck (not standard).

4.2.7Manlid

Part no.: **P8000011956** (MANLID20A-SPD) Drawing: P8000011956\_DOL

Part no.: **P8000011974** (MANLID20A-PR-30-SPD) Drawing: P8000011974\_DOL



Fig. 22: Dome cover — MANLID20A

C Opening of the MANLID20A...-SPD Manlid is monitored with an inductive proximity sensor.

### 4.2.8Manlid sensor - MSDDST



### NOTE:

Part no.: **MSDDST** Drawing: 51.251133

The Manlid sensor is to be installed so that the sensor pin stays in the "drawn" position when the Manlid is open! (see example in the following picture)



Fig. 23: Dome cover with Manlid sensor — MSDDST (example)

### 4.2.9Bottom valve - BO100...-SPD with compressed air switch - MSDSO

Part no.: **BO100-SPD BO100-F1-SPD BO100-F2-SPD BO100-T-SPD** (no drawing) Drawing: 51.252401 51.252403 51.252402

Part no.: **MSDSO** (air pressure switch) Drawing: 51.252346



Fig. 24: Bottom valve — BO100-SPD with air pressure switch — MSDSO

The monitoring of the bottom valve (open or closed) is performed by a pneumatic pressure switch.

## **5 Mechanism installation**

## **5.1 Product / vapour recovery hoses**

Product and vapour recovery hoses used for the NoMix system must have an electrical hose resistance between connector couplings of 10  $\Omega$ . The inner wire coil of the hoses must be directly against the connector couplings.

## **5.2Insulation of product flow nozzles**

Insulation of product discharge flow nozzles (from the vehicle) with plastic insulating bushes for the flanges of the discharge nozzles (part nos. ASS-GW-I80G, ASS-GW-I100G) or with 3" plastic spacer (part no. **ASS-GW-IB80**) for the MK80 coupling (if no tank truck flange available).

### **5.2.1Tank truck flange insulation**

The <u>M12</u> flange screws must be replaced with <u>M10</u> screws, and <u>M10</u> flange screws must be replaced with <u>M8</u>. Furthermore, screws used must be approx. <u>10mm long</u>.

The flanges are mounted with insulating bushes, disc gears and screw locks. Where necessary, insulating bushes must be shortened. It is important to ensure that the join on the two insulating bushes is not level with the flange insulation, as aging could cause corruption, potentially resulting in a short-circuiting of the insulation.

(See Drawing No. 51.250332)



The **electrostatic charge** can not be drained through the insulation. For this reason, each flange must be connected to a resistor cable that bridges the insulation of the discharge nozzle with the vehicle chassis. The "small" terminal lug must **in all cases** be mounted on the side of the discharge nozzle.

(See Drawing No. 51.350228)



The flange screws must, if necessary, be tightened after approx. 24 hours!

Chains for the end caps must not have any electrical contact with the insulated discharge nozzles. Either they must be mounted directly to the vehicle chassis or the metal chain must be replaced with a plastic cable.

## 5.2.2Insulation of 3" thread (outlet nozzle without tank truck flange)

Instead of the insulating bush for the tank truck flange, a 3" plastic spacer (part no. ASS-GW-IB80) may be used to insulate the MK80 coupling. It is important to note than in this case the MK80 coupling is positioned 40 mm further forward (control cabinet wall).

The **electrostatic charge** cannot be drained through this insulation either. For this reason, each discharge must be connected to a resistor cable which links the MK80 coupling with the vehicle chassis. The "large" terminal lug must be mounted on the vehicle chassis side (e.g. under any of the M10 or M12 screws that has a connection to the chassis). The end of the resistor cable without the terminal lug must be connected to the MK80 coupling. Only use insulated ring terminal lugs for this purpose (nylon insulation, blue).

(See Drawing No. 51.350229)

Chains for the end caps must not have any electrical contact with the insulated discharge nozzles. Either they must be mounted directly to the vehicle chassis or the metal chain must be replaced with a plastic cable.

## 5.3Insulation of vapour recovery connectors

### 5.3.12" vapour recovery nozzle

C The normal MK50 tank truck coupling must be replaced with an insulated coupling with an electrical connection available (part no. ASS-GW-MK50). Instead of replacing the complete coupling with ASS-GW-MK50, it is possible to just use the insulation section with the brass ring to connect the scan line, and fix the existing MK50 coupling to this.

### 5.3.1.1 Vapour recovery hose reels

- C Normal tank truck vapour recovery hose reels must be replaced with vapour recover hose reels such as, e.g., products from the company Niehueser, model N6.2 or N6.1 with slip ring, or from the company Fischer, series F540/F544.
- Ger The "parking nozzles" for the vapour recovery hoses must be mounted with insulation.
  - Draining electrostatic charge, see Drawing 51.350229.

Draining electrostatic charge, see Drawing 51.350229.

### 5.3.1.2 Vapour recovery manifold (GPVZ...)

- Insulation of the 4" connection (P8000005540 vapour return valve GPRV2 or VRV1). For the insulation of the 4" connection, the complete vapour recovery manifold is insulated from the tank truck chassis.
- Insulation of the two 2" connections (manifold valve GPVV or GPVV-S). The two 2" connections are insulated with IB50 insulating bushes for MK50 couplings.

### **5.3.2Connecting scan cables**

The electrical connection of the TAG scan cables to the product and vapour recovery couplings is done with the two-wire control tin-plated control cable, part no. **ASS-GS-K25M**. The two cables are twisted together and fitted with a ring terminal lug and/or a wire end ferrule.

### The following parts are needed for the connection:

- RB5 ring terminal lug (nylon insulation, blue)
- Crimper for ring terminal lugs and wire end ferrules

### 5.3.3 Testing discharge of electrostatic charge

**C** Resistance measurement between insulated nozzles and the vehicle chassis. A resistance of  $\leq 0.5 * 10^6 \Omega$  (typically approx. 100 K $\Omega$ ) must be present between product nozzles and vehicle chassis and also between vapour recovery nozzles and vehicle chassis. For direct delivery tank trucks with discharge on both sides and for metering system tank trucks with more than one discharge per metering system, the typical value is less than this value of approx. 100 K $\Omega$ , because several bleeder resistors may be active in parallel.

This can also arise as a result of moisture (e.g. water in the tank truck compartment or flange seals soaked with water). The resistance should nevertheless always be  $\ge 20 \text{ K}\Omega$ .



This measurement must only ever be conducted when the MultiTask is switched off.

## **6 Electronic installation**

- C The MultiTask and associated interface modules including the secondary display are installed in the control cabinet on the trailer. The Sening trailer cable then provides the battery supply along with optional data exchange to the printer via the printer interface.
- C All inputs and outputs on the interface connected to MultiFlow are freely configurable. The assignments of inputs and outputs per interface module in this document are recommendations.

## 6.1 Installation of battery wiring

- G Wiring of the battery supply and the internal CAN bus between the main unit and all interface modules must be carried out exclusively with part no. **NM2KABEL** cable. The shielding of the connector cable only provides mechanical protection; it does not need to be applied.
- In addition, the corresponding connection diagram is glued in each housing cover or on the casting compound of the display interface.
- C The terminal blocks for EMIS, battery, printer and CAN bus wiring are not screw terminals but tension spring connectors. The wires are not screwed on, but rather inserted from above.
- The tension spring can be opened using a screwdriver with a blade with of 2.5 mm.

The following steps are necessary in order to securely connect the wires. (See adjacent Figure):

- Strip wires.
- Wire sleeves are not required.
- Push with the screwdriver to open the clip on the terminal.
  - Insert the wire into the open terminal.
  - Remove the screwdriver.
  - Pull on the wire to check that it is firmly held in the terminal.



Fig. 25: Tension spring clamping mechanism

## 6.2Installation of sensor and I/O interface

### **6.2.1Connecting wetleg sensor interface**

The **NS-2E** wetleg sensors in the first six tank truck compartments are connected as shown in Drawing No. **51.351346** (see also wiring diagram in enclosure lid).

The first of input of the first wetleg sensor interface is used to connect the pneumatic main air pressure switch, Part no. **NM2DSS**. The air pressure switch recognises whether or not the pneumatic system is being supplied with compressed air. This information is also sent to the MultiTask via the FAS W&M-CAN bus.

### 6.2.1.1 Second wetleg sensor interface

If a tank truck has more than 6 compartments or if two wetleg sensors per compartment are installed, a second wetleg sensor interface must be installed. The address or node number of the second wetleg sensor interface must be set using DIP switch SW1 on the wetleg sensor interface's CPU board.

- Ger The CAN bus node number for all wetleg sensor interfaces as delivered is set to Node 1, the factory setting. This node number is valid if only one interface is installed or if it is the first of up to four.
- For the 2nd device, node number 2 is set, for the third device node number 3, etc.

Node number	DIP switch no. 1 [2 <sup>1</sup> ]	DIP switch no. 2 [2 <sup>2</sup> ]	DIP switch no. 3 [2 <sup>3</sup> ]
1	OFF	OFF	OFF
2	ON	OFF	OFF
3	OFF	ON	OFF
4	ON	ON	OFF

Set the node numbers for the individual devices according to the following table:

### 6.2.1.2 Tank truck with more than 6 compartments

For tank trucks with more than 6 compartments, the wetleg sensors for the first 6 compartments are attached to the first wetleg sensor interface, and the wetleg sensors for compartments 7 up to a maximum of 12 are attached to the second wetleg sensor interface.

## 6.2.1.3 Tank truck with two wetleg sensor interfaces per compartment

For tank trucks with two wetleg sensors per compartment, the wetleg sensors on the discharge nozzles on the discharge side, beginning with compartment 1, are attached to the first wetleg sensor interface. After the last wetleg sensor on the discharge side, the wetleg sensor of compartment 1 that is installed in the API coupling is connected, followed by the wetleg sensors in the API coupling for the other compartments.

### Example for a 4-compartment vehicle:

Sensors at discharge nozzles:	Interface 1, inputs 1 to 4
Sensors at API couplings:	Interface 1, inputs 5 to 6
	Interface 2, inputs 1 to 2

### 6.2.2Connecting TAG interface

- The TAG interface has a total of 14 TAG scanning channels. The TAG scanning channels are connected to the insulated discharge and vapour recovery nozzles with the cable harness, Part no. **ASS-GS-K25M**. Only the white wire is ever connected to the TAG interface; the brown wire is to be shortened. Both wires are connected with a ring terminal lug to the insulated discharge and vapour recovery nozzles.
- Scan channel 14 can be used to connect a inclination sensor instead of for scanning connected TAGs. In this case, DIP switch 4 must be set to ON.
- G For tank trucks with discharge on both sides, the TAG scanning channels are connected via pressure switches to the discharge nozzles on the discharge side and to the pneumatically driven API couplings on the loading side, as shown in Drawing no.

**51.351308** / p. The vapour recovery nozzle TAG scanning channels are always connected in parallel.



6.2.2.1 Standard tank truck: max. 6 compartments / Direct delivery, Metering system and Hybrid tank truck

### Drawing no.:

•	TAG scan signal direct delivery tank truck (discharge on discharge side)	51.351304
•	TAG scan signal direct delivery tank truck (discharge on both sides)	51.351308
•	TAG scan signal metering system tank truck	51.351303
•	TAG scan signal hybrid tank truck	51.351302

### TAG scanning channels:

1	2	3	4	5	6	7	8	9	10	11	12	13	14
Com	partmer	nts 1 - 6	i			Meter syste 1 - 2	ring m	2" vap conne	oour ree ector	covery		4" va- pour reco- very conn- ector	free

### 6.2.2.2 Direct delivery tank truck, max. 12 compartments

Depending on the number of 2" vapour recovery connectors, between 8 and 12 compartments may be used.

### TAG scanning channels, WITHOUT 2" vapour recovery connector:

1	2	3	4	5	6	7	8	9	10	11	12	13	14
Comp	partmen	ıts 1 - 1	2									4" va- pour reco- very conn- ector	free

### TAG scanning channels, ONE 2" vapour recovery connector:

1	2	3	4	5	6	7	8	9	10	11	12	13	14
Comp 1-11	partmen	ıts									2" va- pour reco- very conn- ector	4" va- pour reco- very conn- ector	free

TAG scanning channels, TWO 2" vapour recovery connectors:

1	2	3	4	5	6	7	8	9	10	11	12	13	14
Comp	partmen	ıts 1 - 1	0							2" vaj recov conne	oour ery ector	4" va- pour reco- very conn- ector	free

TAG scanning channels, THREE 2" vapour recovery connectors:

1	2	3	4	5	6	7	8	9	10	11	12	13	14
Comp	partmen	ıts 1 - 9							2" vaj conne	pour rec ector	covery	4" va- pour reco- very conn- ector	free

TAG scanning channels, FOUR 2" vapour recovery connectors:

1	2	3	4	5	6	7	8	9	10	11	12	13	14
Com	partmer	nts 1 - 8	3					2" var conne	oour ree ector	covery		4" va- pour reco- very conn- ector	free

Ger For ex-protection reasons, a second TAG interface cannot be installed and is therefore not supported by the software!

### 6.2.3Connecting I/O interface

Each I/O interface can control 8 solenoid valves. They are used to start and stop product discharge. The two remaining solenoid valves (1MV7 and 1MV8) are used to switch between loading and discharge (loading permission valve and discharge release valve). For specific tank truck types, e.g. metering system tank truck, hybrid tank truck, direct delivery tank truck with more than 6 compartments (max. 12) or direct delivery tank truck where bottom valve and line valve have to be switched separately, it may be necessary to install a second I/O interface.

C The I/O interface includes two inputs which are not intrinsically safe.

### 6.2.3.1 Second I/O interface

For a metering system tank truck, hybrid tank truck, direct delivery tank truck with more than 6 compartments (max. 12) or direct delivery tank truck where bottom valve and line valve have to be switched separately, when it is necessary to install a second I/O interface, the node numbers are set in the same way as for the wetleg sensor interface.

### 6.2.4Connecting overfill prevention amplifier

- The connection of the limit sensor cable and the listen/scan minus cable is shown in drawing nos. 62.352113\_1 and 62.352113\_2.
- Ger For certification reasons, unlike other interface modules, only one overfill prevention amplifier can be connected.

DIP	switch setting	Description
1	OFF	optional
2	OFF	optional
3	OFF	optional
4	OFF = direct delivery tank truck ON = metering system tank truck	Factory setting is OFF. For metering system tank trucks <u>with</u> <u>MultiFlow and fully electric</u> <u>contro</u> l, this must be set to ON.

### The DIP switches on the CPU board function as follows:

### 6.2.5Connecting SPD sensor interface

The SPD sensors and air pressure switches which register loading or discharge are connected to the SPD sensor interface as shown in drawing no. **51.352224**. Connected (see also the connection diagram glued in the housing cover).

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Up to 20 SPD sensors and/or air pressure switches can be connected to the SPD sensor interface. They serve to monitor:

- API couplings
- Bottom valves
- Line valves
- Manlid (optional)

- Parking brake
- Control cabinets

The sensors for the respective compartments must should always be connected in blocks, e.g.:

- API couplings: inputs 1 to 6;
- Bottom valves: inputs 7 to 12;
- Line valves: inputs 13 to 18;

Ger The actual sensor assignment must be recorded. The blank form for "SPD sensor assignment" is provided for this purpose.

Please copy the form, fill it out, and keep it with your tank truck papers.

Ger The data will be required later during the NoMix setup.

The polarity of the connecting cables can be seen in the following table.

Coupling/Valve/Sensor	Wire (+)	Wire (-)
API coupling — VKAP100-I	brown (BN)	white (WH)
Bottom valve (SPD-DSOe)	brown (BN)	white (WH)
Dome cover sensor (MSDDST)	brown (BN)	white (WH)
Dome cover P8000011958 (MANLID20A-SPD)	brown (BN)	white (WH)
Line valve DV100-3I	brown (BN)	blue (BL)
Line valve DV100-4D		
Air pressure switch (MSDSO)	brown (BN)	white (WH)
Air pressure switch (NM2DSS)	brown (BN)	white (WH)

 Table 5: Polarity of connecting wires

### 6.2.5.1 Second SPD sensor interface

If more than 20 sensors need to be monitored, a second SPD sensor interface is required. The setting of the node number is identical to the wetleg sensor interface.

### 6.2.6 Level gauge interface connection — MLIF

C3 The MLIF interface is intended for the connection of 8 fill level probes (dipsticks) of type MLDSBO, 6 temperature transmitters of type LLG-DTS, 1 slope transmitter of type LLG-IS and 2 sensors of the NaMur standard, all in 2-wire versions.

- CAN bus.
- C The MLIF provides an intrinsically safe power supply for the transmitters, probes and sensors. The supply lines are also used for data transmission. The digitised measured values are modulated to the supply voltage and converted for the FAS W&M CAN bus in the MLIF CAN bus interface.
- The MLIF interface is a module that is not functional without a control unit.
- The MLIF interface is intended for the above mentioned probes, transmitters and sensors. The sensor connections are short circuit-proof and designed to be intrinsically safe as per "ia" ignition protection. When connecting the different devices, it must be ensured that they are only connected to the terminals provided for this purpose because the maximum safe values of the outputs are different.
- Each level gauge interface connected to the FAS W&M-CAN bus must be assigned a unique CAN bus address. This is defined in the module via DIP switches.
- The detailed description of the module can be found in the associated operating instructions [2].

### 6.2.7Connection to metering system interface - FPI

- Each metering system requires 1 FPI interface. Multitask supports up to 3 metering systems, so a maximum of 3 FPI modules can be connected to the FAS W&M CAN bus.
- Each FPI interface connected to the FAS W&M CAN bus must be assigned a unique CAN bus address. This is defined in the module via DIP switches.
- The FPI interface is a module that is not functional without a control unit.
- The detailed description of the module can [1] be found in the associated operating instructions.

# 6.3Installation of the different tank truck types

### 6.3.1 Direct outlet tank truck

For direct delivery tank trucks, each tank truck compartment has a separate discharge outlet.

### The following variants exist:

- Discharge via line valve on discharge side.
- Discharge via pneumatically driven loading coupling on loading side.
- Discharge via pneumatically driven loading coupling on loading side or via line valve on discharge side.
- Discharge via pneumatically driven loading coupling on loading side and via line valve on discharge side.
- A direct outlet TAG scan line is connected to each insulated outlet nozzle, i.e. TAG-Scan (compartment 1) etc. In the case of tank trucks which dispense on both sides, the respective TAG line is connected in parallel to the delivery nozzles on the filling side and the delivery side via pneumatic pressure switches. This ensures that discharge can only occur where the product hose and limit sensor cable are connected.
- Geo The connection of the TAG scan cables is shown in drawing no. **51.351304**.
- Ger The following connection assignments are recommendations. For MultTask, the assignment of the inputs and outputs is freely configurable on each interface module.

## 6.3.1.1 Solenoid valve control / Standard direct delivery tank truck / (max. 6 compartments)

Only one I/O interface is required for these direct delivery tank trucks. For the sake of clarity, the solenoid valves should be assigned to the individual compartments and functions as follows:

- Solenoid valve 1MV1:
  - Compartment 1, activates bottom valve and/or line valve and/or pneumatically driven API coupling
- Solenoid valve 1MV2:
  - compartment 2, activates bottom valve and/or line valve and/or pneumatically driven API coupling
- Solenoid valve 1MV3:
  - compartment 3, activates bottom valve and/or line valve and/or pneumatically driven API coupling

- Solenoid valve 1MV4:
  - compartment 4, activates bottom valve and/or line valve and/or pneumatically driven API coupling
- Solenoid valve 1MV5:
  - compartment 5, activates bottom valve and/or line valve and/or pneumatically driven API coupling
- Solenoid valve 1MV6:
  - compartment 6, activates bottom valve and/or line valve and/or pneumatically driven API coupling
- Solenoid valve 1MV7:
  - o Load release solenoid valve
- Solenoid valve 1MV8:
  - o Discharge release solenoid valve

## 6.3.1.2 Solenoid valve control / Standard direct delivery tank truck / more than 6 compartments (max. 12)

Two I/O interfaces are required for these direct delivery tank trucks. The solenoid valves are assigned to the individual compartments and functions as follows, depending on the number of compartments:

### I/O interface 1:

- Solenoid valve 1MV1:
  - Compartment 1, activates bottom valve and/or line valve and/or pneumatically driven API coupling
- Solenoid valve 1MV2:
  - compartment 2, activates bottom valve and/or line valve and/or pneumatically driven API coupling

#### Solenoid valve 1MV3:

 compartment 3, activates bottom valve and/or line valve and/or pneumatically driven API coupling

### Solenoid valve 1MV4:

 compartment 4, activates bottom valve and/or line valve and/or pneumatically driven API coupling

#### Solenoid valve 1MV5:

 compartment 5, activates bottom valve and/or line valve and/or pneumatically driven API coupling

#### Solenoid valve 1MV6:

 compartment 6, activates bottom valve and/or line valve and/or pneumatically driven API coupling

- Solenoid valve 1MV7:
  - Load release solenoid valve
- Solenoid valve 1MV8:
  - o Discharge release solenoid valve

### I/O interface 2:

- Solenoid valve 2MV1:
  - compartment 7, activates bottom valve and/or line valve and/or pneumatically driven API coupling

#### Solenoid valve 2MV2:

 compartment 8, activates bottom valve and/or line valve and/or pneumatically driven API coupling

#### Solenoid valve 2MV3:

 compartment 9, activates bottom valve and/or line valve and/or pneumatically driven API coupling

### Solenoid valve 2MV4:

 compartment 10, activates bottom valve and/or line valve and/or pneumatically driven API coupling

#### Solenoid valve 2MV5:

 compartment 11, activates bottom valve and/or line valve and/or pneumatically driven API coupling

#### Solenoid valve 2MV6:

 compartment 12, activates bottom valve and/or line valve and/or pneumatically driven API coupling

#### Solenoid valve 2MV7:

- (Optional: cabinet lock)
- Solenoid valve 2MV8:
  - o Currently not defined

## 6.3.1.3 Solenoid valve control /Direct delivery truck / bottom and line valves switch separately

Two I/O interfaces are required for these direct delivery tank trucks. As a matter of principle, the outputs from the first I/O interface are assigned to bottom valves beginning with compartment 1. If, as in the following example, not all outputs of the first I/O interface are required, connect the line valves, beginning with compartment 1.

The solenoid valves for a 4-compartment tank truck, for example, are assigned as follows:

### I/O interface 1:

- Solenoid valve 1MV1:
  - o Compartment 1, activates bottom valve
- Solenoid valve 1MV2:
  - Compartment 2, activates bottom valve
- Solenoid valve 1MV3:
  - o Compartment 3, activates bottom valve
- Solenoid valve 1MV4:
  - o Compartment 4, activates bottom valve
- Solenoid valve 1MV5:
  - o Compartment 1, activates line valve and/or pneumatically driven API coupling
- Solenoid valve 1MV6:
  - o Compartment 2, activates line valve and/or pneumatically driven API coupling
- Solenoid valve 1MV7:
  - Load release solenoid valve
- Solenoid valve 1MV8:
  - o Discharge release solenoid valve

### I/O interface 2:

- Solenoid valve 2MV1:
  - o Compartment 3, activates line valve and/or pneumatically driven API coupling
- Solenoid valve 2MV2:
  - o Compartment 4, activates line valve and/or pneumatically driven API coupling
- Solenoid valve 2MV3:
  - No function
- Solenoid valve 2MV4:
  - o No function
- Solenoid valve 2MV5:
  - $\circ \quad \text{No function} \quad$
- Solenoid valve 2MV6:
  - $\circ \quad \text{No function} \quad$
- Solenoid valve 2MV7:
  - o (Optional: cabinet lock)

- Solenoid valve 2MV8:
  - No function
- C Tank trucks with this solenoid valve control system are mostly used by Shell. They are configured as shown in the pneumatic diagram, Drawing no. 81.251646 and require, in addition to normal tank truck fittings, aeration for the pipework system so that it can run dry during discharge.

### 6.3.2Metering system tank truck (not yet available)

G For metering system tank trucks, the individual tank truck compartments have no separate discharge like those on the direct delivery tank trucks. The tank truck compartments are mostly connected via a so-called "single channel manifold" for one metering system and a "twin channel manifold" for two metering systems. Instead of the single or twin channel manifold, pipework systems with line valves may be used.

Every metering system may have one or more outlets, e.g.:

- empty hose, measured
- empty hose, unmeasured
- etc.

C All insulated discharge nozzles for each metering system are connected with the metering system scan cable TAG Scan 7 (metering system 1) or TAG Scan 8 (metering system 2).

Geo The connection of the TAG scan cables is shown in Drawing no. **51.351536**.

### 6.3.2.1 Allocation of overfill prevention to metering systems

For metering system tank trucks, each metering system is assigned to one overfill prevention, i.e. metering system 1 to overfill prevention 1, metering system 2 to overfill prevention 2. Discharging, for example, with metering system 1 via overfill prevention 2 or vice versa is not permissible and will generate a discharge fault.

### 6.3.2.2 Solenoid valve control

CJ Two I/O interfaces are always required for metering system tank trucks. In all pneumatic diagrams, the solenoid valves of the first I/O interface are labelled 1MV1 to 1MV8, whilst the solenoid valves of the second I/O interface are labelled 2MV1 to 2MV8.

The solenoid valves are assigned to the individual compartments and functions as follows:

### I/O interface 1:

- Solenoid valve 1MV1:
  - Solenoid valve 1MV1: compartment 1, activates bottom valve and manifold valve for metering system 1
- Solenoid valve 1MV2:
  - Solenoid valve 1MV2: compartment 2, activates bottom valve and manifold valve for metering system 1
- Solenoid valve 1MV3:
  - Solenoid valve 1MV2: compartment 3, activates bottom valve and manifold valve for metering system 1
- Solenoid valve 1MV4:
  - Solenoid valve 1MV2: compartment 4, activates bottom valve and manifold valve for metering system 1
- Solenoid valve 1MV5:
  - Solenoid valve 1MV2: compartment 5, activates bottom valve and manifold valve for metering system 1
- Solenoid valve 1MV6:
  - Solenoid valve 1MV2: compartment 6, activates bottom valve and manifold valve for metering system 1
- Solenoid valve 1MV7:
  - o Load release solenoid valve
- Solenoid valve 1MV8:
  - Discharge release solenoid valve

### I/O interface 2:

- Solenoid valve 2MV1:
  - Solenoid valve 1MV2: compartment 1, activates bottom valve and manifold valve for metering system 2
- Solenoid valve 2MV2:
  - Solenoid valve 1MV2: compartment 2, activates bottom valve and manifold valve for metering system 2
- Solenoid valve 2MV3:
  - Solenoid valve 1MV2: compartment 3, activates bottom valve and manifold valve for metering system 2
- Solenoid valve 2MV4:
  - Solenoid valve 1MV2: compartment 4, activates bottom valve and manifold valve for metering system 2
- Solenoid valve 2MV5:
  - Solenoid valve 1MV2: compartment 5, activates bottom valve and manifold valve for metering system 2

- Solenoid valve 2MV6:
  - Solenoid valve 1MV2: compartment 6, activates bottom valve and manifold valve for metering system 2
- Solenoid valve 2MV7:
  - Overfill protection solenoid valve AS1, metering system 1
- Solenoid valve 2MV8:
  - Overfill protection solenoid valve AS2, metering system 2
- The overfill prevention solenoid valves on OP1/metering system 1 and OP2/metering system 2 are automatically activated at the fuel station if the tank is not full, as soon as one metering system is ready for discharge, i.e. as soon as the product and vapour recovery nozzles and the limit sensor are correctly connected. This is also the case if a bypass is entered.
- C The overfill prevention solenoid valves of OP1 / metering system 1 and OP2 / metering system 2 are deactivated when a metering system is no longer correctly connected with a fuel station tank.
- The special solenoid valves are, like the compartment solenoid valves, closed for any NoMix fault (e.g. I/O not connected), discharge fault (e.g. loading hose connected) or compartment fault (e.g. tank full).
- Ger The solenoid valves 2MV7 and 2MV8 are not present on metering system tank trucks with MultiFlow and fully electronic control.

### 6.3.3Hybrid tank truck (not yet available)

- The "hybrid tank truck" (direct delivery with multiple overfill prevention and one or two additional metering systems) can be operated as a direct delivery tank truck <u>or</u> a metering system tank truck, selectable at discharge. Simultaneous discharge via direct delivery nozzles and metering system nozzles, however, is not possible. This is both pneumatically and electronically locked. Two I/O interfaces are always required to control a hybrid tank truck.
- Ger The connection of the TAG scan cables is shown in drawing no. **51.351302**.
- G The maximum number of compartments for a hybrid tank truck is 6.

## 6.3.3.1 Switching between direct delivery and metering system modes

Should a hose connection be detected on a metering system, NoMix switches from direct delivery to metering system mode. Any connection of hoses to the API coupling after this point is ignored. Should a hose connection be detected on an API coupling, without the metering system being connected, NoMix switches from metering system to direct delivery mode. Any connection to the metering system after this point is ignored.

### 6.3.3.2 Direct delivery mode

6.3.3.2.1 Solenoid valve control

In direct delivery mode, solenoid valve control is identical to on a standard direct delivery tank truck.

### 6.3.3.3 Metering system mode (not yet available)

In metering system mode, as on standard metering system tank trucks, the line valves of the metering system are part of the actuator for the overfill prevention.

### 6.3.3.3.1 Allocation of overfill prevention to metering systems

As on metering system tank trucks, every metering system on a hybrid tank truck in metering system mode is assigned to one fixed overfill prevention, i.e. metering system 1 to OP 1 and metering system 2 to OP 2. Discharging, for example, with metering system 1 via overfill prevention 2 or vice versa is not permissible and will generate a discharge fault.

### 6.3.3.3.2 Solenoid valve control

C Two I/O interfaces are always required for metering system mode. The solenoid valves are assigned to the individual compartments and functions as for metering system tank trucks:

### **Special control**

- The overfill prevention solenoid valve 2MV7 for OP1 / metering system 1, I/O interface 2 is additionally remotely controlled via a 3/2 directional control valve; 5/2 directional control valves switch between direct delivery and metering system modes. In direct delivery mode, the air reaches the bottom valves and the API couplings and/or line valves; in metering system mode it reaches the bottom valve and the appropriate manifold channel valve.
- The overfill prevention solenoid valves on OP1/metering system 1 and OP2/metering system 2 are automatically activated at the fuel station if the tank is not full, as soon as one metering system is ready for discharge, i.e. as soon as the product and vapour recovery nozzles and the limit sensor are correctly connected. This is also the case if a bypass is entered.
- The overfill prevention solenoid valves of OP1 / metering system 1 and OP2 / metering system 2 are deactivated when a metering system is no longer correctly connected with a fuel station tank.
- The special solenoid valves are also closed for any NoMix fault (e.g. I/O not connected), discharge fault (e.g. loading hose connected) or compartment fault (e.g. tank full).

## 6.4Installation of the printer connection

The printer is installed in a separate closet outside the Ex-protection area, mounted on the trailer. The printer is protected by a 2A fuse integrated in the trailer cable terminal box.

## 7 General description of MultiTask system

## 7.1Usage

The device and system manages the control and monitoring functions for the conveyance of mineral oil products on a tank truck.

The main functions of the system are:

- Quality assurance (QSS)
- Overfill protection (OP)
- Filling hose protection (ASS)
- Vapour recover hose monitoring (GPS)
- Sealed parcel delivery (SPD)
- MultiLevel level gauge system
- MultiFlow meter system

## 7.2Main functions

The MultiTask system manages the control and monitoring functions for the conveyance of mineral oil products on a tank truck.

### The main functions of the MultiTask system are:

### • Quality assurance (QSS):

The quality assurance function of MultiTask is designed to prevent the mixing of products both during the loading of road tank trucks at tank farms and during product discharge from road tank trucks into fuel station tanks.

### Filling hose protection (ASS):

- The filling hose protection (ASS) or vapour recovery monitoring (GPS) prevents a leakage of large quantities of fluid or a discharge of large quantities of gas in the following cases:
- The hose (product/vapour recovery hose) is not connected to the tank
- hose (product/vapour recovery hose) not connected to tank truck
- breaking off of hose (product/vapour recovery hose)
- incorrect assignment of overfill prevention
- In these cases, the emptying of the tank truck is not initiated and/or automatically interrupted within a maximum of 5 seconds.
- Sealed parcel delivery (SPD) (optional)

The concept of the MultiTask and SPD system consists of delivering calibrated, measured, thin mineral oil volumes/quantities as "sealed parcels" via secure, monitored conveyance in road tank trucks to customers (Sealed Parcel Delivery).

Furthermore, all events such as the opening of bottom valves, API couplings and line valves along with changes in the wetleg sensor status are recorded in the event logbook and made available for later processing.

- MultiLevel is a system for measuring discharge amounts from single compartment and multi-compartment mineral oil tank trucks. Every compartment is equipped with a level gauge and sensors that monitor fill level, temperature, vehicle inclination and residual content. MultiLevel makes it possible to simultaneously discharge from multiple compartments without residual content, with volume preselection and optionally with temperature compensation.
- MultiFlow is a system for measuring delivery volumes from single and multi-compartment mineral oil tankers using a measuring system. MultiFlow enables the simultaneous, residue-free and measured dispensing from several compartments, with volume preselection and optionally also with temperature compensation.

## 8 MultiTask Basics

## 8.1 Overview of controls

The MultiTask system is controlled using a *touchscreen*.
 It is divided into 3 control areas. First the status heading, then the transport display, and thirdly the compartment display.

### **C** Touch Display

- 1 status heading
- 2 transport display (loading / discharge)
- **3** compartment display (selection / information)



Fig. 26: MultiTask Display

## 8.1.1 (1) Status heading



The status heading displays various information which can be retrieved by pressing the appropriate symbols.

### Return to transport display

Pressing this symbol ALWAYS returns the user to the transport display.



Conver Access Level: 1 4 3 * F	A ? 🌣 😹
Sening MultiTask®	System Status 🦉
	1 DK 🍐 🔒
	2 SU 5 🍐 🔒
Cal	3 SU10 🗳 🔒
	4 SUP 🍐 🔒
	5 SUP 🍐 🔒
NoMix MultiLevel MultiSeal MultiFlow EMIS TruckControl	6 U100 🍐 🔒

### Date and time / Access level

Pressing this symbol displays the access level. Pressing again brings the date and time back.



### Signal strength indicator

This information field shows the status of current wireless connections.



### Printer





Pressing this symbol brings up the quick print selector.





Pressing this system brings up a list of all events in chronological order with date and time.

### Symbol legend:











### System INFO



Pressing this symbol brings up all current system information such as *software version*, *checksum*, *configuration*, *W&M information* etc.

For an example, see the figure on the right.

Device Display 1 System Conf	Iguration Printout
Active Configuration	
GUI Version	1.57.71
Device Name	MultiTask
Device Serial	
NRP Serial	1234567812345678
NRP Booter Version	
NRP Kernel Version	
NRP Rootfs Version	
NRP SW-Version	1.10.1
NRP Checksum	4c0fc97e
NRP Common	1.10.0
NRP HSV/Vap.	1.0

System	Feature	Hardware
NoMix		
MultiSeal	$\checkmark$	$\checkmark$
MultiLevel		
MultiFlow	$\checkmark$	
VIS		
TruckControl	$\checkmark$	
Serial		
Gps	$\checkmark$	$\checkmark$
Gsm		
BlueTooth + WLAN		~
System SETTINGS



Pressing this symbol brings up the main menu.

Display	Configuration	Totalizer	Service
Logout	Seal MultiSeal	Datatransfer	Logbook
Printout	Electronic Seal	Profiles	Manual

#### Language selection



Pressing this system presents the language selector. All currently available languages are represented as flags; pressing a flag activates the respective language.



### 8.1.2 (2) Transport display (loading / discharge)

Contest Level 1 UN S Sening MultiTask®	A ?	🎲   🗄 atus	<del>کر</del> ۲	Sening MultiTask <sup>®</sup>
200	1 DK 2 SU 5	4 4	6) 6)	
C	3 SU10 4 SUP	4	<b>a</b>	
	5 SUP	4	6	
NoMix MultiLevel MultiSeal MultiFlow EMIS TruckControl	6 U100	٩		
				NoMix MultiLevel MultiSeal MultiFlow EMIS TruckControl

- After MultiTask is switched on, the transport display is shown.
  - C In the transport display, the current operating mode can be selected and activated functions are displayed. The main air pressure status and, if MultiSeal is activated, the seal status are also shown here.

#### Selecting discharge or loading mode and manual sealing







NoMix MultiLevel MultiSeal MultiFlow EMIS TruckControl

The infobar shows what MultiTask functions are available for the relevant system. This depends on the feature key.

- → Dark grey text means the function is *available*.
- → Light grey text means the function is *not available*.

### 8.1.3 (3) Compartment display (Selection / Information)

Sening MultiTask®	()	
	1 DK	۵ 🔒
	2 SU 5	۵ 🔒
Car	3 SU10	۵ 🔒
	4 SUP	۵ 🔒
	5 SUP	۵ 🔒
	6 11100	A 0



The compartment display provides access to all compartment-related data and status information, providing a quick overview of the current vehicle status.



System Status 0 200 100 1 DK A 2 SU 5 A 3 SU10 R 4 SUP Roll (+3.8°) • outside tolerance range System Status 1 DK ()-0.8 ⊦3.8 224 ► 1 🔜 I the Pitch (-3.8°) • outside tolerance range System Status OL 1 DK  $\langle \rangle$ 19 the Roll / pitch (-1.8°/+3.8°) • outside tolerance range System Status OL 1 DK ()2 • 14=1 1=1 1 mil Roll / pitch (+0.3° / +0.0°) • Slope within tolerance range System Status 0 1 DK 0 1 100

Compartment information — slope angle (example)



Compartment information — general (example)

Pressing the compartment **information** field brings up further compartment information.



MANUAL



With MultiSeal (optional)

#### Status

Name:

GPS:

Data from the

#### **Product name** Fuel name Wetleg sensor: not empty / empty / residual Pitch: Min.: -1.0°, Max.: +1.0° Vehicle must be within the tolerance range shown in order to display correct values. Roll: Min.: -1.0°, Max.: +1.0° Vehicle must be within the tolerance range shown in order to display correct values. Seal (Only with MultiSeal module!) Sealcount (Loading): number of manually activated seals during loading Sealcount (Discharge): number of manually activated seals during discharge **Condition:** compartment status, either sealed or not sealed (broken) Date: Date of sealing Time Time of sealing

Name of the MultiTask device

Global Positioning System (Value only if GPS is installed!)

#### **Compartment information — frame colour**

The frame colour for the compartment information field changes depending on whether loading or discharge is active. This makes it possible to quickly identify the status.

System Stat	us	Q	1 DK
	the	+0.3° +0.1°	
1 DK		A	During active LOADING blue
		-	1 DK 🛆
2 805			During <i>active</i> DISCHARGE gree
3 SU10	٩	0	1 DK
4 SUP	۵	0	If loading or discharge is
			BYPASSED yellow
5 SUP			1 DK
6 U100	۵	8	<b>NO</b> active LOADING/DISCHARGE
information field	3)		

# 9 Operating manual — NoMix

Ger The operating manual for this functionality is found in a separate document [3].

# 10 Operating manual — MultiSeal 10.1 General

G The operating manual for this functionality is found in a separate document [3].

### **10.2** Inclination limits

In Standalone mode, the MultiSeal application can process inclination data. The function is active as soon as the inclination sensor is connected and configured and the corresponding inclination limits have been entered.

With a connected inclination sensor (via the TAG interface or Level interface), inclination data is displayed and compartment-dependent inclination limits can be defined.

#### SETTINGS >>> Configuration >>> Tank Truck >>> Slope Setup >>> Compartments

These limits influence the wet/dry behavior of the compartment.

If the configured inclination limits are exceeded, the compartment will not be shown as "empty", even when the according wetleg sensor is dry.

In the following example, the compartment inclination limits for chambers 1 and 2 have been exceeded. All wetleg sensors are dry but only compartment 3 is shown as empty.



Fig. 27: Status screen with inclination over limit



### Attention:

The described inclination sensor support is only available for MultiSeal in standalone operation. As soon as one of the other main applications MultiLevel, MultiFlow or NoMix is also active, the inclination values no longer have any influence on the compartment status.

# 11 Operating manual — MultiLevel

### 11.1 General

Gerror The operating manual and further information for this functionality are found in the separate documents [4] and [5].



#### Attention:

To ensure proper operation of the "MultiLevel" application, it is imperative that the current software (>= version 3.55 or >= version 5.7) is used in the level gauges!

### 11.2 Manifold delivery

Delivery via manifold is a special function of MultiLevel and is generally (de)activated via the corresponding parameter in the setup.

Parameter for (de)activation of the delivery mode "Manifold"

#### SETTINGS >>> Configuration >>> MultiLevel >>> Discharge >>> Manifold Support

If the manifold delivery is activated, the application symbol shown in the transport display is used to switch between a conventional multi-level delivery and delivery via manifold. The application symbol displayed in each case indicates which delivery mode to be used when switching to delivery.



Delivery mode: MultiLevel



Delivery mode: MultiLevel-Manifold

### 11.2.1 Delivery mode: MultiLevel-Manifold

If the delivery mode "MultiLevel-Manifold" has been selected in the transport display via the application symbol, the corresponding display for delivery via the manifold appears after switching to delivery and selecting the compartment to be used.



#### CAUTION:

At the beginning of a delivery via manifold, no product may be in the manifold. The manifold must be empty. If this requirement is not met, the <Start> button will not turn green and the delivery cannot be started.



#### Ē

Step

Before starting delivery, the manifold delivery path can be selected. Depending on whether an AI or AIII product is to be delivered, gravity delivery (AI & AIII) as well as pumped delivery (AIII) are available.



#### CAUTION:

Once a delivery has been started, the delivery path can no longer be changed!

After the delivery has been started by pressing the <Start> button, the respective bottom valve is first opened for the start measurement. After the dipstick has calmed down, the valve belonging to the compartment to the manifold is then opened and the product flows into the specified delivery path of the manifold.

As soon as the wet leg sensor of the manifold gets wet, the pump is automatically started for pumped deliveries, taking into account an optionally configured delay. This can also be switched on and off manually by pressing the pump button as long as the residue sensor of the manifold is wet.



#### CAUTION:

At the end of a delivery via the manifold, there may no longer be any product in the manifold. The manifold must be empty. If this requirement is not met, the system remains in the "waiting for manifold rest amount" status and delivery cannot be completed.



Fig. 29: State "waiting on manifold rest amount"



#### 12:32pm 2023-06-28 4 8 1 Ē. 2 ÷Q: A V0 **Bypass general** High pressure? Super E5 2 4 Manifold Delivery Start? $\bigcirc \mathbf{V}$ Product temp. Volume VT Volume V0 ixing products! / Not Approved! -2.61 °C 9 0.0 9 0.0 Manifold Delivery End? ... Manifold Not Approved! 0 0.

### 11.2.2 Optional overrides

Fig. 30: Manifold overrides

Optional bypasses can be activated for delivery via the manifold. These are required in order to be able to start or end a delivery via the manifold despite unfulfilled delivery conditions.

Parameter for (de)activation of overrides for the delivery via manifold:

#### SETTINGS >>> Configuration >>> MultiLevel >>> Discharge >>> Manifold Override

- "Manifold delivery start"
  - If the condition "manifold empty at the start of delivery" is not met, delivery via the manifold cannot be started.
  - By selecting and confirming this bypass, a delivery can also be started if the manifold is not empty.
  - The delivery is not W&M approved!
- "Manifold delivery end"
  - If the condition "Manifold empty at the end of delivery" is not met, a delivery via the manifold cannot be ended.
  - By selecting and confirming this bypass, a delivery can also be ended if the manifold is not empty.
  - The delivery is not W&M approved!

### 11.2.3 Display – delivery via gravity

If the gravity delivery path was selected before delivery started and delivery was started by pressing <Start>, the delivery path can no longer be changed. Once the dipstick has settled after opening the bottom valve, the solenoid valves are opened for gravity delivery via the manifold.



Fig. 31: Manifold gravity delivery

### 11.2.4 Display – pumped delivery

If the delivery path for a pumped delivery via manifold was selected before the start of the delivery and the delivery was started by pressing <Start>, the delivery path can no longer be changed. As soon as the dipstick has settled after opening the bottom valve, the solenoid valves for pumped delivery via the manifold are opened. As soon as the wet leg sensor of the manifold gets wet, the pump is started automatically, taking into account any additional waiting time that may have been configured. As long as the wet leg sensor of the manifold is wet, the pump can be switched on and off manually using the associated button. If delivery is interrupted, the pump is automatically stopped. The same applies as soon as the wet leg sensor of the manifold falls dry. If the wet leg sensor of the manifold is dry, the pump cannot be restarted, even manually.



## 12 Instruction manual – MultiFlow

### 12.1 General

Ger The operating manual and further information for this functionality are found in the separate document [6].

### 12.2 Additive



#### Attention:

If a A3 additive pump is used on the FPI interface, the blue M16 cable gland must be replaced with the enclosed black gland! The blue cable gland may only be used for A1 devices, as blue means intrinsically safe!

### 12.2.1 Design of the additive system

Following figure shows the block diagram of the additive system. The additive passes from the reservoir (ST) via the missing product detection system (FS) to the pump (PP). With each pump stroke, the additive is mixed into the main flow downstream of the metering mechanism (M). The additive quantity is measured by a piston measuring pump which conveys the additive and simultaneously measures the delivered quantity using the piston volume. As the number of piston strokes is known, the amount of additive dispensed can therefore be calculated.

The ADD 150 version is the explosion-protected version of the ADD 350 pump and is intended for installation in zone 1.





	Designation		Designation
VV	Ventilation valve	FS	Float switch
SG	Sight glass (optional)	PS	Position switch
St	Filter (optional)	JB	Terminal box
SV	Solenoid valve	SU	Maintenance unit
PC	Test connection	CV	Check valve
BV	Discharge valve	PA	Compressed air
EC	Electric counter	М	Measuring mechanism
Ht	Heating	PP	Piston measuring pump

### **12.2.2 Preparation of the test**

To check the additive system, ensure that the metering system, including all piping, is completely filled with additive. The connecting lines for the additive behind the missing product monitoring must be made of non-deformable material such as steel pipe. The additive pump must be located below the additive container and the missing product detection in order to ensure continuous filling with additive.

### 12.2.3 Parameterisation

Parameterisation of the MultiTask MultiFlow must be checked in accordance with Table 6.

The parameters can be found in the setup under the following menu item and are summarised there in the area "Additive Pump":

Parameter name	Settings	Remark	
Pump position	Downstream	It is injected behind the measuring mechanism	
Piston displacement	50 ml	Nominal volume according to rating plate	
Meter factor x.xxxx		Refer to the factory certificate of the pump	
Hose volume	XXX L	See separate calculation	
Pump cycle time	XXXX ms	Range 3300–9900; 6000 ms nominal	
Piston rest position	80 ms	Min. dwell time, rest position	
Piston end position	80 ms	Min. dwell time, end position	

#### /Setup/Configuration/MultiFlow/Meter/Meter <x>/Setup

Table 6: MultiFlow parameter list for additives

Determining the hose volume is necessary to establish, in the worst case, when the additive has left the hose at the point of transfer to the customer. Therefore, not only the volume of the tubing is taken into account, but also the amount of product that is being added.

The "hose volume" parameter is determined as follows

Pump cycle timeHose volume = 
$$V_{hose}$$
 + •  $Q_{max}$ 60,000 [ms/min][L/min]

Example: The hose volume was determined to be 55 L, the maximum flow is  $Q_{max} = 800$  L/min and parameter "*pump cycle time*" = 6000 ms.

For the "hose volume" the result is thus 55 L + 80 L = 135 L.

### 12.2.4 Checking the measurement accuracy

The accuracy requirements for the additive pump are defined in MID and OIML R117-1 as follows:

Measurement volume V	Error limits
V < 0.1 L	2 ml
0.1 I ≤ V < 0.2 I.	2% of the displayed quantity
0.2   ≤ V < 0.4  .	4 ml
0.4 I ≤ V < 1 I.	0.5% of the displayed quantity
1 I ≤ V < 2 I.	10 ml
More than 2 L	0.5% of the displayed quantity

**Table 7: Additive Pump Accuracy Requirements** 

Table 2 is used to test measuring accuracy based on the permissible error limits; a useful test is, for example, to test with a measuring quantity of 0.5 I which corresponds to 10 pump strokes.

After opening the test valve PC, the additive is collected with a suitable measuring vessel and the quantity dispensed can be compared with the indicated quantity. According to the above table, a maximum error of 0.5% between the measured and the displayed quantity is permissible for a test quantity of 0.5 l. If a larger than permissible error is detected, the K-factor of the additive pump ("*meter factor*" parameter) must be corrected and a further control measurement must be carried out.

V <sub>N</sub> =	Nominal pump volume according to rating plate
V <sub>A</sub> =	Determined Quantity Of Measuring Vessel

- N = Number of pump strokes
- K = K-factor of the pump

### **12.2.5** Test of missing product detection

The missing product function is checked by the system before each pump stroke and the main flow discharge is interrupted in the event of a missing product. If a missing product is detected during a pump stroke, the pump stroke which has been started is completed without interruption. The design ensures that the pump is still completely filled with product for this stroke. Only before the next pump stroke would the absence of product be indicated.

To check the function of the missing product detection, the shut-off valve on the additive container in the supply to the additive pump is closed and the float vent valve is opened. The addition of additive is continued until the discharge is interrupted due to a lack of product.

The shut-off valve on the additive container is opened and the float housing is bled if necessary. The addition of additive is then continued. At the end of the test, the quantity of additive collected in a measuring vessel is compared with the quantity indicated by the counter. The additional error caused by the air intake must not exceed 1%.

### 12.2.6 Checking the delivery receipt

In addition to the product in the main flow, the measured amount of additive is recorded as part of the delivery data in W&M-relevant long-term storage and can be viewed there. Regardless of the selected compensation type of the main product, the additive quantity is always specified at the delivery temperature. In addition to the measured quantity, the unit of measurement must be specified, either litres "I", millilitres "ml", kilograms "kg" or gallons (gal) and the sales description of the additive.

### **12.2.7** Testing the additive pump in diagnostics

A separate test point was created in the MultiTask MultiFlow for the conformity assessment and calibration of the additive pump. This is located in the menu under "/Settings/Service/Diagnosis/Additive Pumps". All additive pumps configured in the system can be tested here. See also chapter 13.4.1.13.

The *<Start>* button triggers a full additive cycle. The additive system takes on this additive cycle during delivery and thus includes all monitoring functions and error messages.

Pressing the < *Start* > key causes a single additive stroke. After the end of a complete additive cycle, another cycle can be triggered with < *Start* >.



States of the inputs and outputs

Fig. 34: Additive Pump Diagnostics

Ger NOTE:

The quantity of additive is deducted from the additive supply quantity that can optionally run in MultiTask-MultiFlow. If the test quantity is returned to the storage tank, the additive supply quantity should also be corrected accordingly.

### 12.2.8 Mechanical Sealing Points

The mechanical sealing points are shown in the stamp plan 75-WM-049 and must be checked for integrity.

### 12.3 Calibration of the metering system

#### Gerry NOTE:

The menu item for calibrating the metering system(s) is described in the chapter 13.4.7.

### **12.4** Metering system draining

#### Gerry NOTE:

The menu item for controlling the metering system draining is described in the chapter 13.4.8.

# 12.5 Supplement for the input of density values

In order to ensure the legal requirements for temperature quantity conversion, it is no longer sufficient to enter a fixed mean density where product densities severely fluctuate. The mean density is normally controlled as a parameter under calibration protection and can only be changed by breaking the seal. In order to avoid the need to re-seal, the access rights can be parameterised. For this purpose, the parameter "*Density access*" has been introduced to change the density. This parameter is located under the menu item

"/Settings/Configuration/MultiFlow/General". The following settings can be applied:

Value	Function
5 (W&M)	Density change only through seal breakage and by users with access level "5"
4	Density change only by users with access level "4" ("Admin")
3	Density change only by users with access level "3" ("Service")
2	Density change only by users with access level "2" ("Master Driver")
1	Density change only by users with access level "1" ("Driver")

If the access level "5 (*W&M*)" is configured, MultiFlow behaves as normal. For level '1' to '4', the operator of the measuring device must determine and enter densities themselves. The density data is usually known during vehicle loading and must be taken from the filling platform accordingly. In order to document the density used for the temperature quantity conversion, the density value used is recorded as part of the output data in the W&M-relevant long-term memory and can be viewed there.

# 13 Menu overview

#### Gerry NOTE:

Some of the the parameters displayed in setup depend on the supported main applications "MultiLevel", "MultiFlow", "NoMix" and "MultiSeal". These parameters are only displayed if the corresponding main application has been activated accordingly.



Fig. 35 : Overview SETTINGS



(B)	Logout	see "Logout" page 237
(J)	Loading Plan	see "Loading Plan" page 238
(B	Seal MultiSeal	see "Seal MultiSeal" page 239
(F	Datatransfer	see "Datatransfer" page 243
(B	Logbook	see "Logbook" page 345
(B	Printout	see "Printout" page 261
(B	Eichsiegel W&M	see "Electronic Seal" page 277
(P	Profile	see "Profiles" page 284
(B)	Manual	see "Manual" page 285

### 13.1 >>> SETTINGS >>> Display

Brightness Display 1	100	%
Brightness Display 2	100	%
Standby Delay	5	min
Fouch Calibration	Start	

Fig. 36 : MultiTask – Display Settings

- Brightness Display 1
  - o Brightness of main display
  - Adjustable range: 10–100%
  - o Required access level: 1
  - Factory setting: "50%"
- Brightness display 2
  - o Brightness of secondary display
  - Adjustable range: 10–100%
  - o Required access level: 1
  - Factory setting: "50%"

#### Standby Delay

- Period of activity, after which the backlight is automatically switched off in transport mode.
- o Backlight is automatically switched on again when a "touch" event occurs.
- o Adjustable range: 1..60 minutes
- Required access level: 1
- Factory setting: "5min"
- Touch Calibration
  - o Start of 5-point calibration
  - Can also be activated using DIP switch 6 on the display. After calibration has started, DIP switch 6 must be returned to "OFF" position

- The display is calibrated with a 5-point calibration process, i.e. 5 points are shown on the MultiTask display, one after another, and the user touches each of these points with a pencil or similar.
- Due to the integration of the display in the system, text displayed during calibration is upside down!
- o Required access level: 1

## 13.2 >>> SETTINGS >>> Configuration



Fig. 37 : Menu Configuration





13.2.1 >>> SETTINGS >>> Configuration >>> System

Settings C	Configuration Syste	m	
Status	File	General	Time and Date
Languages	Update		
- 5			
के अग	Ba	ıck	







### 13.2.1.1 >>> SETTINGS >>> Configuration >>> System >>> Status

Settings Configuration	System Status	
Device Name	MultiTask Peter	
LRP Serial	704E5EAB000000BF	
LRP Booter Version	0.1.11	
LRP Booter BuildID	c996	
LRP Kernel Version	0.1.12-a6b7	
LRP Rootfs Version	0.1.12	
LRP Rootfs BuildID	6c28	
LRP SW-Version	1.10.0	•••
LRP Common	1.10.0	
LRP Checksum	e08t642b	
NRP Serial	70CD9B7D000000F4	
NRP Booter Version	0.1.11	••••
NRP Booter BuildID	6c0f	
NRP Kernel Version	0.1.12-95b0	
NRP Rootfs Version	0.1.12	$\sim$
NRP Rootfs BuildID	89ec	
NRP SW-Version	1.10.4	
NRP Common	1.10.0	
NRP HSV/Vap.		
NRP Checksum	23721127	
49	Back	

Fig. 39 : Display System/Status

Displays the version information of all MultiTask system parts present.

- Device Name
  - o defined at "/Settings/Configuration/Tank truck/FTL/Device ID"
- LRP Serial.
  - o internal serial number of the upper, W&M-relevant subsystem
- LRP Booter Version
  - o version of the booter of the upper, W&M-relevant subsystem
- LRP Booter BuildID
  - o BuildID of the booter of the upper, W&M-relevant subsystem
- LRP Kernel Version
  - o version of the kernel of the upper, W&M-relevant subsystem
- LRP Rootfs Version
  - o Version of the root filesystem of the upper, W&M-relevant subsystem
- LRP Rootfs BuildID
  - o BuildID of the root filesystem of the upper, W&M-relevant subsystem
- LRP AppFS-Version
  - o version of the MultiTask software area of the upper, W&M-relevant subsystem
- LRP Common
  - o version of the "common" area of the upper, W&M-relevant subsystem
- LRP Checksum
  - $\circ$  checksum for all W&M-relevant data of the upper, W&M-relevant subsystem
- NRP Serial.
  - $\circ$  internal serial number of the lower, non- W&M-relevant subsystem
- NRP Booter Version
  - o version of the booter of the lower, non- W&M-relevant subsystem
- NRP Booter BuildID
  - o BuildID of the booter of the lower, non- W&M-relevant subsystem
- NRP Kernel Version
  - $\circ$  version of the kernel of the lower, non- W&M-relevant subsystem
- NRP Rootfs Version
  - o version of the root filesystem for the lower, non- W&M-relevant subsystem
- NRP Rootfs BuildID
  - o BuildID of the root filesystem for the lower, non- W&M-relevant subsystem
- NRP AppFS-Version

- o version of the MultiTask software area of the lower, non- W&M-relevant subsystem
- NRP Common
  - o version of the "common" area of the lower, non- W&M-relevant subsystem
- NRP HSV/Vap.
  - version of the program section responsible for monitoring filling hose protection and vapour recovery line of the lower, non- W&M-relevant subsystem
- NRP Checksum
  - o checksum for all W&M-relevant data of the lower, non-W&M-relevant subsystem

### 13.2.1.2 >>> SETTINGS >>> Configuration >>> System >>> File



Fig. 40 : Menu System/File

- Active Configuration
  - o Identifier for the configuration currently in use.
  - o Identifier is set by "Load configuration" and "Save configuration".
  - If the configuration has changes since the last load/save action, this change is indicated by a '\*' at the end of the identifier.
  - Required access level: 3
- Load Configuration

- Load a configuration stored in the system.
- Choose from a selection list.
- Required access level: 3
- Save Configuration
  - o Save the complete current configuration incl. identifier, FeatureKey etc.
  - Required access level: 3
- Ignore Logbook
  - o Ignores all logbook information when saving configuration.
  - o Saved configuration then contains only pure configuration data.
  - This has a significant influence on the size of the configuration file and the time required if the configuration files are exported.
  - Required access level: 3
- Clear Config. Files
  - o Delete all configuration files saved in the system.
  - Required access level: 3
- Clear Backup Files
  - Delete all backup files saved in the system.
  - Required access level: 3
- Clear Log Files
  - o Delete all system log files saved in the system.
  - Required access level: 3
- Clear Screenshot Files
  - Delete all screenshots saved in the system.
  - Required access level: 3
- Clear Profile Files
  - o Delete all profiles saved in the system.
  - Required access level: 3
- Clear Layout Files
  - o Delete all layout files saved in the system.
  - o Required access level: 3
- Clear Level Tables
  - o Delete all level tables saved in the W&M-relevant system.
  - Required access level: 5
- Clear FTL Files
  - Deletes FTL files from the system that have not yet been transferred to the FTP server
  - Required access level: 5

### 13.2.1.3 >>> SETTINGS >>> Configuration >>> System >>> General



Fig. 41 : Menu "System General"

#### System Reset

- o Manually activate a restart of the system, including the secondary display.
- Required access level: 1
- Feature Key
  - $\circ$  Entry field for the FeatureKey to activate system-dependent basic functions.
  - Required access level: 3
- Login required
  - User login directly after system start.
  - o "Yes": User must log in directly after system start.
  - o "No": After system start, the standard user is automatically logged in.
  - Required access level: 3
  - Factory setting: "No"
- Automatic logout
  - Timeout for automatic logout in minutes
  - o Is only active in the transport display
  - o Required access level: 3
  - Factory setting: "0min"

- Temporary Passwords
  - General (de)activation of temporary passwords
  - "Yes": temporary passwords enabled
  - "No": temporary passwords disabled
  - Allows users with a low access level to gain an increased access level for a specified period of time from a specified point in time
  - Temporary passwords are generated using a separate Windows program. The following can be defined:
    - ➔ Beginning of validity
    - ➔ Period of validity
    - ➔ Access level
    - ➔ Required access level: 3
    - ➔ Factory setting: "No"
- NoMix
  - Activation of "NoMix" functionality.
  - "Yes": "NoMix" is used.
  - o "No": "NoMix" is not used.
  - o A restart of the system is needed to make this setting take effect.
  - Required access level: 3
  - Factory setting: "No"
- MultiSeal
  - Activation of "MultiSeal" functionality.
  - "Yes": "MultiSeal" is used.
  - "No": "MultiSeal" is not used.
  - o A restart of the system is needed to make this setting take effect.
  - Required access level: 3
  - Factory setting: "No"
- MultiLevel
  - o Activation of "MultiLevel" functionality.
  - o "Yes": "MultiLevel" is used.
  - o "No": "MultiLevel" is not used.
  - o A restart of the system is needed to make this setting take effect.
  - Required access level: 3
  - Factory setting: "No"
- MultiFlow
  - Activation of "MultiFlow" functionality.
  - "Yes": "MultiFlow" is used.
  - "No": "MultiFlow" is not used.
  - o A restart of the system is needed to make this setting take effect.
  - Required access level: 3
Attention:

- Factory setting: "No"
- Approved metering systems
  - o The maximum number of supported metering systems released via the FeatureKey

As of V1.8.0/1.8.0, only preparations to support the "MultiFlow" application are included in the software. The application "MultiFlow" is functionally present in MultiTask only from software version V1.10.0/1.10.0!

### 13.2.1.3.1 Basic functions



The NoMix system manages the control and monitoring functions for the conveyance of mineral oil products on a tank truck. The fuel station installation must be equipped with TAGs or ESD modules.

### The main functions of the NoMix system are:

Quality assurance (QSS)

Overfill protection (OP)

Filling hose protection (ASS)

Vapour recover hose monitoring (GPS / GPSUe)

Sealed parcel delivery (SPD) (optional)



- 5 The concept of the MultiSeal system consists of delivering calibrated, measured, thin mineral oil volumes/quantities as "sealed parcels" via secure, monitored conveyance in road tank trucks to customers (Sealed Parcel Delivery).
  - The tank compartments are electronically sealed after loading. Loaded quantities are listed in the load papers.
  - The state of the Manlid and valves for a tank compartment are continually monitored, and every change is recorded in a log file.
  - Even when the vehicle battery is switched off, the MultiSeal system receives power from an internal battery, allowing monitoring to continue.
  - The state of all compartments can be monitored without power from the vehicle battery for up to 100 hours.
  - One status report may be printed after loading and one before discharge at the customer site, recording the seal status of the compartments.

- By comparing the printouts, for example, it is possible to determine if there was any manipulation during transport from the loading station to the customer site, possibly removing product.
- If the comparison of printouts shows that there was no manipulation, i.e. no seal was broken, it is certain that the loaded quantities according to loading papers are contained within the tank truck compartments.
- After discharging, the MultiSeal system indicates when the compartments are completely empty, i.e. there is no more residual product in the compartments.
- Manipulation of sealed compartments is recorded directly. The compartments are then considered "unsealed".
- Physically/visually "gauging" the contents as required in some countries is not necessary if the MultiSeal system is in use.



G MultiLevel is a system for measuring discharge amounts from a tank truck. Each compartment contains a sensor which measures the fill level of the fluid.



Fig. 42: Tank truck with level gauges

A compartment-specific level gauge table assigns each compartment fill level to a fill volume, whereby intermediate values within the table are interpolated with a linear function. (see

graphical representation) The discharge amount equates to the difference between the fill volumes before and after discharge.



Fig. 43: Typical fill level - gauge curve



#### **ATTENTION:**

The level gauge system is not suited to deal with display, monitoring and printout functions when loading. Separate systems which fulfil the mandatory safety-related regulations must be used.

- The fill volume is only independent of the compartment slope (inclination) with specially designed and precisely constructed compartments. With almost all conventional compartment shapes, errors will occur in the assignment of a fill level to a fill volume as soon as there is any sloping of the compartment. (The fill level changes with slope even though the fill volume remains constant.) The level gauge table is only valid for a defined angle of the vehicle. (Normally 0° for both pitch and roll.)
- The extent of the inclination error depends on the geometry of the compartment and the location of the level gauge. There is an ideal location for the level gauge specific to each compartment. The further the level gauge is from the ideal location, the greater the influence of the inclination. If the measuring error exceeds calibrating threshold values, the error must be corrected.
- C The inclination corrective values are determined by calculation with the help of 3D drawing software. The tank geometry, including the location of the fill level sensor, the orientation of the compartment during calibration, and the basis for level measurement must all be known.

The 3D drawing software generates an inclination table, as shown in the figure, "Typical inclination correction curves".



Fig. 44: Typical slope correction curves

- The calibration threshold for absolute inclination corrective values is determined by the precision of the inclination sensor. If the corrective values become too large in relation to the size of the compartment, the error exceeds the calibration threshold determined by the inclination sensor, and the compartment can no longer be calibrated.
- A deviation in the position of the level gauge from the target position due to manufacturing tolerances also creates measuring errors. Computational adjustment (X/Y adjustment) of the level gauge to its ideal position makes limited compensation possible. But this also produces additional errors due to the precision of the inclination sensor, which influences the ability to calibrate.



#### NOTE:

Level gauge compartments need more exacting requirements in terms of production tolerances. The more precise the manufacturing, the easier the subsequent calibration of the vehicle.

For reasons of system design, the fill level measurement cannot take place all the way to the floor of the compartment, nor can the fill volume in pipework be determined by the level gauge. The residual amounts in the tank compartment and in the pipework therefore have to be taken into account separately as soon as the tank compartment is emptied to the point that fill level measurement cannot be carried out.

As soon as the fill level falls below the measurable range, the display remains stable and no additional amounts are displayed whilst discharge continues. Only when the rest leg sensor registers dry at the end of discharge is the entire residual amount added to the delivered amount. The definitions of residual amount and pipework volume are shown in the following figure.



Drawing 73-WM-008

Fig. 45 : Definition of residual volume and pipe volume

Due to system design, in contrast to pure direct delivery systems, level gauge systems always have residual compartment quantities which cannot be determined with fill level sensors.

### NOTE:

Should discharge be interrupted during residual discharge (e.g. because the recipient tank is full), it is not possible to determine how much of the residual amount has already been discharged. The residual amount cannot be included in the discharge amount until the wetleg sensor is dry.



i

Furthermore, the slope of the compartment must be taken into account. Notes on this matter may be found in and .

MultiFlow:	Yes	
------------	-----	--

G Multiflow, together with a mechanical counter, is used for temperature-compensated delivery of mineral oil products.

The quantity is determined by means of a measuring chamber (counter), which is equipped with an electric pulse generator. This supplies a pulse signal in proportion to the flow rate. The pulse generators used are in accordance with ISO 6551/IP242/API Chapter 5 Section 5 and have two pulse outputs (phase-shifted 90°).

A sensor input for a Pt100 temperature sensor is still available for a compensated quantity conversion. This sensor is designed as a 4-wire sensor.



### Attention:

As of V1.8.0/1.8.0, only preparations to support the "MultiFlow" application are included in the software. The "MultiFlow" application is only enabled in one of the following software versions!

# 13.2.1.4 >>> SETTINGS >>> Configuration >>> System >>> Time and Date



Fig. 46 : Menu System/Time and Date

- Date
  - o Set the current date
  - Required access level: 3
- Time
  - o Set the current time
  - Required access level: 3
- Timezone

0

- $\circ$  Set the time zone
- Required access level: 3
- Consider Daylight Saving Time:



• Required access level: 3

# 13.2.1.5 >>> SETTINGS >>> Configuration >>> System >>> Update

Settings	Configuration	System	Update	$\rightarrow$
Remote Update		Yes	No	
	Misc			
Update Info		Alarm		
4 3 \$	Back		ок	

Fig. 47 : Menu System/Update

----- Download -----

Remote Update

- Activate the automatic checking of the configured "Update" FTP server for available system update files at system start.
- o If system update files are available, the download of these files begins automatically.
- o Required access level: 4
- Factory setting: "Yes"

----- More -----

Update Info

- How is the user informed about available updates.
- o System update files are already on the MultiTask
- "None": The user will not be informed about available updates.
- "Info": When the system starts, the user will be informed about an available update via a message in the history.
- "Alarm": When the system starts, the user will be informed about an available update via a full-screen message that has to be acknowledged.
- Required access level: 4
- Factory setting: "Alarm":

A So avai	oftware-Update is ilable.	
-	01/	
	ок	

Fig. 48 : Update Info "Alarm"

13.2.1.6 >>> SETTINGS >>> Configuration >>> System >>> Languages

Settings Configuration	System	Language	s
German	Yes	No	
Australian English	Yes	No	
Chinese	Yes	No	
Dutch	Yes	No	
French	Yes	No	
Hebrew	Yes	No	
Polish	Yes	No	
Romanian	Yes	No	

Serbian		Yes	No	
South African English		Yes	No	
\$ \$ <b>1</b>	Back			

Fig. 49 : Menu System/Languages

Definition of the pre-selection of the languages available under the flag symbol. Serves to make the language selection clearer, since not all languages supported by the system are relevant for every user!

# 13.2.2 >>> SETTINGS >>> Configuration >>> Interfaces



Fig. 50 : Menu Interfaces





13.2.2.1 >>> SETTINGS >>> Configuration >>> Interfaces >>> Bluetooth

<b>E</b> Settings	Configuration	Interfaces	BlueTooth	>
Status	Genera	ıl Scar		
-				
4 <i>2</i> \$		Back		





13.2.2.1.1 >>> SETTINGS >>> Configuration >>> Interfaces >>> Bluetooth >>> Status

Settings Configur	ation Interfaces	BlueTooth	Status
SW Version	5.8825		
Device Name	hci0		
		1	
\$ ↔ *	Back		

Fig. 52 : Menu Interfaces/Bluetooth/Status

- SW Version
  - o Software version for the internal Bluetooth module
  - Required access level: 1
- Device Name
  - o Identifier for the internal Bluetooth module
  - Required access level: 1
- 13.2.2.1.2 >>> SETTINGS >>> Configuration >>> Interfaces >>> Bluetooth >>> General



Fig. 53 : Menu Interfaces/Bluetooth/General

- Enable
  - o General activation of internal Bluetooth module
  - o "Yes": Switch on
  - o "No": Switch off
  - Required access level: 3
  - Factory setting: "No"
- Visible
  - Make MultiTask "discoverable" by other Bluetooth devices.
  - o "Yes": The MultiTask is "discoverable" by other Bluetooth devices.
  - o "No": The MultiTask is not "discoverable" by other Bluetooth devices.
  - o Required access level: 3
  - Factory setting: "No"
- Update receive
  - o Transmit update files from a paired device to the MultiTask.
  - o Required access level: 4
  - Factory setting: "No"

### 13.2.2.1.3 >>> SETTINGS >>> Configuration >>> Interfaces >>> Bluetooth >>> Scan

Settings	Configurat	tion	Interfaces	$\geq$	BlueTooth	Scan
Start Scan		[	Star	t Scan		
Scan Results						
de Q D			Back			
4.2 4			Datk			

Fig. 54 : Menu Interfaces/Bluetooth/Scan

- Start Scan
  - Search for visible Bluetooth devices in the vicinity of the MultiTask system. Required access level: 3
- Scan Results
  - o Bluetooth devices found in an already completed scan are listed here.
  - Required access level: 3

# 13.2.2.2 >>> SETTINGS >>> Configuration >>> Interfaces >>> CAN



Fig. 55 : Menu Interfaces/CAN

(J	CAN HMI	see "CAN HMI" page 109
	CAN1	see "CAN 1" page 124
	CAN2	see "CAN 2" page 125
	FAS	see "FAS" page 112
	FAS W&M	see "FAS W&M" page 113

13.2.2.2.1 >>> SETTINGS >>> Configuration >>> Interfaces >>> CAN >>> CAN HMI



Fig. 56 : Menu Interfaces/CAN/CAN HMI

- Protocol
  - $\circ$   $\;$  The CAN protocol to be used on this CAN interface.
  - o "OFF": No CAN communication
  - "FAS": Protocol for communication with non- W&M-relevant CAN interfaces (e.g. IO interface)
  - "FAS (W&M)": Protocol for communication with W&M-relevant CAN interfaces (e.g. wet let interface)
  - o Required access level: 5
  - Factory setting: "OFF":

13.2.2.2 >>> SETTINGS >>> Configuration >>> Interfaces >>> CAN >>> CAN 1

Settings	Configurat	tion Interface	s CAN	CAN1
Protocol		FAS		
43 \$		Back		

Fig. 57 : Menu Interfaces/CAN/CAN 1

- Protocol
  - $\circ$  ~ The CAN protocol to be used on this CAN interface.
  - o "OFF": No CAN communication
  - "FAS": Protocol for communication with non- W&M-relevant CAN interfaces (e.g. IO interface)
  - "FAS (W&M)": Protocol for communication with W&M-relevant CAN interfaces (e.g. wet let interface)
  - Required access level: 3
  - Factory setting: "OFF":

13.2.2.2.3 >>> SETTINGS >>> Configuration >>> Interfaces >>> CAN >>> CAN 2



Fig. 58 : Menu Interfaces/CAN/CAN 2

- Protocol
  - o The CAN protocol to be used on this CAN interface.
  - "OFF": No CAN communication
  - "FAS": Protocol for communication with non- W&M-relevant CAN interfaces (e.g. IO interface)
  - "FAS (W&M)": Protocol for communication with W&M-relevant CAN interfaces (e.g. wet let interface)
  - o Required access level: 3
  - Factory setting: "OFF":

13.2.2.2.4 >>> SETTINGS >>> Configuration >>> Interfaces >>> CAN >>> FAS

Settings Configuration	Interfaces	CAN FAS
OP-Interface	1	
IO-Interface	1	
Sensor-Interface	1	
TAG-Interface	1	
¢r ⊗ ull B	ack OK	

Fig. 59 : Menu Interfaces/CAN/FAS

- Number of CAN interfaces connected to the CAN bus communicating via FAS protocol.
- OP-Interface
  - Possible choices: 0..1
  - o Required access level: 3
  - Factory setting: "0"
- IO-Interface
  - Possible choices: 0..4
  - o Required access level: 3
  - Factory setting: "0"
- Sensor-Interface
  - Possible choices: 0..4
  - o Required access level: 3
  - Factory setting: "0"
- TAG-Interface
  - Possible choices: 0..1
  - Required access level: 3
  - Factory setting: "0"

13.2.2.2.5 >>> SETTINGS >>> Configuration >>> Interfaces >>> CAN >>> FAS W&M

Settings Conf	iguration Interfaces	CAN	FAS W&M
Level-Interface	0		
FPI-Interface	0		
Wetleg-Interface	1		
48 *	Back	ок	

Fig. 60 : Menu Interfaces/CAN/FAS W&M

- Number of CAN interfaces connected to the CAN bus communicating via FAS W&M protocol (calibration mandatory).
- Level-Interface
  - Possible choices: 0..4
  - o Required access level: 5
  - Factory setting: "0"
- FPI-Interface
  - Possible choices: 0..3
  - Required access level: 5
  - Factory setting: "0"
- Wetleg-Interface
  - Possible choices: 0..4
  - o Required access level: 5
  - Factory setting: "0"

# 13.2.2.3 >>> SETTINGS >>> Configuration >>> Interfaces >>> Printer

Configuration	Interfaces Printer
COM-Port	RS232
Printer	EPSON TM-U295
Rows	55
Product Delivery Note Line Feed	30
Paper Feed	Automatic
Automatic ejection	Against direction of printing
d≠ ⇔ul[ Back	ок

Fig. 61 : Menu Interfaces/Printer

- COM-Port
  - Interface to which printer is connected.
  - "RS232/488": Combined RS232/485 interface. The "RS232" or "RS485" mode in the configuration of this interface is set under "interfaces/serial".
  - o "RS232": Printer connected to RS232 interface.
  - o Required access level: 3
  - o Factory setting: "RS232/485"
- Printer
  - o Definition of connected printer.
  - Possible choices:
    - "EPSON TM-U220"
    - "EPSON TM-U295"
    - "Star SP298"
    - "Cognitive Blaster Advance" (not yet supported)
    - "TallyGenicom MIP 480" (not yet supported)
    - "Gprinter GP-L80250II"
    - "ASCII": Data transmitted without printer-specific control characters.
  - Required access level: 3
  - Factory setting: "EPSON TM-U295"
- Rows
  - o Number of lines per page
  - Possible choices: "15–99"
  - Required access level: 3

• Factory setting: "55"

### Columns

- o Number of columns per page/characters per line
- Possible choices: "15–99"
- o Required access level: 3
- Factory setting: "35"
- Product Delivery Note Line Feed
  - o Number of lines to advance before beginning printout of product-related delivery note
  - Possible choices: "0..99"
  - o Required access level: 3
  - Factory setting: "30"
- Paper Feed
  - o Automatic paper loading when using the EPSON TM-U295
  - Possible choices:
    - o "Manual"
    - o "Automatic"
  - Required access level: 3
  - o Factory setting: "Automatic"
  - Only supported by EPSON TM-U295
  - o Available with version V1.12.0/1.12.0
- Automatic ejection
  - o Automatic ejection of the paper at the end of the print
  - Possible choices:

    - ➔ "In direction of printing"
    - ➔ "Against direction of printing"
  - Required access level: 3
  - Factory setting: "No"
  - Available with version V1.12.0/1.12.0

# 

With the EPSON TM-U295, the paper sensor can only be queried before the start of the printout.

# Ç

### CAUTION:

With the EPSON TM-U295, the paper can be fed either automatically or manually via the printer's control panel.

# 13.2.2.4 >>> SETTINGS >>> Configuration >>> Interfaces >>> Ethernet



Fig. 62 : Menu Interfaces/Ethernet



13.2.2.4.1 >>> SETTINGS >>> Configuration >>> Interfaces >>> Ethernet >>> Status



Fig. 63 : Menu Interfaces/Ethernet/Status

▶ IP Address

- Displays the IP address of the external ethernet interface to the secondary display.
- The IP address is displayed or, if the Ethernet interface is not active, "n.a." is displayed.
- o Required access level: 1

# 13.2.2.4.2 >>> SETTINGS >>> Configuration >>> Interfaces >>> Ethernet >>> General



Fig. 64 : Menu Interfaces/Ethernet/Status

### Enable

- o Activation of the external ethernet interface to the secondary display.
- "Yes": Switch on
- o "No": Switch off
- o Required access level: 3
- Factory setting: "No"

# 13.2.2.5 >>> SETTINGS >>> Configuration >>> Interfaces >>> FTP



Fig. 65 : Menu Interfaces/FTP

\_\_\_\_

	Data	see "Data" page 118
	Service	see "Service" page 134
(P	Update	see "Update" page 135

13.2.2.5.1 >>> SETTINGS >>> Configuration >>> Interfaces >>> FTP >>> Data

Settings Configuration	Interfaces FTP	Data
Domain		
Username		
Password		
Path	/Data	
ZIP	Yes No	
Timeout	60	sec
Test	Start	
Reset FTL Logbook ID	Start	
djø 🗞 🛛 🔒 Back	ок	

Fig. 66 : Menu Interfaces/FTP/Data

- Configuration of data FTP server. Event and GPS data are transferred to this server.
- Domain
  - o Domain address of FTP server
  - Required access level: 3
  - Factory setting: " "
- User Name
  - o Username for logging in to FTP server
  - o Required access level: 3
  - Factory setting: " "
- Password
  - Password for logging in to FTP server
  - Required access level: 3
  - Factory setting: " "
- Path
  - o Optional field for special directory to be used on data FTP server.
  - Required access level: 3
  - Factory setting: " "
- ZIP
  - o Transferred data will be transferred to FTP server in ZIP format.
  - "Yes": "Use ZIP format, reduced data volume.
  - "No": Transfer data in standard format.
  - Required access level: 3
  - Factory setting: "No"

- Timeout
  - Set a timeout period for logging in to the FTP server.
  - Possible choices: "30s ... 999s"
  - o Required access level: 3
  - Factory setting: "60s"
- Test
  - Transfer a test file to the <Path> directory on configured FTP server.
  - Required access level: 3
- Reset FTL Logbook ID
  - If the transfer of the test file works, but no event files are transferred to the configured FTP server, the cause may lie with the internal management of transfer IDs. These can be reset here, which will result in a renewed transfer of logbook events in FTL format.
  - If there are already many events in the logbook, it can take a while before the event data are transferred to the FTP server, as the data must first be read from the logbook and then converted to FTL format.
  - Required access level: 3

### 13.2.2.5.2 >>> SETTINGS >>> Configuration >>> Interfaces >>> FTP >>> Service

Settings	Configuration	Interfaces	FTP	Service
Domain				
User Name				
Password				
Path				
Timeout		60		sec
Test			Start	
\$P \$\$	Ba	ck	ок	

Fig. 67 : Menu Interfaces/FTP/Service

- Configuration of Service FTP server. System information needed for remote access, for example, is transferred to this FTP server.
- Domain
  - o Domain address of FTP server
  - o Required access level: 3

• Factory setting: " "

### User Name

- Username for logging in to FTP server
- o Required access level: 3
- Factory setting: " "
- Password
  - Password for logging in to FTP server
  - Required access level: 3
  - Factory setting: " "
- Path
  - o Optional field for special directory to be used on service FTP server.
  - o Required access level: 3
  - Factory setting: " "
- Timeout
  - Set a timeout period for logging in to the FTP server.
  - o Possible choices: "30s ... 999s"
  - o Required access level: 3
  - Factory setting: "60s"
- Test
  - Transfer a test file to the <Path> directory on configured FTP server.
  - Required access level: 3

## 13.2.2.5.3 >>> SETTINGS >>> Configuration >>> Interfaces >>> FTP >>> Update

Settings Confi	guration Interfaces	FTP	Update
Domain			
User Name			
Password			
Path			
Timeout	60	se	c
Test	Star	t	
Update Check	Update C	Check	
A) \$	Back		

Fig. 68 : Menu Interfaces/FTP/Update

- Configuration of Update FTP server. MultiTask checks this FTP server for update files, if the function is activated.
- Domain
  - Domain address of FTP server
  - Required access level: 3
  - Factory setting: " "
- User Name
  - Username for logging in to FTP server
  - Required access level: 3
  - Factory setting: " "
- Password
  - Password for logging in to FTP server
  - o Required access level: 3
  - Factory setting: " "
- Path
  - Optional field for special directory to be used on update FTP server.
  - o Required access level: 3
  - Factory setting: " "
- Timeout
  - Set a timeout period for logging in to the FTP server.
  - Possible choices: "30s ... 999s"
  - Required access level: 3
  - Factory setting: "60s"
- Test
  - Transfer a test file to the <Path> directory on configured FTP server.
  - Required access level: 3
- Update Check
  - o Connect to update FTP server and check for presence of update files.
  - o Required access level: 3

# 13.2.2.6 >>> SETTINGS >>> Configuration >>> Interfaces >>> GPS



Fig. 69 : Menu Interfaces/GPS



13.2.2.6.1 >>> SETTINGS >>> Configuration >>> Interfaces >>> GPS >>> Status

Settings	Configuration		GPS		
Timestamp		0001-01-01 12:00:0	00am		
Longitude		+ 0.000000		0	
Latitude		+ 0.000000		•	
Altitude		0		m	
Quality		0			
Satellites		0			
HDOP		0		m	
T D///					7
Time Diff.		0		Sec	
Speed		0		km/h	
Direction		0		0	
40 \$		Back			

Fig. 70 : Menu Interfaces/GPS/Status

- Show all data received from attached GPS receiver.
  - o Required access level: 1
- Timestamp
  - $\circ$  Time received via GPS.
- Longitude
  - o Current position data.
- Latitude
  - o Current position data.
- Altitude
  - o Altitude for current position data.
- Quality
- Satellites
  - o Number of satellites found.
- HDOP
  - A measurement of the variance spread of measured values. Indicates the quality of received data.
- Speed

Direction

o in degrees

13.2.2.6.2 >>> SETTINGS >>> Configuration >>> Interfaces >>> GPS >>> General

Settings	Configuration	Interfaces	GPS	General
Enable		Yes	No	
Timesync		Yes	No	
\$P\$ \$\$	Ba	ack	ок	

Fig. 71 : Menu Interfaces/GPS/General

- General GPS settings
- Enable
  - "Yes": Activate GPS reception. The satellite symbol is displayed. The number of bars displayed along with the satellite symbol depends on the number of satellites that are visible.
  - "No": Deactivate GPS reception.
  - o Required access level: 3
  - Factory setting: "No"
- Timesync
  - o Synchronise the system clock on the MultiTask with the time received by GPS.
  - "Yes": System clock will be synchronised.
  - o "No": System clock is treated independently of time received via GPS.
  - Required access level: 3
  - o Factory setting: "Yes"

# 13.2.2.6.3 >>> SETTINGS >>> Configuration >>> Interfaces >>> GPS >>> Tracking

<b>Settings</b>	Configuration	Interfaces	GPS Tracking	
Enable		Off		
Interval		180	sec	
Distance		100	m	
Speed Level		5	km/h	
\$P\$ \$	Ba	ck O		

Fig. 72 : Menu Interfaces/GPS/Tracking

- Settings for GPS tracking. GPS tracking information is transferred to the data FTP server in the "/GPS" subdirectory.
- Enable
  - "OFF": GPS tracking is deactivated.
  - "Interval": GPS tracking in "interval" mode. GPS positions are recorded at specified time intervals.
  - "Distance": GPS tracking in "distance" mode. GPS positions are recorded whenever a specified distance is exceeded.
  - "Speed Level": GPS tracking in "speed level" mode. GPS positions are recorded when the specified speed is exceeded within specified time interval or distance.
  - o Required access level: 3
  - Factory setting: "No"
- Interval
  - o Time between GPS data recording points.
  - Possible choices: "0s...3600s"
  - Required access level: 3
  - Factory setting: "180s"
- Distance
  - $_{\odot}$   $\,$  Distance to be covered after which GPS data will be recorded.
  - Possible choices: "100m...5000m"
  - Required access level: 3
  - Factory setting: "100m"
- Speed Level

- Speed at or above which GPS data will be recorded.
- Also depends on "distance" and/or "interval".
- Possible choices: "0km/h–20km/h"
- o Required access level: 3
- Factory setting: "5 km/h"

# 13.2.2.6.4 >>> SETTINGS >>> Configuration >>> Interfaces >>> GPS >>> Geofencing



Fig. 73 : Menu Interfaces/GPS/Geofencing

() J	General	see "General" page 142
	Editor	see "Editor" page 127
(P	File	see "File" page 129

# 13.2.2.6.4.1 >>> SETTINGS >>> Configuration >>> Interfaces >>> GPS >>> Geofencing >>> General

Configuration Interfaces	GPS	Geofencir	ng General
Enable	Yes	No	
Override Radius	100		m
Override	Ove	rride	
Clear Geo-Positions	Clear Geo	o-Positions	
d≠ ↔ \$ Back		ок	

Fig. 74 : Menu Interfaces/GPS/Geofencing/General

- Settings for position-dependent discharge/loading release. There must be entries in the geofencing database in order for this function to be usable.
- Enable
  - o General (de)activation of geofencing
  - "Yes": Geofencing is active. Discharge and loading are only possible in positions listed in the geofencing database.
  - "No" Geofencing is inactive.
  - Required access level: 3
  - Factory setting: "No"
- Override Radius.
  - o Radius for a temporary override of geofencing.
  - Possible choices: "0m...1000m"
  - o Required access level: 2
  - o Factory setting: "100m"
- Override
  - Temporary override of geofencing. For positions not included in the geofencing database, an override of geofencing can be temporarily enabled for the specified "override radius" around the current position. The position is not saved. Once the override radius is left, the override is cancelled.
  - Required access level: 2
- Clear Geo-Positions
  - o Deletes all entries from the geofencing database.
  - o Required access level: 4

13.2.2.6.4.2 >>> SETTINGS >>> Configuration >>> Interfaces >>> GPS >>> Geofencing>>> Editor



Fig. 75 : Menu Interfaces/GPS/Geofencing/Editor

(B)	Show	Showing content of the database, see page 119
(B	Add	see "Add" page 128
(J	Edit	see "Edit" page 128
(B	Delete	Deleting individual geofencing positions, see page 128

13.2.2.6.4.2.1>>> SETTINGS >>> Configuration >>> Interfaces >>> GPS >>>Geofencing >>> Editor >>> Show / Add / Edit / Delete

		PS	Geot	fencing		Show
					1 to 1 from 1	
Longitude	Latitude	Radius	Name		Address	Station Number
9.88916	53.643	200	FMC-Ellerbek		RegentStrasse 1 25474 Ellerbek	1000
<		7	Step 70	Count	700	>

Fig. 76 : Menu Interfaces/GPS/Geofencing — Show saved entries

F Interfaces GPS	Geofencing Editor	Add
Current Position	Apply Position	
Longitude		
Latitude		
Radius		
Name		
Street		
ZIP		
City		
Station Number		
Override Mode	(0) By NoMix settings	
ф % Щ — В	Back OK	

Fig. 77 : Menu Interfaces/GPS/Geofencing/Editor

- Up to 3000 entries can be entered into the Geofencing database.
- Entry of positional data and the applicable geofencing radius along with additional optional positional data such as customer name, street, city, etc.
- Current Position
  - To simplify the entry of longitude and latitude, the button makes it possible to store the data from the current location.
- Radius
  - Entry of the valid geofencing radius for this position.
- Override Mode
  - o Definition of position depending NoMix override settings
  - Possible values:
    - "(0) By NoMix settings"
      - No position depending override
    - "(1) HSV & COP & Vapour"
    - See parameter "Override Mode" in Nomix Discharge
    - "(2) HSV & Vapour"
      - See parameter "Override Mode" in Nomix Discharge
    - "(3) HSV & Vapour & COP excl. Code"
      - See parameter "Override Mode" in Nomix Discharge
    - "(4) Vapour"
    - See parameter "Override Mode" in Nomix Discharge
    - "(5) Override deactivated"
      - No override allowed at this position
  - Required access level: 3
  - Factory setting: "No"
- > Optional additional positional information such as customer name, street, city, etc.
- Required access level: 3

## 13.2.2.6.4.3 >>> SETTINGS >>> Configuration >>> Interfaces >>> GPS >>> Geofencing >>> File



Fig. 78 : Menu Interfaces/GPS/Geofencing/File

- Load Geo-Positions
  - Load a file, stored on the system, which contains geofencing positions. Selection via file selection list.
  - o Required access level: 4
- Save Geo-Positions
  - The contents of the geofencing database are saved to a local file on the system. Filename may be freely chosen.
  - Required access level: 4
- 13.2.2.6.5 >>> SETTINGS >>> Configuration >>> Interfaces >>> GPS >>> LT-Server

Settings Configuration	Interfaces GPS	LT-Server
Enable	Yes No	
Server Address		
Port	0	
User Name		
Password		
OWA ID	0	
Interval	20	
Ping-Interval	120	
Distance	50	
Idle Time	60	
Ф 🖇 🖇 🛛 Ва	ck OK	

Fig. 79 : Menu Interfaces/GPS/LT-Server

Configuration of an optional LT server (Lomosoft) used in addition to the FTP server, for transferring GPS tracking information.

#### Enable

- o General activation and deactivation of transfer to the LT server.
- "Yes": GPS data will be transferred to configured LT server. If an FTP data server is also parametrised, GPS data will be transferred to both FTP and LT server.
- o "No": No GPS data will be transferred to LT server.
- o Required access level: 3
- Factory setting: "No"

- Server Address
  - IP address of the LT server to be used.
  - Required access level: 3
  - Factory setting: " "
- Port
  - o Port number of LT server.
  - Possible values: "0 .. 65535"
  - o Required access level: 3
  - Factory setting: "0"
- User Name
  - o Username for logging in to LT server
  - o Required access level: 3
  - Factory setting: " "
- Password
  - Password for logging in to LT server
  - Required access level: 3
  - Factory setting: " "
- OWA ID
  - o Unique MultiTask LT server ID, assigned by Lomosoft.
  - o Possible values: "0 .. 999999"
  - o Required access level: 3
  - Factory setting: "0"
- Interval
  - o Transfer interval for saving GPS positions
  - Possible values: "5s .. 300s"
  - Required access level: 3
  - Factory setting: "20s"
- Ping-Interval
  - Interval for the sending of special "Ping" data packets to maintain the connection to the LT server.
  - o Possible values: "10s .. 999s"
  - Required access level: 3
  - Factory setting: "120s"
- Distance
  - Definition of a distance to be travelled, after which a change in positional data will be recognised as movement.
  - o Possible values: "0m .. 99m"
  - Required access level: 3

• Factory setting: "50m"

#### Idle time

- o Transmission interval for stationary systems.
- o Possible values: "60s .. 900s"
- o Required access level: 3
- Factory setting: "60s"

## 13.2.2.7 >>> SETTINGS >>> Configuration >>> Interfaces >>> GSM



Fig. 80 : Menu Interfaces/GSM



13.2.2.7.1 >>> SETTINGS >>> Configuration >>> Interfaces >>> GSM >>> Status

Settings Configuration	Interfaces GSM Status
Device name	u-blox
IMSI	08442140
IMEI	70827169
RSSI	22
BER	99
Operator Info	+COPS: 0,0,"vodafone.de",7
Mode	Registered
SW-Version	M0.10.00 [Mar 28 2019 17:13:41]
фФП	Back

Fig. 81 : Menu Interfaces/GPS/General

- Display general GSM information.
- Required access level: 1
- Device name
  - o Internal name for GSM module
- IMSI
  - o International Mobile Subscriber Identity
  - o Unique identifier for GSM module
- IMEI
  - o International Mobile Equipment Identity
  - Unique 15-digit serial number, which allows every GSM- or UMTS device worldwide to be uniquely identified.
  - o Dependent on SIM card.
- RSSI
  - Received Signal Strength Indicator
  - o Display of signal quality.
- BER
  - o Bit Error Ratio
  - o Bit error ratio
- Operator Info
  - o Information about the GSM operator currently in use
  - 1:1 Feedback of the command "AT+COPS?"
- Mode
  - Current operating status of GSM module.
- SW-Version

- Version information for the GSM module's software.
- 13.2.2.7.2 >>> SETTINGS >>> Configuration >>> Interfaces >>> GSM >>> General

Settings Configuration	Interfaces GSM	General
PIN		
Data Number		
RSSI Check	30	sec
Baud Rate	57600	
SMS Service center	0	
Emergency-SMS		
Max. SMS repeat	3	
SMS-Test	Start	
Mobile Network Operator	standard Europe	
ф % # Ва	ck OK	

Fig. 82 : Menu Interfaces/GSM/General

- Configuration of the GSM module.
- PIN
  - Entry field for PIN number. Ignored on PIN-free SIM cards.
  - o Required access level: 3
  - o Factory setting: " "
- Data Number
  - Telephone number which can be used to connect to the system for remote access.
  - $\circ$  Important for remote access.
  - Required access level: 3
  - Factory setting: " "
- RSSI Check
  - o Interval for checking the signal strength of the GSM module in idle mode.
  - o Influences the up-to-dateness of the signal strength display on the GSM symbol.
  - Possible choices: "30s .. 180s"
  - Required access level: 3
  - Factory setting: "30s"
- Baud Rate
  - Baud rate for the local GSM module interface.
  - Possible values: "1200 .. 115200 baud"

- o Required access level: 3
- Factory setting: "57600baud"
- SMS Service center
  - If you want to use a number other than the default SMS Service Centre number, you can enter it here.
  - Must be entered in international format (e.g. +49...)
  - Required access level: 3
  - Factory setting: " "
- Emergency SMS
  - The destination number of the emergency SMS
  - Must be entered in international format (e.g. +49...)
  - Required access level: 3
  - o Factory setting: " "
- Max. SMS repeat
  - o Maximum number of SMS send attempts
  - Possible choices: "0 .. 10"
  - Required access level: 3
  - Factory setting: "0"
- Test-SMS
  - Transmission of a test SMS to the destination number specified in Emergency SMS.
  - Required access level: 3
- Mobile Network Operator
  - Definition of the "Mobile Network Operator" (MNO).
  - Required for configuration ("AT+UMNOPROF) if a 4G module is installed in the MultiTask.
  - Factory setting: "Standard Europe"

Parameter	Туре	Description
<mno></mno>	Number	Mobile Network Operator (MNO) profile:
		<ul> <li>0: undefined / regulatory. For more details, see Notes.</li> </ul>
		<ul> <li>1: SIM ICCID/IMSI select</li> </ul>
		<ul> <li>2: AT&amp;T</li> </ul>
		S: Verizon
		<ul> <li>4: Telstra</li> </ul>
		<ul> <li>5: T-Mobile US</li> </ul>
		6: China Telecom
		8: Sprint
		19: Vodafone
		<ul> <li>20: NTT DoCoMo</li> </ul>
		21: Telus
		<ul> <li>28: SoftBank</li> </ul>
		<ul> <li>31: Deutsche Telekom</li> </ul>
		S2: US Cellular
		<ul> <li>33: VIVO</li> </ul>
		<ul> <li>39: SKT</li> </ul>
		<ul> <li>44: Claro Brasil</li> </ul>
		<ul> <li>45: TIM Brasil</li> </ul>
		46: Orange France
		90: global
		<ul> <li>100: standard Europe</li> </ul>
		<ul> <li>101: standard Europe No-ePCO. The factory-programmed configuration of this</li> </ul>
		profile is the same of the standard Europe profile ( <mno>=100), but the ePCO is disabled.</mno>
		<ul> <li>102: standard JP (global)</li> </ul>
		<ul> <li>198: AT&amp;T 2-4-12. The factory-programmed configuration of this profile is the same of the AT&amp;T profile (<mno>=2), but the LTE band 5 is disabled.</mno></li> </ul>
		<ul> <li>201: GCF-PTCRB. This profile is meant only for conformance testing.</li> </ul>

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13.2.2.7.3 >>> SETTINGS >>> Configuration >>> Interfaces >>> GSM >>> GPRS



Fig. 83 : Menu Interfaces/GPRS/Status



13.2.2.7.3.1 >>> SETTINGS >>> Configuration >>> Interfaces >>> GSM >>> GPRS >>> Status



Fig. 84 : Menu Interfaces/GPRS/Status

- Displays general information about the status of the GPRS connection.
- Required access level: 1
- Mode
  - o Status of the GPRS connection
  - o "Offline": No GPRS connection present.
  - o "Online": GPRS connection present.
- Interface
  - o Internal identifier for the interface being used.
- TTY Device
  - o Internal identifier for the interface used by the PPP service.
- TX Speed
  - o Data transfer rate for the PPP connection.
- Local IP
  - o Local IP address of the PPP connection.
- Remote IP
  - Remote IP address of the PPP connection.
- 13.2.2.7.3.2 >>> SETTINGS >>> Configuration >>> Interfaces >>> GSM >>> GPRS >>> General

Configuration Interfaces	GSM	GPRS	General
User Name			
Password			
APN			
Authentication	None		
DNS 1			
DNS 2			
Dial-In Timeout	60		sec
Online Timeout	60		sec
4 % *	Back		
			112 A.

Fig. 85 : Menu Interfaces/GSM/GPRS/General

- Entry of parameters needed for GPRS communication.
- User Name
  - Username for GPRS dial-in.

- Depends on GSM provider.
- Commonly empty or "guest".
- Required access level: 3
- Factory setting: " "

#### Password

- Password for GPRS dial-in.
- Depends on GSM provider.
- o Commonly empty or "guest".
- Required access level: 3
- Factory setting: " "
- APN
  - Access Point Name
  - Depends on GSM provider.
  - Examples include "web.vodafone.de" and "internet.t-mobile".
  - Required access level: 3
  - Factory setting: " "
- Authentication
  - Type of user authentication for GPRS dial-in.
  - Problems with the GPRS dial-in connection may be caused by the use of different authentication methods.
  - o "None": Authentication explicitly deactivated for dial-in.
  - "PAP": "PAP" is explicitly defined as the authentication method for dial-in.
  - o "CHAP": "CHAP" is explicitly defined as the authentication method for dial-in.
  - o "Ignore AT command": The command to determine authentication method is not sent.
  - Required access level: 3
  - Factory setting: "None"
- DNS 1
  - Fixed IP address for the first DNS server.
  - IP address is optional.
  - Depends on GSM provider.
  - o Required access level: 3
  - Factory setting: " "
- DNS 1
  - Fixed IP address for the second DNS server.
  - IP address is optional.
  - Depends on GSM provider.
  - o Required access level: 3
  - Factory setting: " "

- Dial-In Timeout
  - Timeout for GPRS dial-in connection.
  - Possible values: "3 .. 60s"
  - Required access level: 3
  - Factory setting: "60s"
- Online Timeout
  - Inactivity timeout. GPRS connection is terminated if no data transferred for the specified time.
  - Direct dial-in for remote maintenance using the data number is only possible when no GPRS connection is active.
  - Required access level: 3
  - Factory setting: "10s"

## 13.2.2.8 >>> SETTINGS >>> Configuration >>> Interfaces >>> OBC

Settings	Configuration	Interfaces	овс	$\geq$
Interface		RS232/485		
TCP/IP-Port		8888		
¢ % \$	Ba	ck		



Determines interface used for OBC communication.

#### Interface

- "RS232/488": Combined RS232/485 interface. The "RS232" or "RS485" mode in the configuration of this interface is set under "interfaces/serial".
- o "RS232": OBC connected to RS232 interface.
- "Bluetooth": MultiTask communicates with OBC using the internal Bluetooth module.
- o "TCP/IP": The OBC is connected to the external Ethernet interface.
- $\circ$  "Off": There is no communication with a local OBC.
- Required access level: 3
- Factory setting: "RS232"

- ► TCP/IP port
  - If "TCP/IP" has been selected as "Interface", the port number to be used for communication must be entered here
  - o Required access level: 3
  - Factory setting: "8888"

## 13.2.2.9 >>> SETTINGS >>> Configuration >>> Interfaces >>> Serial



Fig. 87 : Menu Interfaces/Serial



13.2.2.9.1 >>> SETTINGS >>> Configuration >>> Interfaces >>> Serial >>> RS232

Settings	Configuration	Interfaces	Serial	RS232
Baud Rate		9600		
Data Bits		8		
Stop Bits		1		
Parity		No		
Flow Control		No		
- Jaco				
\$P\$	Ba	ck	ок	-

Fig. 88 : Menu Interfaces/Serial/RS232

- Configuration of RS232 interface
- Baud Rate
  - o Data transfer speed.
  - o Possible choices: "1200 .. 115200 baud"
  - o Required access level: 3
  - Factory setting: "57600baud"

#### Data Bits

- Number of data bits to be used.
- Possible choices: "7 .. 8"
- o Required access level: 3
- Factory setting: "8"

#### Stop Bits

- Number of stop bits to be used.
- Possible choices: "1 .. 2"
- Required access level: 3
- o Factory setting: "1"
- Parity
  - Choice of parity checking to be used.
  - "None": No parity checking used.
  - "Even": Checks require even parity.
  - o "Odd": Checks require odd parity.
  - o Required access level: 3

• Factory setting: "None"

#### Flow Control

- o Setting for data flow control to be used.
- "None": No flow control is used. This can result in transmission faults due to overflow of receiver buffer.
- "Xon/Xoff": Use of software flow control.
- Required access level: 3
- o Factory setting: "None"

## 13.2.2.9.2 >>> SETTINGS >>> Configuration >>> Interfaces >>> Serial >>> RS232/485

Settings Configuration	on Interfaces	Serial RS232/4
Interface Type	RS232	
Baud Rate	9600	
Data Bits	8	
Stop Bits	1	
Parity	No	
Flow Control	No	
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	Back OK	

Fig. 89 : Menu Interfaces/Serial/RS232/485

- Configuration of the combined RS232/485 interface
- Interface Type
  - Operating mode for combined RS232/485 interface.
  - "RS232": Interface is operating in "RS232" mode.
  - o "RS485": Interface is operating in "RS485" mode.
  - o Required access level: 3
  - Factory setting: "RS232"

Baud Rate

- o Data transfer speed.
- o Possible choices: "1200 .. 115200 baud"
- o Required access level: 3
- Factory setting: "9600baud"
- Data Bits
  - Number of data bits to be used.

- Possible choices: "7 .. 8"
- Required access level: 3
- Factory setting: "8"

#### Stop Bits

- Number of stop bits to be used.
- Possible choices: "1 .. 2"
- Required access level: 3
- Factory setting: "1"
- Parity
  - Choice of parity checking to be used.
  - o "None": No parity checking used.
  - o "Even": Checks require even parity.
  - o "Odd": Checks require odd parity.
  - Required access level: 3
  - o Factory setting: "None"
- Flow Control
  - Setting for data flow control to be used.
  - "None": No flow control is used. This can result in transmission faults due to overflow of receiver buffer.
  - o "Xon/Xoff": Use of software flow control.
  - Required access level: 3
  - Factory setting: "Xon/Xoff":

### 13.2.2.10 >>> SETTINGS >>> Configuration >>> Interfaces >>> USB



Fig. 90 : Menu Interfaces/USB

#### MultiTask ◀ ► Menu overview



13.2.2.10.1 >>> SETTINGS >>> Configuration >>> Interfaces >>> USB >>> Status

<b>←</b> Settings	Configuration	Interfaces	USB	Status
USB Status		Unknown		
43 \$		Back		

Fig. 91 : Menu Interfaces/USB/Status

- Display the status of the USB interface.
  - "Unknown": USB stick not connected or not recognised.
  - o "Connected": USB stick connected to MultiTask and recognised by system.
- Required access level: 1

13.2.2.10.2 >>> SETTINGS >>> Configuration >>> Interfaces >>> USB >>> General



Fig. 92 : Menu Interfaces/USB/General

"Init": Initialising the USB stick with the MultiTask directory structure required for data transfer.



- Fig. 93 : USB stick directory structure
- Required access level: 3
- "Clear & Init": In one step, any MultiTask folder structure present on the USB stick is deleted and recreated!
  - o Required access level: 3
- "Eject": Ends all read and write access to the USB stick so that it can be disconnected from the system without data loss.
  - o Required access level: 1

## 13.2.2.11 >>> SETTINGS >>> Configuration >>> Interfaces >>> VPN

Settings Configuration	Interfaces	VPN	
Enable	Yes	No	
Action after disconnection	No Action		
Server IP			
Server Port	1194		
dr ↔ u[] Back		ок	

Fig. 94 : Menu Interfaces/VPN

- Configuration of the OpenVPN interface
- Enable
  - o General (de)activation of the OpenVPN client
  - o "Yes": The OpenVPN client can be used for the remote access to the MultiTask
  - o "No": OpenVPN deactivated
  - If VPN is activated, the connection to the OpenVPN server is started via the "Remote access" area of the service menu. Alternatively by clicking on the GSM/GPS icons within the status screen.



- Required access level: 3
- Factory setting: " No"
- Action after disconnection
  - o Determines the action to be taken after an OpenVPN connection is terminated
  - "Logout": After the connection is terminated, the current user is logged out.

- "Logout if AccessLevel differs": After the end of the connection, the current user is logged out if the access level was changed during the existing VPN connection.
- o "Reboot": After the end of the connection, the MultiTask is restarted
- "Reboot if AccessLevel differs": After the connection has ended, the MultiTask is restarted if the access level was changed during the existing VPN connection.
- o "No action"
- o Required access level: 3
- Factory setting: "Logout"
- Server IP
  - o IP address of the OpenVPN server.
  - o Required access level: 3
  - Factory setting: " "
- Server Port
  - Port number of the OpenVPN server
  - o Required access level: 3
  - Factory setting: " "

## 13.2.3 >>> SETTINGS >>> Configuration >>> Driver List



Fig. 95 : Menu Driver List

At delivery, there are already standard users on the system for every access level. These are to be considered templates or examples. We recommend creating your own users on the system. User data for "Service" access must be notified to the workshop, so that workshop personnel will be able to work with the system.



13.2.3.1 >>> SETTINGS >>> Configuration >>> Driver List >>> Add

Settings Configuration	Driver Li	st Add	$\rightarrow$
User Name			
Password			
User Language	English		
Access Level	AccessLe	evel 1	
Remote User	Yes	No	
Default User	Yes	No	
ф Ф 🖇 📕	ack		

Fig. 96 : Menu Driver List/Add

- Up to 300 drivers can be stored in the MultiTask.
- User Name
  - Name of the user. Needed by the user to login.
  - o Required access level: 4
  - Factory setting: " "
- Password
  - o Password of the user. Needed by the user to login.
  - o Required access level: 4
  - Factory setting: " "

- User Language
  - Standard interface language for this user.
  - o Required access level: 4
  - Factory setting: "DE"
- Access Level
  - Set the access level for this user.
  - Available access levels:
    - "AccessLevel 1": "Driver". User without access to configuration. Sensor status can be checked for service purposes.
    - "AccessLevel 2": "Master-Driver". User with extended access rights. Sensor status can be checked for service purposes. Logbook can be checked and transmitted via GPRS.
    - "AccessLevel 3": "Service". Access to almost all parameters or, if W&M seal is set, to all non-W&M-relevant parameters, and to the service area. No access to price-sensitive and administrative parameters such as management of geofencing tables.
    - "AccessLevel 4": "Admin". Access to all non- W&M-relevant parameters.
    - "AccessLevel 5": "MultiTask W&M". Access to all parameters or, if W&M seal is set, to all non- W&M-relevant parameters. If W&M seal is set, AccessLevel automatically downgraded to '4'.
  - o Required access level: 4
  - Factory setting: "AccessLevel 1"
- Remote User
  - Determination of remote dial-in access for user. User data (username and password) for the user specified as "Remote User" must be provided for remote access
  - Required access level: 4
  - Factory setting: "No"
- Default User
  - o Determination of default user.
  - o Only one user can be defined as default user.
  - If login at system start is deactivated, the default user will be automatically logged in with the appropriate access level at system start.
  - o Required access level: 4
  - Factory setting: "Yes"

0

Information on the currently active user and access level is displayed on the transport screen. Switch between user info and time/date display by simply pressing the display area.







13.2.3.2 >>> SETTINGS >>> Configuration >>> Driver List >>> Modify

Settings C	onfiguration Driv	ver List Moo	lify	
MultiTask W&M	Admin	Service	Master-Driver	
Driver				
4 % \$		Back		

Fig. 98 : Menu Driver List/Modify

- Editing an already available user account
- Required access level: 4
- Users configured by default.
  - "MultiTask W&M"
    - Password: "654321"
    - Access-Level: '5'
    - User language: "German"
    - Remote User: "No"
    - Default User: "No"
  - o "Admin"
    - Password: "123456"
    - Access-Level: '4'
    - User language: "German"
    - Remote User: "No"
    - Default User: "No"
  - o "Service"
    - Password: "999999"
    - Access-Level: '3'
    - User language: "German"

- Remote User: "Yes"
- Default User: "No"
- o "Master-Driver"
  - Password: "111111"
  - Access-Level: '2'
  - User language: "German"
  - Remote User: "No"
  - Default User: "No"
- o "Driver"
  - Password: "000000"
  - Access-Level: '1'
  - User language: "German"
  - Remote User: "No"
  - Default User: "Yes"

Password	000000		
User Language	English		
Access Level	AccessLevel 1		
Remote User	Yes	No	
Default User	Yes	No	

Fig. 99 : Modify driver

## 13.2.3.3 >>> SETTINGS >>> Configuration >>> Driver List >>> Delete



Fig. 100 : Menu Driver list/Delete

- Select the user to be deleted.
- Required access level: 4
- Deletion of a user requires additional confirmation.



Fig. 101 : Deleting the "Admin" user

# 13.2.4 >>> SETTINGS >>> Configuration >>> Products



Fig. 102 : Menu Products



## 13.2.4.1 >>> SETTINGS >>> Configuration >>> Products >>> Show



Fig. 103 : Menu Products/Show

- Display available products.
- No manipulation of individual product parameters is possible.

Settings C	onfiguration Prod	ucts Show	рк
WM	nonWM	Additive	Pricing
\$P\$ \$	Bi	ack	

Fig. 104 : Selection of parameter area

- "WM"
  - W&M-relevant product parameters.
- "nonWM"
  - Non- W&M-relevant product parameters.
- \*Aditive
  - o W&M-relevant product parameters for additivation.
- "Pricing"
  - Parameters for price definition.

- Description of individual product parameters, "Add" see page 169.
- Required access level: 1

## 13.2.4.2 >>> SETTINGS >>> Configuration >>> Products >>> Add

Settings C	Configuration Pro	oducts Add	
Templates			
рк	SU 5	SU10	SUP
UDK	U100	Create new	
ф. Ф. \$	I	Back	



- Add new products on the basis of existing products.
  - o Choose existing product and adjust relevant parameters.
- "Create new"
  - o Add a new product without using an existing product as a template.
- Required access level: 3 or 5 for W&M-relevant systems

Settings Configuration	Products	Add	$\rightarrow$ c	Create new
Reference Product Name				
Product Code				
Product Type	Unknown			
Calculation Type	None			
Measuring Unit	Litres			
Compensation	Yes	No		
Compensation Temperature			°C	
Print only V0	Yes	No		

#### MN F19 011 EN || DOK-555

#### MultiTask ◀ ► Menu overview

Density		kg/m³	
Calculation Factor 1		x 10^-3	
Calculation Factor 2		x 10^-7	
Calculation Factor 3		x 10^-9	
Min. Temperature		°C	****
Max Tomporaturo		°C	
Max. Temperature		U.M.	
		μm	
Min. Product Temperature		-0	
Meter 1		2	~
Meter Factor 1			
Meter Factor 2			
Meter Factor 3			
Meter Factor 4			
Flow rate 1			• •
Flow rate 2			Ť
Flow rate 3			
Flow rate 4			
Copy from			
Copy from	Start		
Product Name			~~
Inactive	Yes No		
Inactive Density	Yes No	kg/m³	
Inactive Density Product Class	Yes No None	kg/m³	
Inactive Density Product Class Product Group	Yes No None All	kg/m³	
Inactive Density Product Class Product Group TAG Code	Yes No None All	kg/m³	~
Inactive Density Product Class Product Group TAG Code TAG Code	Yes No None All	kg/m³	~
Inactive Density Product Class Product Group TAG Code TAG Code OP Code	Yes No None All	kg/m³	~
Inactive Density Product Class Product Group TAG Code TAG Code OP Code Product link	Yes No None All O	kg/m³	~
Inactive Inactive Inactive Inactive Inactive Inactive Induct Class Incode IndG Code IndG Code IndG Code IndG Code Inth Inth Internative Product Loading 1	Yes No None All O	kg/m³	~
Inactive Inactive Inactive Inactive Inactive Inactive Induct Class Induct Class Induct Group IndG Code Ind	Yes         No           None	kg/m³	~

			· · · · · · · · · · · · · · · · · · ·	
Alternative Product Loading 4				
Alternative Product Loading 5				
Alternative Product Discharge 1				
Alternative Product Discharge 2				• •
Alternative Product Discharge 3				
Alternative Product Discharge 4	-			
Alternative Product Discharge 5			1	
Vapour Recovery Loading	Yes	No		
Vapour Recovery Discharge	Yes	No		~
Meter 1				
		_		
Metering System 1	Yes	No		
Unmetered	Yes	No		
Dry Hose	Yes	No		
Wet Hose	Yes	No	) ``	
Bypass	Yes	No		Ť
Dry Hose (pumped)	Yes	No		
Additional Hose 1	Yes	No		
Use ADD Pump				
Mix Ratio				
Reference Poduct Code				



#### MultiTask ◀ ► Menu overview

Price F	actor			Ν	
Tax				%	
4 3	44	Back	ок		

Fig. 106 : Parameter overview Products/Add

The product parameters displayed may vary according to activated basic functions (NoMix, MultiLevel, etc.).

#### W&M-relevant product parameters

- Reference Product Name
  - o Reference name for the product. Can only be changed if W&M seal is not active.
  - Required access level: 5
  - Factory setting: " "
- Product Code
  - Unique product identifier (e.g. PTB article ID).
  - o Required access level: 5
  - Factory setting: "0"
- Product Type
  - Category of product.
  - Possible choices:
    - "Unknown": Category not defined.
    - "Deactivated": Product is deactivated, cannot be selected in loading plan.
    - "Liquid product": For all measurable liquid products.
    - "Additive": Product for use as an additive.
    - "Piece goods"
  - Required access level: 5
  - Factory setting: "Deactivated"
- Calculation Type
  - $\circ$  Selection of the calculation type to be used for temperature compensation.
  - Possible choices:
    - "None": no temperature compensation
    - "API 54A": Temperature compensation according to API table 54A
    - "API 54B": Temperature compensation according to API table 54B
    - "API 54D": Temperature compensation according to API table 54D
    - "API 54X": Temperature compensation according to API table 54X
    - "API 6A": Temperature compensation according to API table 6A
    - "API 6B": Temperature compensation according to API table 6B

- "3rd degree polynomial" Temperature compensation according to 3rd degree polynomial ("Procedure 3")
- "Linear": Temperature compensation with linear approximation (Procedure 1)
- o Required access level: 5
- Factory setting: 'Linear'
- Measuring Unit
  - Unit of measure of the product
  - Possible choices:
    - → "Litres"
    - → "Millilitres"

    - → "Kilograms"
    - → "Cubic metres"
    - ➔ "Pieces"
  - Parameters only relevant for MultiFlow
  - Required access level: 5
  - Factory setting: "Litres"
- Compensation
  - o General activation and deactivation of temperature compensation for this pro-duct.
  - Required access level: 5
  - Factory setting: "No"
- Compensation Temperature
  - o Definition of the compensation temperature to be used for calculation.
  - Required access level: 5
  - Factory setting: "15°C"
- Print only V0
  - When printing a receipt, only the value for V0 is printed for this product!
  - o Required access level: 5
  - Factory setting: "No"
- Density
  - Mean density of the product.
  - o Required access level: 5
  - Factory setting: "846"
- Calculation Factor 1
  - o Calculation type "3rd degree polynomial"
    - Factor 1  $(A_1)$  for various products defined by PTB.
  - o Calculation type "Linear"
    - Factor 1 (k<sub>0E</sub>) for various products defined by PTB.

- o No differentiation between summer & winter
- o Required access level: 5
- Factory setting: "8.40E-04"
- Calculation Factor 2
  - o Calculation type "3rd degree polynomial"
    - Factor 1 (A<sub>2</sub>) for various products defined by PTB.
  - o Calculation type "Linear"
    - Not necessary.
  - No differentiation between summer & winter
  - o Required access level: 5
  - Factory setting: "0"
- Calculation Factor 3

0

- Calculation type "3rd degree polynomial"
  - Factor 1 (A<sub>3</sub>) for various products defined by PTB.
  - Calculation type "Linear"
  - Not necessary.
- o No differentiation between summer & winter
- o Required access level: 5
- Factory setting: "0"
- Min. Temperature
  - Minimal product temperature for calculation types "3rd degree polynomial" and "linear".
  - o Required access level: 5
  - Factory setting: "-20°C"
- Max. Temperature
  - Maximum product temperature for calculation types "3rd degree polynomial" and "linear".
  - Required access level: 5
  - Factory setting: "50°C"
- Float Correction
  - o Product-dependent corrective factor for floater immersion depth
  - o Parameters only relevant for MultiLevel
  - Required access level: 5
  - Factory setting: "0"
- Min. Product Temperature
  - Auto delivery end when temperature is not met. Valid range -20°C to 20°C. 99 disables this feature.
  - Parameters only relevant for MultiFlow
  - Required access level: 5

- Factory setting: "99"
- Meter Factor 1–4
  - Meter factors 1–4 for different flow velocities
  - Required access level: 5
  - Factory setting: "1"
- Flow rate 1–4
  - o Flow speed
  - Upper limit of the validity range for meter factor 1-4
  - Required access level: 5
  - Factory setting: "1000 L/min"
- Copy from
  - $\circ$   $\,$  For the transfer of meter factors and flow velocities from other products.
  - Required access level: 5

#### Non- W&M-relevant product parameters

- Product Name
  - Operator-specific name for product.
  - Products with unique reference names may have various names depending on the operator or the active user profile.
  - Required access level: 3
  - o Factory setting: " "
- Inactive
  - This switch allows a product stored in the product setup to be generally deactivated.
  - o Required access level: 3
  - Factory setting: "No"
- Product Class
  - Hazard class "None", "Al" or "AllI".
  - o Required access level: 3
  - o Factory setting: "None"
- Product Group
  - $\circ$  Set the product group.
  - Possible choices:
    - "All"
    - "Leaded"
    - "Unleaded"
    - "Lead replacement"
  - Required access level: 3
  - Factory setting: "Unleaded"

- TAG Code
  - Product-specific TAG code.
  - Possible values: "0 .. 255".
  - Required access level: 3
  - Factory setting: "0"
- OP Code
  - Product-specific OP code.
  - Possible choices: '0', '3', '5', '6', '9', '10', '12'
  - o Required access level: 3
  - Factory setting: "0"
- Product link
  - The product can be linked to an output. This output is activated whenever the product is discharged.
  - Required access level: 3
  - Factory setting: "0"
- Alternative Product Loading 1...5
  - o Definition of the valid alternative products for this product when loading.
  - Up to 5 alternative products are supported.

Since there is no coding at the tank farm for truck diesel, designation STD, it must be loaded with the diesel identifier. For this purpose, an alternative product must be set for STD. This is done as follows:

- Settings\Configuration\Products\Edit\STD\nonWM\Alternative Product
   Loading 1 = DK
- o Required access level: 3
- Factory setting: "0"
- Alternative Product Discharge 1...5
  - o Definition of the valid alternative products for this product when discharging.
  - Up to 5 alternative products are supported.

With regard to alternative products during discharge at the filling station, the following requirements may exist:

- Submission of STD in SUV ID
- Submission of STD in DK ID
- Submission of DK in SUV ID

The following settings must be made for this:

- Settings\Configuration\Products\Edit\SUV\nonWM\Alternative Product Discharge 1 = STD
- Settings\Configuration\Products\Edit\SUV\nonWM\Alternative Product Discharge 2 = DK

- Settings\Configuration\Products\Edit\DK\nonWM\Alternative Product Discharge 1 = STD
- Required access level: 3
- Factory setting: "0"
- Vapour Recovery Loading
  - Vapour recovery required during loading.
  - o Required access level: 3
  - Factory setting: "No"
- Vapour Recovery Discharge
  - Vapour recovery required during discharge.
  - o Required access level: 3
  - Factory setting: "No"
- Meter <x>
  - Product allocation to a metering system.
  - Parameters only relevant for MultiFlow
  - Required access level: 3
  - Factory setting: "No"
- Hose paths "unmetered", "dry hose", "wet hose" etc.
  - Metering system-dependent definition of the hose paths permitted for the delivery of this product.
  - o Selection depends on the hose paths configured in the metering system setup.
  - Parameters only relevant for MultiFlow
  - o Required access level: 3
  - o Factory setting: "Yes"
- Use ADD Pump
  - Specifies whether an additive should be included with this product via the additive pump
  - Possible values:
    - "---": No additive
    - Additive name: Name of the additive product to be used
  - o Parameters only relevant for MultiFlow
  - o Required access level: 3
  - Factory setting: "---"
- Mix Ratio
  - Mixing ratio of the additive in the ratio 1/<x>
  - o Parameters only relevant for MultiFlow
  - o Required access level: 3
  - Factory setting: "2000"
- Product Reference Code

- o Unique reference code for assigning base products for additive product mixtures.
- o W&M-relevant parameters only relevant for MultiFlow
- Required access level: 5
- Factory setting: " "
- Volume 1–5 & Price 1–5
  - Product price definition, optional specification of stepped prices (price depends on quantity dispensed).
  - o "Price 1": Price target for delivery quantities from '0'
  - "Volume 2–5" & "Price 2–5": Price specification for user-definable delivery quantities.
  - o Parameters only relevant for MultiFlow
  - o Required access level: 4
  - o Factory setting: "0"
- Price Factor
  - Definition of the number of discharge units to which the price calculation refers (price per 1, 10, 100, etc. units).
  - o Parameters only relevant for MultiFlow
  - o Required access level: 4
  - Factory setting: "1"
- Tax
  - Entering the VAT rate (percent)
  - Parameters only relevant for MultiFlow
  - o Required access level: 4
  - Factory setting: "19%"
## 13.2.4.3 >>> SETTINGS >>> Configuration >>> Products >>> Edit



Fig. 107 : Menu Products/Edit

Edit parameters for products already available.

Settings	Configuration Pro	oducts Edit	SU 5
WM	nonWM	Additive	Pricing
			5
¥ 95 \$		Back	

Fig. 108 : Selection of parameter area

#### **"**WM"

- o Calibration-relevant product parameters.
- o Required access level: 5
- "nonWM"
  - Non- W&M-relevant product parameters.
  - o Required access level: 3

- "Additive"
  - o Non W&M-relevant product parameters for determining the additive.
  - o Required access level: 3
- "Price"
  - Non W&M-relevant product parameters for determining the price.
  - o Required access level: 4
- Description of individual product parameters, "Add" see page 169.

### 13.2.4.4 >>> SETTINGS >>> Configuration >>> Products >>> Delete



Fig. 109 : Menu Products/Delete

- Select the product to be deleted.
- Deletion of a product requires additional confirmation.



Fig. 110 : Deleting the "Diesel" product

# 13.2.5 >>> SETTINGS >>> Configuration >>> Tank Truck



Fig. 111 : Menu Tank Truck





## 13.2.5.1 >>> SETTINGS >>> Configuration >>> Tank Truck >>> Tank Truck Setup

Settings Configuration	Tank Truck Tank Tru	ck Setup
Compartments	4	
Max. parallel Loadings	3	
Max. parallel Discharges	6	
Manual Loading Plan	Yes	
Timeout man. Loading Plan	60	min
Dead-Man Feature	Yes No	
Overfill Prevention	3	
Sensor Warning Delay	5	sec
Vapour Noozle	2	
Common Vapour	Yes No	
Wetleg Delay ON	7	sec
Wetleg Delay OFF	10	sec
Manifold Wetleg Delay ON	7	sec
Manifold Watlag Dalay OFF		
Manifold Wetleg Delay OFF		sec
Auto Mode Change	Ves No	
	Tes NO	
Pill Compartment	Compartments not empty	
Discharge on Loading Side	Yes No	
Loading Mode	Compartment	
Cabinet Door Timeout	60	min
Release Cabinet Door	Geofencing	
Close Comp. if Cabinet open	Yes No	
Pressure-compensated Bottom Valves	Yes No	
Namur Scan Interval	60	sec
Zoom Volume	Yes No	
Decimal Separator	,	
Volume Resolution	0	
Hide Tour Totalizer	Yes No	

#### MultiTask ◀ ► Menu overview

Timeout Mode Change Pressure	High 1	min
Timeout Delivery-Mode	0	min
\$P € ∎	Back	ок

Fig. 112 : Menu Tank truck/Tank Truck Setup

- Setting vehicle-specific parameters.
- Compartments
  - o Number of tank compartments.
  - Possible values: "1 .. 24"
  - Required access level: 5
  - Factory setting: "4"
- Max. parallel Loadings
  - This parameter allows the number of simultaneous loading processes to be restricted.
  - Possible choices: "1 .. 6"
  - Required access level: 3
  - Factory setting: "1"
- Max. parallel Discharges
  - This parameter allows the number of simultaneous discharging processes to be restricted.
  - Possible choices: "1 .. 6"
  - Required access level: 3
  - Factory setting: "1"
- Manual Loading Plan
  - o This parameter allows manual entry of the loading plan to be enabled.
  - "No": Manual entry of loading plan is not possible.
  - "Yes": Manual entry of loading plan is possible. Menu entry "Loadingplan" is available in Setup.
  - "Yes with volume specification": The loading plan and associated (optional) loading quantity can be entered manually. Menu entry "Loadingplan" is available in Setup.
  - "Mandatory": Manual entry of loading plan is mandatory. Before every loading process, the loading plan entry screen is displayed automatically. See page 220.
  - o Required access level: 3
  - Factory setting: "No"
- Timeout man. Loading Plan
  - The time set here determines when a compartment is automatically closed after a loading plan is manually entered.
  - Possible values: "10 minutes .. 60 minutes"
  - Required access level: 3

- Factory setting: "10min"
- Dead-Man Feature
  - o Activation of the dead-man function for discharging.
  - o "Yes": Dead-man function activated for discharging.
  - "No": Dead-man function deactivated.
  - Required access level: 3
  - Factory setting: "No"
- Overfill Prevention
  - Number of available overfill prevention sensors (GWGs).
  - Possible choices: "0 .. 4"
  - Required access level: 3
  - Factory setting: "0"
- Sensor Warning Delay
  - Delay before a warning is issued between switching an output and the sensor event that is not suitable for this purpose
  - o Only affects floor and flow valves and corresponding sensors!
  - o Required access level: 3
  - Factory setting: "0"
- Vapour Noozle
  - Number of available vapour recovery lines.
  - Possible choices: "0 .. 4"
  - Required access level: 3
  - Factory setting: "0"
- Common Vapour
  - Common vapour recovery line available.
  - "No": No common vapour recovery line available.
  - o "Yes": Common vapour recovery line available.
  - o Required access level: 3
  - Factory setting: "No"
- Wetleg Delay ON
  - The time set here is the delay time between the wetleg sensor changing from empty to full and the processing of this change.
  - Possible choices: "7s .. 10s"
  - Required access level: 5
  - Factory setting: "7s"
- Wetleg Delay OFF
  - The time set here is the delay time between the wetleg sensor changing from full to empty and the processing of this change.
  - Possible choices: "0s .. 60s"
  - Required access level: 5

- Factory setting: "30s"
- Manifold Wetleg Delay ON
  - The time set here is the delay time between the manifold wetleg sensor changing from empty to full and the processing of this change.
  - Possible choices: "7s .. 10s"
  - Required access level: 5
  - Factory setting: "7s"
- Manifold Wetleg Delay OFF
  - The time set here is the delay time between the manifold wetleg sensor changing from full to empty and the processing of this change.
  - Possible choices: "0s .. 60s"
  - Required access level: 5
  - Factory setting: "30s"
- Auto. Mode Change
  - Depending on the state of the system, it changes automatically to load or discharge mode.
  - "No": System does not automatically change to load or discharge mode.
  - o "Yes": Automatic change allowed.
  - Required access level: 3
  - Factory setting: "No"
- Pipe Monitoring
  - When determining and displaying the compartment status "wet", "dry" or "residual", the wetleg sensor status is considered in conjunction with the status of the respective bottom valve. If pipe supervision is activated, a compartment is only reported as empty when the wetleg sensor reports "empty" with an open bottom valve. Otherwise, it shows "full" or "residual".
  - o "No": Supervision not active.
  - o "Yes": Supervision active.
  - Required access level: 3
  - Factory setting: "No"
- Fill Compartment
  - This parameter determines when a compartment may not be loaded. There is a difference between the load status of the compartment (above the bottom valve) and the load status of the pipes (below the bottom valve).
  - "Compartments not empty": It is permissible to load all compartments (including nonempty compartments), regardless of the load status of compartment and pipes.
  - "Only empty compartments": Only empty compartments may be loaded. If a compartment is not empty or there is residual product in the pipes, the compartment cannot be loaded.
  - "With rest amount": A compartment may also be filled if the compartment itself is empty but there is still residual product in the pipes.
  - Required access level: 3
  - Factory setting: "With non-empty compartment"
- Discharge on Loading Side

- General activation of load-side discharge.
- o "No": Discharge not possible via the load coupling.
- o "Yes": Discharge possible via the load coupling.
- Required access level: 3
- Factory setting: "Yes"
- Loading Mode
  - This parameter sets the loading mode. It has an effect on valve control during loading.
  - "Compartment": Loading takes place by compartment. The bottom valves and the loading permission valve are activated. This setting must be applied if there is no tank truck overfill prevention installed, or if the level scanner and control blocks for the overfill prevention are each governed by their own compartment solenoid valve.
  - "Truck": Loading is managed by NoMix on a tank truck basis. Only the loading permission valve is switched. This releases air to the control blocks on the truck-side overfill prevention, whereby the control blocks then open the bottom valves.
  - Required access level: 3
  - Factory setting: "Compartment"
- Cabinet Door Timeout
  - Timeout for automatic locking of cabinet door.
  - Possible values: "0min 60min"
  - Required access level: 3
  - Factory setting: "0min"
- Release Cabinet Door
  - Set the conditions for automatic unlocking of cabinet doors.
  - o "Always": Cabinet doors are always unlocked by system.
  - "Loading/Delivery": Cabinet doors are unlocked when switching to loading or discharge mode.
  - "Geofencing": Cabinet doors are only unlocked when the system is in a location listed in the geofencing table.
  - "Geofencing & Loading/Delivery": Cabinet doors are only unlocked when switching to loading or discharge mode or when the system is in a location listed in the geofencing table.
  - Required access level: 3
  - Factory setting: "Loading/Discharge Mode":
- Close Comp. if Cabinet open
  - Set whether the bottom valves close as soon as the opposite cabinet door is opened.
  - "No": Opening a cabinet door has no effect on the bottom valves.
  - "Yes": Bottom valves close as soon as the opposite cabinet door is opened.
  - Required access level: 3
  - Factory setting: "No"
- Pressure-compensated Bottom Valves

- o Set whether pressure-balanced bottom valves are activated.
- o "No": No pressure-balanced bottom valves are used.
- "Yes": Pressure-balanced bottom valves are used.
- Required access level: 3
- Factory setting: "No"
- Namur Scan Interval
  - o Sensor interface-specific setting of the sensor scan interval
  - Possible choices: "1-999min"
  - Required access level: 3
  - Factory setting: "60s"
- Zoom Volume
  - $\circ$   $\;$  Activate the optional magnified display of measured volume.
  - o "No": Selecting the volume display does not cause it to be magnified.
  - "Yes": Selecting the volume display causes it to be magnified. Re-selecting it returns the display to normal size.
  - Required access level: 3
  - Factory setting: "Yes"
- Decimal Separator
  - o Function not supported
- Volume Resolution
  - o Number of decimal places in compartment overview
  - Possible choices: "0 .. 3"
  - Required access level: 5
  - Factory setting: "0"
- Hide Tour Totalizer
  - The "Tour" total accumulator does not appear in the total counter display
  - o Required access level: 3
  - o Factory setting: "No"
- Timeout Mode Change High Pressure
  - Timeout until automatic termination of delivery or loading after loss of main compressed air
  - Required access level: 3
  - Factory setting: "0min"
- Timeout Delivery-Mode
  - Timeout in discharge mode.
  - Timer is started when switching to discharge. If a timeout is defined, a presence query is displayed when the time is reached. This must be confirmed by the user. If this is not confirmed within 30 secs, all active deliveries will be paused. If the user does not confirm within another 5 min, an alarm SMS is sent.
  - See also page 230

- Possible values: "0 min" (off) .. "120min"
- Factory setting: "0min"

## 13.2.5.2 >>> SETTINGS >>> Configuration >>> Tank Truck >>> Sensor State

<b>E</b> Settings	Configuration Tan	k Truck Senso	r State
General	Compartments	Meters	
¢r ≪ *	E	Back	

Fig. 113 : Menu Tank Truck/Sensor State



13.2.5.2.1	>>>	SETTINGS >>> Configuration >>> Tank Truck >>>	
Ser	nsor	State >>> General	

Settings Con	figuration Tank Truck	Sensor State	General
	- TAG-Interface		
Vapour 1	Passive		
Vapour 2	Passive		
Vapour 3	Passive		
Vapour 4	Passive		
Common Vapour	Passive		
Meter 1	Passive		
	Wetleg-Interface		
High Pressure	Passive		
	AS-Interface		
Overfill1 Connected	0		
Overfill1 Valid	0		
Overfill1 Dry	0		Ň
Overfill1 No Error	1		
Overfill1 Product	0		
Overfill1 Product Delay	0		
Overfill2 Connected	0		
Overfill2 Valid	0		
Overfill2 Dry	0		
Overfill2 No Error	1		
Overfill2 Product	0		
Overfill2 Product Delay	/ O		
Overfill3 Connected	0		
Overfill3 Valid	0		
Overfill3 Dry	0		
Overfill3 No Error	1		
Overfill3 Product	0		
Overfill3 Product Delay	0		

IO-Interfa	ICE	
Permission Loading	Passive	
Permission Discharge	Passive	
Cabinet	Passive	
Release Meter 1	Passive	
Manifold Pump Output	Passive	
Manifold Output - Pumped Delivery	Passive	
Manifold Output - Gravity Delivery	Passive	
Delivery Timeout	Passive	
Sensor-Inte	rface	
Loading Signal	Passive	
Discharge Signal	Passive	
Brake	Passive	
Cabinet Left	Passive	
Cabinet Right	Passive	
Misc		
Pitch	٥ .	
Roll	0.3	
Slope	Value '0.1' not supported!	
\$\$ \$	Back	

Fig. 114 : Menu Tank Truck/Sensor State/General

- Display of vehicle-specific outputs and sensors.
- Required access level: 1

13.2.5.2.2 >>> SETTINGS >>> Configuration >>> Tank Truck >>> Sensor State >>> Compartments



Fig. 115 : Menu Tank Truck/Sensor State/Compartments

Configuration Tank Tru	ick Sensor State	Compartments Compartm	nent 1
T/	AG-Interface		
TAG Serial	0		
TAG Vendor ID	0		
TAG Product	68		
TAG State	Active		
We	tleg-Interface		
Wetleg 1	Wet		
Wetleg 2	Disconnected		
Wetleg 3	Disconnected		
[(	O-Interface		
Bottom Value	Passive		
Line Valve	Passive		
Collector Valve Meter 1	Passive		••
		-	•••
Ser	nsor-Interface		
Bottom Value Sensor	Passive		
Line Valve Sensor	Passive		
Collector Valve Meter 1	Passive		
Manlid	Passive		
API	Passive		

API	Passive		
Level-Int	terface		
Temperature	0.0	°C	
Temperature Sensor	Connected		~
Dipstick	100	μm	
Level State	Connected		
Level State W&M	Connected		
Level Sensor State	Stable		
Level CRC	0xF753		
Level Serial	9306		
Level Parameter CRC	0x0		
Level Firmware	3.55		
Level Firmware CRC	0xADEC		
中 0	Back		

Fig. 116 : Menu Tank Truck/Sensor State/Compartments/Compartment 1

- Display of compartment-specific outputs and sensors.
- Here as an example Compartment 1.
- Required access level: 1
- 13.2.5.2.3 >>> SETTINGS >>> Configuration >>> Tank Truck >>> Sensor State >>> Meters

Configuration Tank Truck	Sensor State	Meters	Meter 1
FP	I-Interface		
Serial Number			
Pul	se counter		100
Puls counter	0		
Puls counter return flow	0		
Error Counter	0		
Status Pulse Counter A	Passive		~
Status Pulse Counter B	Passive		

#### MultiTask ◀ ► Menu overview

Temp.	Sensor		
Temperature	0.00	°C	
Offset 0°C	0.00	°C	
Offset 100°C	0.00	°C	
Sto	orage		Ň
Overfill1 No Error	1		
Overfill1 Product	0		
Overfill1 Product Delay	0		
Overfill2 Connected	0		
Overfill2 Valid	0		Ň
Overfill2 Dry	0		
Overfill2 No Error	1		
Overfill2 Product	0		
Overfill2 Product Delay	0		
Overfill3 Connected	0		$\sim$
D (D )			
Pos. 1 Dual-Hose Outlet	Passive		
Pos. 2 Dual-Hose Outlet	Passive		
Unmetered	Passive		
Overf	fill Prev		$\sim$
OP-Amplifier Status	Passive		
Additiv	ve Pump		
ADD pump OUT	Passive		
Idle Position	Passive		
End Position	Passive		
Filling Level	Passive		
Dra	aining		
Sensor Input	Passive		
Drain Pump	Passive		
IO-In	terface		~
Additional Hose 1 Name			



Figure 117: Tank Truck/Sensor State/Meters/Meter 1 menu

- Display of vehicle-specific outputs and sensors.
- Here, using the example of metering system 1
- Required access level: 1

## 13.2.5.3 >>> SETTINGS >>> Configuration >>> Tank Truck >>> Sensor Setup



Fig. 118 : Menu/Tank truck/Sensor setup



#### MultiTask ◀ ► Menu overview



## 13.2.5.3.1 >>> SETTINGS >>> Configuration >>> Tank Truck >>> Sensor Setup >>> General

Settings Configuration	Tank Truck Se	nsor Setup General
TAG-Interfa	ce	
Vapour 1	0	
Vapour 2	0	
Vapour 3	0	
Vapour 4	0	
Common Vapour	0	
Meter 1	0	
Wetleg-Interf	ace	
High Pressure	1	
Manifold Wetleg	6	
IO-Interfac	e	
Permission Loading	0	
Permission Discharge	0	
Cabinet	0	
Release Meter 1	0	
Release Meter 2	0	
Manifold Pump Output	0	
Manifold Output - Pumped Delivery	0	
Manifold Output - Gravity Delivery	0	
Delivery Timeout	0	

Sensor-Interf	ace
Loading Sensor	0
Loading Sensor Type	Digital CLOSE
Discharge Sensor	0
Discharge Sensor Type	Digital CLOSE
Brake Sensor	0
Brake Sensor Type	Digital CLOSE
Cabinet Left Sensor	39
Cabinet Left Sensor Type	Digital CLOSE
Cabinet Right Sensor	40
Cabinet Right Sensor Type	Digital CLOSE
Manifold API Sensor	20
Manifold API Sensor Type	Digital CLOSE
Emergency Release Sensor	19
Emergency Release Sensor Type	Digital CLOSE
¢r ⊗ u∐ Back	ок

Fig. 119 : Menu/Tank truck/Sensor setup/General

- Definition of vehicle-specific outputs and sensors.
- Vapour <x>
  - Type: Input
  - Number of the input on the TAG interface used for vapour recovery line <x>.
  - Possible values: Input '0' to '14' of the TAG interface.
  - o Required access level: 3
  - o Factory setting: "0"
- Common Vapour
  - o Type: Input
  - $\circ$   $\;$  Number of the input on the TAG interface used for common vapour.
  - o Possible values: Input '0' to '14' of the TAG interface
  - o Required access level: 3
  - Factory setting: "0"
  - Factory setting: "0"
- Meter <x>
  - o Type: Input
  - Number of the TAG interface input used for metering system <x>.
  - o Possible values: Input '0' to '14' of the TAG interface
  - Required access level: 3

- Factory setting: "0"
- High Pressure
  - o Type: Input
  - Number of the wetleg sensor interface used for the main air pressure sensor.
  - Possible values: First input of the first interface ('1') to last input of the fourth interface ('8'). If unused, '0'.
  - Required access level: 3
  - Factory setting: "0"
- Manifold Wetleg
  - o Type: Input
  - o Number of the wetleg sensor interface used for the manifold wetleg sensor.
  - Possible values: First wetleg sensor input of the first interface ('1') to last input of the fourth interface ('24'). If unused, '0'.
  - Erforderlicher Zugriffslevel: 5
  - Werkseinstellung: "0"
  - Permission Loading
    - o Type: Output
    - o Number of the IO interface output used for granting permission to load.
    - Possible values: First input of the first interface ('1') to last input of the fourth interface ('32'). If unused, '0'.
    - Required access level: 3
    - Factory setting: "0"
  - Permission Discharge
    - o Type: Output
    - Number of the IO interface output used for granting permission to discharge.
    - Possible values: First input of the first interface ('1') to last input of the fourth interface ('32'). If unused, '0'.
    - Required access level: 3
    - Factory setting: "0"

#### Release Meter <x>

- o Type: Output
- $\circ$  Number of the I/O interface output used for granting permission for metering system <x>.
- Possible values: First input of the first interface ('1') to last input of the fourth interface ('32'). If unused, '0'.
- o Required access level: 3
- Factory setting: "0"
- Cabinet
  - o Type: Output
  - Number of the IO interface output used for granting permission for the cabinet door.

- Possible values: First input of the first interface ('1') to last input of the fourth interface ('32'). If unused, '0'.
- Required access level: 3
- Factory setting: "0"
- Manifold Pump Output
  - Type: Output
  - Number of the IO interface output used for manifold pump control.
  - Possible values: First input of the first interface ('1') to last input of the fourth interface ('32'). If unused, '0'.
  - Required access level: 3
  - Factory setting: "0"
- Manifold Output Pumped Delivery
  - o Type: Output
  - $\circ$   $\;$  Number of the IO interface output used for pumped delivery via manifold.
  - Possible values: First input of the first interface ('1') to last input of the fourth interface ('32'). If unused, '0'.
  - Required access level: 3
  - Factory setting: "0"
- Manifold Output Gravity Delivery
  - Type: Output
  - o Number of the IO interface output used for gravity delivery via manifold.
  - Possible values: First input of the first interface ('1') to last input of the fourth interface ('32'). If unused, '0'.
  - o Required access level: 3
  - Factory setting: "0"

- Delivery Timeout
  - Type: Output
  - Number of the IO interface output to be used when the timeout occurs in delivery mode.
  - Possible values: First input of the first interface ('1') to last input of the fourth interface ('24'). If unused, '0'.
  - Required access level: 3
  - Factory setting: "0"
- Loading
  - Type: Input
  - o Number of the input on the sensor interface used for the loading sensor.
  - Possible values: First input of the first interface ('1') to last input of the fourth interface ('80'). If unused, '0'.
  - o Required access level: 3
  - Factory setting: "0"
- Loading Type
  - o Definition of sensor type
  - o "Namur OPEN"
  - o "Namur CLOSE"
  - o "Digital OPEN"
  - o "Digital CLOSE"
  - o Required access level: 3
  - Factory setting: "Digital CLOSE"
- Discharge
  - o Type: Input
  - o Number of the input on the sensor interface used for the discharge sensor.
  - Possible values: First input of the first interface ('1') to last input of the fourth interface ('80'). If unused, '0'.
  - Required access level: 3
  - Factory setting: "0"
- Discharge Type
  - o Definition of sensor type
  - "Namur OPEN"
  - o "Namur CLOSE"
  - o "Digital OPEN"
  - o "Digital CLOSE"
  - Required access level: 3
  - Factory setting: "Digital CLOSE"

Brake

- Type: Input
- Number of the input on the sensor interface used for the handbrake sensor.
- Possible values: First input of the first interface ('1') to last input of the fourth interface ('80'). If unused, '0'.
- Required access level: 3
- Factory setting: "0"
- Brake Sensor Type
  - o Definition of sensor type
  - o "Namur OPEN"
  - o "Namur CLOSE"
  - o "Digital OPEN"
  - o "Digital CLOSE"
  - o Required access level: 3
  - Factory setting: "Digital CLOSE"
- Cabinet Left
  - o Type: Input
  - Number of the input on the sensor interface used for the left-hand cabinet door sensor.
  - Possible values: First input of the first interface ('1') to last input of the fourth interface ('80'). If unused, '0'.
  - Required access level: 3
  - Factory setting: "0"
- Cabinet Left Type
  - o Definition of sensor type
  - o "Namur OPEN"
  - o "Namur CLOSE"
  - o "Digital OPEN"
  - o "Digital CLOSE"
  - Required access level: 3
  - Factory setting: "Digital CLOSE"
- Cabinet Right
  - Type: Input
  - Number of the input on the sensor interface used for the right-hand cabinet door sensor.
  - Possible values: First input of the first interface ('1') to last input of the fourth interface ('80'). If unused, '0'.
  - Required access level: 3
  - Factory setting: "0"

- Cabinet Right Sensor type
  - Definition of sensor type
  - o "Namur OPEN"
  - o "Namur CLOSE"
  - o "Digital OPEN"
  - o "Digital CLOSE"
  - Required access level: 3
  - Factory setting: "Digital CLOSE"
- Manifold API
  - o Type: Input
  - Number of the input on the sensor interface used for the API sensor of the manifold.
  - Possible values: First input of the first interface ('1') to last input of the fourth interface ('80'). If unused, '0'.
  - Required access level: 3
  - Factory setting: "0"
- Manifold API sensor type
  - Definition of sensor type
  - o "Namur OPEN"
  - "Namur CLOSE"
  - o "Digital OPEN"
  - "Digital CLOSE"
  - o Required access level: 3
  - Factory setting: "Digital CLOSE"
- Emergency Release
  - o Type: Input
  - o Number of the sensor interface input used for the emergency release sensor.
  - Possible values: First input of the first interface ('1') to last input of the fourth interface ('80'). If unused, '0'.
  - o Required access level: 3
  - o Factory setting: "0"
- Emergency Release Sensor Type
  - Definition of sensor type
  - o "Namur OPEN"
  - o "Namur CLOSE"
  - o "Digital OPEN"
  - "Digital CLOSE"
  - Required access level: 3
  - o Factory setting: "Digital CLOSE"



## 13.2.5.3.2 >>> SETTINGS >>> Configuration >>> Tank Truck >>> Sensor Setup >>> Compartments

Fig. 120 : Menu/Tank Truck/Sensor Setup



Sensor-Interf	ace	
Bottom Valve Sensor	1	••••
Bottom Valve Sensor Type	Digital CLOSE	
Line Valve Sensor	21	
Line Valve Sensor Type	Digital CLOSE	
Collector Valve Meter 1 Sensor	0	
Collector Valve Meter 1 Sensor Type	Digital CLOSE	
Collector Valve Meter 2 Sensor	0	
Collector Valve Meter 2 Sensor Type	Digital CLOSE	
Manifold Valve Sensor	0	
Manifold Valve Sensor Type	Digital CLOSE	
Manlid Sensor	2	••••
Manlid Sensor Type	Digital CLOSE	
API Sensor	3	
API Sensor Type	Digital CLOSE	
Level-Interface		
Temperature	0	
Dipstick	1	
dr ⇔u∏ Back	ОК	

Fig. 121 : Menu/Tank Truck/Sensor Setup/Compartments/Compartment 1

- Definition of compartment-specific outputs and sensors.
- Here as an example Compartment 1.
- TAG Scanner
  - o Type: Input
  - o Number of the input on the TAG interface used for the TAG scanner.
  - Possible values: Input '0' to '14' of the TAG interface.
  - o Required access level: 3
  - Factory setting: "0"
- Wetleg 1
  - o Type: Input
  - Number of the input used for the 1st wetleg sensor of the wetleg sensor interface.
  - Possible values: First input of the first interface ('1') to last input of the fourth interface ('24'). If unused, '0'.
  - o Required access level: 5
  - Factory setting: "0"

Wetleg 2

- o Type: Input
- o Number of the input used for the 2nd wetleg sensor of the wetleg sensor interface.
- Possible values: First input of the first interface ('1') to last input of the fourth interface ('24'). If unused, '0'.
- Required access level: 5
- o Factory setting: "0"
- Wetleg 3
  - o Type: Input
  - Number of the input used for the 3rd wetleg sensor of the wetleg sensor interface.
  - Possible values: First input of the first interface ('1') to last input of the fourth interface ('24'). If unused, '0'.
  - Required access level: 5
  - Factory setting: "0"
- Bottom Valve Output
  - o Type: Output
  - o Number of the IO-interface output used to control the bottom valve.
  - Possible values: First input of the first interface ('1') to last input of the fourth interface ('32'). If unused, '0'.
  - o Required access level: 3
  - o Factory setting: "0"
- Line Valve Output
  - Type: Output
  - o Number of the IO-interface output used to control the line valve.
  - Possible values: First input of the first interface ('1') to last input of the fourth interface ('32'). If unused, '0'.
  - o Required access level: 3
  - Factory setting: "0"
- Collector Valve Meter <x> Output
  - o Type: Output
  - Number of the I/O interface output used to actuate the metering system-dependent collector valve.
  - Possible values: First input of the first interface ('1') to last input of the fourth interface ('32'). If unused, '0'.
  - Required access level: 3
  - o Factory setting: "0"
- Manifold Valve Output
  - o Type: Output
  - Number of the I/O interface output used to actuate the manifold valve.

- Possible values: First input of the first interface ('1') to last input of the fourth interface ('32'). If unused, '0'.
- Required access level: 3
- Factory setting: "0"
- Bottom Valve Sensor
  - o Type: Input
  - o Number of the input on the sensor interface used for the bottom valve sensor.
  - Possible values: First input of the first interface ('1') to last input of the fourth interface ('80'). If unused, '0'.
  - Required access level: 3
  - Factory setting: "0"
- Bottom Valve Sensor Type
  - Definition of sensor type
  - o "Namur OPEN"
  - o "Namur CLOSE"
  - o "Digital OPEN"
  - o "Digital CLOSE"
  - Required access level: 3
  - Factory setting: "Digital CLOSE"
- Line Valve Sensor
  - o Type: Input
  - $\circ$   $\;$  Number of the input on the sensor interface used for the line valve sensor.
  - Possible values: First input of the first interface ('1') to last input of the fourth interface ('80'). If unused, '0'.
  - o Required access level: 3
  - Factory setting: "0"
- Line Valve Sensor Type
  - Definition of sensor type
  - o "Namur OPEN"
  - o "Namur CLOSE"
  - o "Digital OPEN"
  - o "Digital CLOSE"
  - Required access level: 3
  - Factory setting: "Digital CLOSE"
- Collector Valve Meter <x>
  - o Type: Input
  - Number of the input on the sensor interface used for the metering system-dependent collector valve sensor.
  - Possible values: First input of the first interface ('1') to last input of the fourth interface ('80'). If unused, '0'.

- o Required access level: 3
- Factory setting: "0"
- Collector Valve Meter <x> Type
  - o Definition of sensor type
  - "Namur OPEN"
  - o "Namur CLOSE"
  - "Digital OPEN"
  - o "Digital CLOSE"
  - Required access level: 3
  - Factory setting: "Digital CLOSE"
- Manifold Valve Sensor
  - o Type: Input
  - o Number of the input on the sensor interface used for the manifold valve sensor.
  - Possible values: First input of the first interface ('1') to last input of the fourth interface ('80'). If unused, '0'.
  - Required access level: 3
  - Factory setting: "0"
- Manifold Valve Sensor Type
  - Definition of sensor type
  - o "Namur OPEN"
  - o "Namur CLOSE"
  - o "Digital OPEN"
  - o "Digital CLOSE"
  - o Required access level: 3
  - o Factory setting: "Digital CLOSE"
- Manlid
  - o Type: Input
  - o Number of the input on the sensor interface used for the Manlid sensor.
  - Possible values: First input of the first interface ('1') to last input of the fourth interface ('80'). If unused, '0'.
  - Required access level: 3
  - Factory setting: "0"
- Manlid Sensor Type
  - o Definition of sensor type
  - o "Namur OPEN"
  - o "Namur CLOSE"
  - o "Digital OPEN"
  - o "Digital CLOSE"
  - Required access level: 3

• Factory setting: "Digital CLOSE"

> API

- o Type: Input
- $\circ$   $\;$  Number of the input on the sensor interface used for the API sensor.
- Possible values: First input of the first interface ('1') to last input of the fourth interface ('80'). If unused, '0'.
- o Required access level: 3
- Factory setting: "0"
- API Sensor Type
  - o Definition of sensor type
  - o "Namur OPEN"
  - o "Namur CLOSE"
  - o "Digital OPEN"
  - o "Digital CLOSE"
  - o Required access level: 3
  - Factory setting: "Digital CLOSE"
- Temperature
  - o Type: Input
  - Number of the temperature sensor input on the level interface used for the temperature sensor.
  - Possible values: First input of the first interface ('1') to last input of the fourth interface ('24'). If unused, '0'.
  - Required access level: 5
  - Factory setting: "0"
- Dipstick
  - o Type: Input
  - o Number of the input on the level interface used for the level gauge (dipstick)
  - Possible values: First input of the first interface ('1') to last input of the fourth interface ('32') If unused, '0'.
  - Required access level: 5
  - Factory setting: "0"

# 13.2.5.3.3 >>> SETTINGS >>> Configuration >>> Tank Truck >>> Sensor setup >>> Meters

- Settings
   Configuration
   Tank Truck
   Sensor Setup
   Meters
- Definition of metering system-specific outputs and sensors.

Fig. 122 : Tank Truck/Sensor Setup/Meters menu

Configuration Tank Truck		Meter 1
Pulse col	unter	
Sensor Type	Eltomatic (NPN)	
Pulse OUT divider / 2	2	
Hose	s	
Wet Hose	0	
Wet Hose High-Flow	0	
Dry Hose	0	
Dry Hose High-Flow	0	
Bypass	0	
Pos. 1 Dual-Hose Outlet	0	
Pos. 2 Dual-Hose Outlet	0	
Unmetered	0	
Overfill Prev		
OP-Amplifier Input		
Additive F	'ump	
ADD pump OUT	0	
Idle Position	0	~
Idle Position Type	NPN	

#### MultiTask ◀ ► Menu overview

End Position	0
End Position Type	NPN
Filling Level	0
Filling Level Type	NPN
Draining	
Sensor Input	0
Sensor Input Type	NPN
Drain Pump	0
IO-Interfac	ie
Additional Hose 1 Name	
Additional Hose 1	0
Additional Hose 1 High-Flow	0
Additional Hose 2 Name	
Additional Hase 2	0
Additional Hose 2	•
Additional Hose 2 High-Flow	0
Additional Hose 3 Name	
Additional Hose 3	0
Additional Hose 3 High-Flow	0
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Fig. 123 : Tank Truck/Sensor Setup/Meters/Meters 1 menu

- Definition of metering system-specific outputs and sensors.
- Here, using the example of metering system 1

--- Pulse counter ---

- Sensor Type
  - o Type: Pulse input
  - o Type of pulse sensor used
  - Possible values:
    - "OFF": No pulse sensor is used.
    - "THS-J (7–14mA)"
    - "THS-O (NPN)"
    - "Eltomatic (NPN)"
  - W&M-relevant product parameter
  - o Required access level: 5

- Factory setting: "OFF"
- Pulse OUT divider / 2
  - Type: Pulse output
  - The FPI interface has a special output for transmitting pulses measured at the pulse input to downstream modules.
    - The maximum output pulse rate corresponds to <sup>1</sup>/<sub>2</sub> of the input pulse rate
  - Possible values: "0.. 65535".
    - '0': No pulse produced at the pulse output
    - > '0': Divider, based on half the input pulse rate
      - Example: '2' -> Output pulse rate corresponds to 1/4 of the input pulse rate
  - o W&M-relevant product parameter
  - Required access level: 5
  - Factory setting: "0"

--- Hoses ---

- Wet Hose
  - o Type: Output
  - Number of the FPI interface output used for this hose path.
  - Possible values:
    - Output '1' to output '8'.
    - '0' Tubing path is not supported.
  - o Required access level: 3
  - Factory setting: "0"
- Wet Hose High-Flow
  - Type: Output
  - Number of the high-flow output of the FPI interface to be used for this hose path, if high-low-flow control is desired.
  - Possible values:
    - Output '1' to output '8'.
    - '0' Tubing path is not supported.
  - Required access level: 3
  - Factory setting: "0"
- Dry Hose
  - Type: Output
  - $\circ$   $\;$  Number of the FPI interface output used for this hose path.
  - o Possible values:
    - Output '1' to output '8'.
    - '0' Tubing path is not supported.
  - Required access level: 3

- Factory setting: "0"
- Dry Hose High-Flow
  - Type: Output
  - Number of the high-flow output of the FPI interface to be used for this hose path, if high-low-flow control is desired.
  - Possible values:
    - Output '1' to output '8'.
    - '0' Tubing path is not supported.
  - Required access level: 3
  - Factory setting: "0"
- Bypass
  - o Type: Output
  - $\circ$   $\;$  Number of the FPI interface output used for this hose path.
  - Possible values:
    - Output '1' to output '8'.
    - '0' Tubing path is not supported.
  - Required access level: 3
  - Factory setting: "0"
- Pos. 1 Dual-Hose Outlet
  - o Type: Output
  - Number of the output of the FPI interface to be used to actuate position 1 of a double manifold (e.g. if full hose 1 and full hose 2 are to be used).
  - Possible values:
    - Output '1' to output '8'.
    - '0' Double manifold pos. 1 is not supported.
  - Required access level: 3
  - Factory setting: "0"
- Pos. 2 Dual-Hose Outlet
  - o Type: Output
  - Number of the output of the FPI interface to be used to actuate position 2 of a double manifold (e.g. if full hose 1 and full hose 2 are to be used).
  - Possible values:
    - Output '1' to output '8'.
    - '0' Double manifold pos. 2 is not supported.
  - o Required access level: 3
  - Factory setting: "0"
- Unmetered
  - o Type: Output
  - Number of the FPI interface output used for this hose path.

- Possible values:
  - Output '1' to output '8'.
  - '0' Tubing path is not supported.
- Required access level: 3
- Factory setting: "0"

--- Overfill Prev. ---

OP-Amplifier Input

- Type: Input
- Number of the input of the FPI interface to be used for OP amplifier monitoring.
- Possible choices:
  - "OFF": No AS amplifier used
  - "IN1": Digital input 1 of the FPI interface
  - "IN2": Digital input 2 of the FPI interface
  - "IN3": Digital input 3 of the FPI interface
  - "IN4": Digital input 4 of the FPI interface
  - "IN5 (Frequency)": Frequency input 5 of the FPI interface
- Required access level: 3
- Factory setting: "OFF"

--- Additive Pump ---

- ADD pump OUT
  - Type: Output
  - Number of the output of the FPI interface to be used to actuate the additive pump.
  - Possible values:
    - Output '1' to output '8'.
    - '0' Additive pump is not supported.
  - o W&M-relevant product parameter
  - Required access level: 5
  - Factory setting: "0"
- Idle Position
  - o Type: Input
  - Number of the input of the FPI interface to be used for the additive pump sensor "idle position".
  - Possible values:
    - Input '1' to input '4'.
    - '0' Sensor is not supported.
  - W&M-relevant product parameter
  - o Required access level: 5

- Factory setting: "0"
- Idle Position Type
  - o Definition of sensor type
  - o "OFF": Sensor is not used
  - o "NPN"
  - o "Namur"
  - o W&M-relevant product parameter
  - o Required access level: 0
  - Factory setting: "OFF"
- End Position
  - Type: Input
  - Number of the input of the FPI interface to be used for the additive pump sensor "end position".
  - Possible values:
    - Input '1' to input '4'.
    - '0' Sensor is not supported.
  - o W&M-relevant product parameter
  - Required access level: 0
  - Factory setting: "0"
- End Position Type
  - o Definition of sensor type
  - "OFF": Sensor is not used
  - "NPN"
  - o "Namur"
  - o W&M-relevant product parameter
  - o Required access level: 5
  - Factory setting: "OFF"
- Filling Level
  - o Type: Input
  - Number of the input of the FPI interface to be used for the additive pump sensor "filling level".
  - Possible values:
    - Input '1' to input '4'.
    - '0' Sensor is not supported.
  - W&M-relevant product parameter
  - Required access level: 5
  - Factory setting: "0"
Filling Level Type

- o Definition of sensor type
- "OFF": Sensor is not used
- "NPN"
- o "Namur"
- o W&M-relevant product parameter
- o Required access level: 5
- Factory setting: "OFF"

--- Draining ---

- Sensor Input
  - o Type: Input
  - Number of the input of the FPI interface to be used for the filling level sensor of the meter.
  - If an insufficiently filled metering system is detected in delivery mode, a corresponding alarm message is displayed!

Mete	r 2: Meter con	tains
air!		
	ОК	

Fig. 124 : Meter sensor alarm message

- Possible values:
  - Input '1' to input '4'.
  - '0' Sensor is not supported.
- o W&M-relevant product parameter
- Required access level: 5
- Factory setting: "0"
- Sensor Input Type
  - o Definition of sensor type
  - "OFF": Sensor is not used
  - "NPN"

- o "NPN (inverted): Sensor states are interpreted inversely on the software side
- o "Namur"
- o W&M-relevant product parameter
- Required access level: 5
- Factory setting: "OFF"
- Drain Pump
  - o Type: Output
  - Number of the output of the FPI interface to be used to actuate the metering system draining pump.
  - Possible values:
    - Output '1' to output '8'.
    - '0' Draining pump is not supported.
  - W&M-relevant product parameter
  - Required access level: 5
  - Factory setting: "0"

--- I/O Interface ---

Additional Hose <x> Name

- o Type: Designation
- Freely definable designation of the additional hose path 1-3
- Additional hose paths can be defined via the I/O interface.
  - An I/O interface is required in addition to the FPI interface.
- o Required access level: 3
- Factory setting: " "
- Additional Hose <x>
  - o Type: Output
  - Number of the output of the I/O interface to be used to actuate this additional hose path.
  - Possible values:
    - First input of the first interface ('1') to last input of the fourth interface ('32')
    - '0' Additional hose path is not supported.
  - Required access level: 3
  - Factory setting: "0"
- Additional Hose <x> High-Flow
  - o Type: Output
  - Number of the high-flow output of the IO interface to be used for this additional hose path, if high-low-flow control is desired.
  - o Possible values:
    - First input of the first interface ('1') to last input of the fourth interface ('32')

- '0' Additional hose path is not supported.
- o Required access level: 3
- Factory setting: "0"

# 13.2.5.4 >>> SETTINGS >>> Configuration >>> Tank Truck>>> Slope Setup

<b>C</b> Settings	Configuration Tank Truck	Slope Setup	
General	Compartments		
- 5			
48 \$	Back		

Fig. 125 : Menu Tank Truck/Slope Setup



13.2.5.4.1 >>> SETTINGS >>> Configuration >>> Tank Truck >>> Slope Setup >>> General

Settings Configuration	Tank Truck Slope S	Setup General
Slope Sensor	TAG-Interface	
Sensor Offset Pitch	0.0	•
Sensor Offset Roll	0.0	•
Installation Offset Pitch	0.0	•
Installation Offset Roll	0.0	•
Current Inclination	Calculate	
Min. Pitch	0	•
Max. Pitch	0	0
Min. Roll	0	•
Max. Roll	0	•
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Fig. 126 : Menu Tank Truck/Slope Setup/General

- Definition of vehicle-specific settings for inclination sensors.
- All parameters are W&M-relevant.
- Slope Sensor
  - Definition of the inclination sensor to be used.
  - Per system, only one source for slope information is supported.
  - o **"None"**:
    - No inclination sensor is connected to the system.
  - o "TAG-Interface":
    - The inclination sensor is connected to scan channel 14 of the TAG interface.
    - DIP switch 4 of the TAG interface must be set to "ON", if the inclination sensor connected to the TAG interface is to be used.
    - When connected to the TAG interface. Except from a MultiSeal Stand alone system.slope information can only be retrieved in transport mode and not during loading/discharge.

- o "Level-Interface":
  - The inclination sensor is connected to the inclination sensor connector on the first level interface.
- Required access level: 5
- Factory setting: "Not available"
  - .
- Sensor Offset Pitch
  - o Slope sensor offset lengthwise (see preliminary test certificate).
  - Possible values: "-5°- +5°"
  - Required access level: 5
  - Factory setting: "0°"
- Sensor Offset Roll
  - o Slope sensor offset transverse (see preliminary test certificate).
  - Possible values: "-5°- +5°"
  - Required access level: 5
  - Factory setting: "0°"
- Installation Offset Pitch
  - Installation offset of the inclination sensor lengthwise.
  - Possible values: "-5°- +5°"
  - Required access level: 5
  - Factory setting: "0°"
- Installation Offset Roll
  - o Installation offset of the inclination sensor transverse.
  - Possible values: "-5°- +5°"
  - Required access level: 5
  - Factory setting: "0°"
- Current Inclination
  - o Calculates the current pitch and roll information and updates the requirements
  - o Required access level: 5
- Min. Pitch
  - Minimum pitch for calibrated discharge.
  - Possible choices: "-5°-+5°"
  - Required access level: 5
  - Factory setting: "0°"
- Max. Pitch
  - Maximum pitch for calibrated discharge.
  - Possible choices: "-5°- +5°"
  - Required access level: 5

• Factory setting: "0°"

#### Min. Roll

- Minimum roll for calibrated discharge.
- Possible choices: "-5°-+5°"
- Required access level: 5
- Factory setting: "0°"
- Max. Roll
  - Maximum roll for calibrated discharge.
  - Possible choices: "-5°-+5°"
  - Required access level: 5
  - Factory setting: "0°"

## 13.2.5.4.2 >>> SETTINGS >>> Configuration >>> Tank Truck >>> Slope Setup >>> Compartments



Fig. 127 : Menu Tank Truck/Slope Setup/Compartments



Fig. 128 : Menu Tank Truck/Slope Setup/Compartments/Compartment 1

- Definition of compartment-specific settings for inclination sensors.
- All parameters are W&M-relevant.
- Here as an example Compartment 1.
- Min. Pitch
  - o Minimum pitch for residual discharge.
  - Possible choices: "-7.5°-+7.5°"
  - Required access level: 5
  - Factory setting: "0°"
- Max. Pitch
  - o Maximum pitch for residual discharge.
  - Possible choices: "-7.5°-+7.5°"
  - Required access level: 5
  - Factory setting: "0°"
- Min. Roll
  - o Minimum roll for residual discharge.
  - Possible choices: "-7.5°-+7.5°"
  - o Required access level: 5
  - Factory setting: "0°"
- Max. Roll
  - o Maximum roll for residual discharge.
  - Possible choices: "-7.5°-+7.5°"
  - Required access level: 5
  - Factory setting: "0°"

## 13.2.5.5 >>> SETTINGS >>> Configuration >>> Tank Truck >>> FTL

Setungs Conliguration		- /	
Vehicle Type	Tank Truck		
Delivery Type	Direct Outlet		
Vehicle ID	хх-уу-123	0	
Tank ID	123456		
Device ID	MultiTask		
Device Serial			
Dipsticks	No Dipstick System		
Delivery Side	Not defined		
Loading Side	Right		
Wetleg Config.	None		
Monitoring Manlid	None - free access	~	
Monitoring API	No		
Monitoring Bottom Valve	None		
Monitoring Line Valve	None		
Set TIMESTAMP to Start of Logbook	Start		
Set TIMESTAMP to End of	Start		

Fig. 129 : Menu Tank Truck/FTL

- These specific parameters are needed and prescribed for communication using the FTL protocol.
  - For example for communication with an on-board computer in the driver's cabin or the upload of FTL event data to the data FTP server.
  - The parameters are optional and are not necessary for general MultiTask operation. Settings are only necessary if data transfer in FTL format is used.
  - o Requirements and naming come from the FTL norm, "DIN EN 15969-1".
- Vehicle type
  - o "Tank Truck"
  - o "Tractor"
  - o "Semi-Trailer"
  - o "Trailer"
  - o "Hydrant Vehicle"
  - o "IBC"

- o "Other"
- FTL parameter: "veh\_type"
- Required access level: 3
- Factory setting: "Tank Truck"
- Delivery Type
  - Define the type of delivery.
  - Possible choices:
    - "Not defined": No vehicle delivery type set.
    - "Direct Outlet": For direct delivery tank trucks, each tank truck compartment has a separate discharge outlet.
    - "Flow Metering System": For metering system tank trucks, the individual tank truck compartments have no separate discharge like those on the direct delivery tank trucks. The tank truck compartments are mostly connected via a so-called "single channel manifold" for one metering system and a "twin channel manifold" for two metering systems. Instead of the single or twin channel manifold, pipework systems with line valves may be used.

Every metering system may have one or more outlets, e.g.:

- Empty hose, measured
- · Empty hose, unmeasured
- etc.
- "Hybrid System": The "hybrid tank truck" (direct delivery with multiple overfill protection and one or two additional metering systems) can be operated as a direct delivery tank truck or a metering system tank truck, selectable at discharge. Simultaneous discharge via direct delivery nozzles and metering system nozzles, however, is not possible. This is both pneumatically and electronically locked. Two I/O interfaces are always required to control a hybrid tank truck.
- Required access level: 3
- Factory setting: "Not defined"
- Vehicle ID
  - Vehicle identifier (e.g. number plate/registration)
  - FTL parameter: "veh\_no"
  - Required access level: 5
  - Factory setting: " "
- Tank ID
  - FTL parameter: "tank\_no"
  - Required access level: 5
  - Factory setting: " "
- Device ID
  - o Manufacturer-specific device code
  - FTL parameter: "dev\_code"
  - Required access level: 5
  - Factory setting: "MultiTask"

- Device Serial
  - Serial number of device
  - FTL parameter: "dev\_serial"
  - Required access level: 5
  - o Factory setting: " "
- Dipsticks
  - Electronic level gauge system
  - o "No Dipstick System"
  - o "Not metrologically approved"
  - o "Metrologically approved"
  - FTL parameter: "dip\_stick"
  - Required access level: 3
  - Factory setting: "No dipstick system"

#### Delivery side

- o "Not defined"
- o "Left"
- o "Right"
- $\circ$  "Left and right"
- o **"Rear"**
- o "Left and rear"
- "Right and rear"
- o "Left, right and rear"
- FTL parameter: "delv\_side"
- Required access level: 3
- Factory setting: "Not defined"

Loading side

- o "Not defined"
- o "Left"
- o "Right"
- o "Left and right"
- o **"Rear**"
- "Left and rear"
- o "Right and rear"
- o "Left, right and rear"
- FTL parameter: "load\_side"
- Required access level: 3
- Factory setting: "Not defined"
- Wetleg Config
  - o "None"

- "Each pipe, one sensor in the bottom"
- o "One sensor left, one right, both in the bottom"
- o "Each compartment, one sensor in the bottom, one sensor at the top"
- o "One sensor in each compartment"
- "combination of 4 + 1"
- "combination of 4 + 2"
- "combination of 4 + 3"
- o "other configuration with four or more sensors"
- FTL parameter: "wleg\_conf"
- o Required access level: 3
- o Factory setting: "None"

#### Monitoring Manlid

- "None free access"
- "None covers mechanically sealed"
- o "Per compartment"
- o "Common for all compartsments"
- FTL parameter: "mhole\_mon"
- Required access level: 3
- Factory setting: "None free access"
- Monitoring API
  - o "No"
  - o **"Yes**"
  - FTL parameter: "api\_mon"
  - Required access level: 3
  - Factory setting: "No"
- Monitoring Bottom Valve
  - o "None"
  - o "Pneumatic monitoring of the "closed state""
  - o "Pneumatic monitoring of "fully opened state"
  - o "Combination of 1 and 2"
  - o "Electromechanical monitoring of 'closed state"
  - o "Electromechanical monitoring of 'fully opened state'"
  - o "Combination of 4 and 5"
  - FTL parameter: "bv\_mon"
  - Required access level: 3
  - o Factory setting: "None"
- Monitoring Line Valve
  - o "None"
  - o "Pneumatic monitoring of the "closed state""

- o "Pneumatic monitoring of "fully opened state"
- o "Combination of 1 and 2"
- o "Electromechanical monitoring of 'closed state'"
- o "Electromechanical monitoring of 'fully opened state'"
- o "Combination of 4 and 5"
- FTL parameter: "cv\_mon"
- o Required access level: 3
- Factory setting: "None"
- Set TIMESTAMP to Start of logbook
  - $\circ$   $\;$  The timestamp used for FTL communication is set to first logbook entry.
  - This is recommended when the FTL "L\_FILE" request is transferring too much data from the past.
  - Required access level: 3
- Set TIMESTAMP to End of logbook

If old logbook data need not be transferred, the internal logbook ID used for the "L\_FILE" request can be set to the last (newest) entry.

• Required access level: 3

# 13.2.5.6 >>> SETTINGS >>> Configuration >>> Tank Truck >>> Receipt Numbering

Receipt Number (MultiLevel)	0		
Update Receipt Number	Sta	art	
Receipt Number (MultiFlow)	0		~
Update Receipt Number	Sta	art	
Separated Receipt No. b/w MultiLevel and MultiFlow	Yes	No	
Invoice Number (MultiFlow)	0		
Update Invoice Number	Sta	art	
Separated Invoice No. for MultiFlow	Yes	No	

Fig. 130 : Tank Truck/Receipt Numbering menu

- Definition of the receipt numbering
- All parameters are W&M-relevant.

- Receipt Number (MultiLevel)
  - Specification of the current receipt number/delivery note number for MultiLevel standalone
  - o Possible values "0 .. 9999999999"
  - Parameters supported by MultiLevel only
  - Required access level: 5
  - Factory setting: "1"
- Update Receipt Number
  - The entered receipt number is to be accepted.
  - Required access level: 5
- Receipt Number (MultiFlow)
  - Specification of the current receipt number/delivery note number for MultiFlow standalone
  - o Possible values "0 .. 999999999"
  - o Parameters supported by MultiFlow only
  - Required access level: 5
  - o Factory setting: "1"
- Update Receipt Number
  - The entered receipt number is to be accepted.
  - Required access level: 5
- Separated Receipt no.
  - o Separate receipt numbers for delivery notes and invoices
  - Required access level: 5
  - Factory setting: "No"
- Invoice Number
  - Specification of the current receipt number where delivery note and invoice number are separate.
  - Possible values "0 .. 999999999"
  - o Parameters supported by MultiFlow only
  - o Required access level: 5
  - Factory setting: "1"
- Update Invoice Number
  - The entered invoice number is to be accepted.
  - Required access level: 5
- If separate receipt numbering is activated, separate counters are used for invoices and delivery notes for delivery via the metering system (MultiFlow). The next invoice number to be

used is defined with the parameter **"Receipt Number (MultiFlow)"**. The parameter **"Invoice Number"** determines the next delivery note number to be used.

**ATTENTION:** When defining the receipt and/or invoice number, only numbers higher than those previously used can be entered. It is not possible to "jump back", i.e. to enter lower numbers than those previously used. This must be taken into account before the change is made when assigning new receipt and/or invoice numbers!

# 13.2.5.7 >>> SETTINGS >>> Configuration >>> Tank Truck >>> Adhoc SMS

Settings Configuration	Tank Truck	Adhoc-SMS	
Cabinet emergency opening	Yes	No	
Timeout Delivery-Mode	Yes	No	
∲r � \$ Back		ок	

Fig. 131 : Tank Truck/Adhoc SMS menu

General activation of SMS transmission for different functions

- Cabinet emergency opening
  - Activation of SMS transmission in the event of emergency opening of the cabinet door
  - SMS will be sent when:
    - Opening of one of the cabinet doors if there is no geofencing permission.
    - Bypassing geofencing permission via geofencing setup
    - When an optionally configured "emergency release" sensor is activated
  - o "Yes": SMS transmission on emergency cabinet door opening enabled
  - o "No": SMS transmission on emergency cabinet door opening disabled
  - Required access level: 3
  - Factory setting: "No"

#### Timeout Delivery-Mode

- o Activation of SMS transmission on timeout in delivery mode
- See also page 185
- o "Yes": SMS transmission on timeout in delivery mode enabled
- o "No": SMS transmission on timeout in delivery mode disabled
- o Required access level: 3
- Factory setting: "No"

## 13.2.5.8 >>> SETTINGS >>> Configuration >>> Tank Truck >>> Profiles

Settings Configuration	Tank Truck Profiles	$\rightarrow$
Profiles	Enabled	
AccessLevel Profiles	2	
Standard Profile		
Select Standard Profile	Selection	
Back	сок	

Fig. 132 : Menu Tank Truck/Profiles

- General configuration of the optional profiles
- Profiles
  - Support of different user definable profiles (see chapter 13.12).
  - Profiles can be generated manually or by using the external MultiTask Simulator.
  - Possible values:
    - "Disabled": Profiles are not supported
    - "Enabled": Via menu /Settings/Profiles on the system available profile files are visualized and can be selected.
    - "Forced": Before each new loading, the user must select the user profile currently to be used in order to be able to continue loading.
  - o Required access level: see "AccessLevel Profiles"
  - Factory setting: "No"

AccessLevel Profiles

- o Definition of the access level required for the selection of profiles.
- Possible values:
  - "1": Users with access level "1" can select profiles
  - "2": Users with access level "2" can select profiles
  - "3": Users with access level "3" can select profiles
- Required access level: 3
- Factory setting: "3"
- Standard Profile
  - o Display of the currently configured default profile
  - Automatic return at:
    - Restart
    - When exiting delivery mode after all compartments have been delivered
    - Temporary password expiration
- Select Standard Profile
  - Definition of the standard profile, which is automatically loaded under the conditions mentioned.
  - Possible values:
    - "---": No default profile is used
    - "<xyz>"": The selection list contains all profile files on the system
  - Required access level: 3
  - Factory setting: "---"
- If the profiles function is activated, the currently loaded profile is also displayed under <?>. If the profile name is additionally provided with a "\*", the setup was changed after loading the profile.

611 V.		
	Configuration W&M Printout	
Active Configuration	2MFMLmani_210423 *	
Active Profile	Vol Jmp *	
GUI Version	1.62.28	
Device Name	MultiTask	
Device Serial	123321z	
NRP Serial	7070BBEA0000026	
NRP Booter Version	0.1.12-ee8e	
NRP Kernel Version	0.1.12-95b0	
NRP Rootfs Version	0.1.12-89ec	
NRP SW-Version	1.14.0	
NRP Checksum	c528e91f	
NRP Common	1.14.0	

Fig. 133 : <?> - Active Profile

### 13.2.5.9 >>> SETTINGS >>> Configuration >>> Tank Truck >>> Monitoring



Fig. 134 : Menu Tank Truck/Monitoring

Configuration of the optional time trigger for FTL files, enabling file transfer in loading and discharge mode as well as selecting additional trigger events for file transfer, which are part of the "Monitoring" function

- The "Monitoring" function is enabled via the FeatureKey, if the function is enabled for the respective MultiTask.
- If the MultiTask is configured to transmit GPS, sensor and delivery events to the FTP server, it provides application-dependent standard triggers that initiate a file transfer to the data FTP server. Application-dependent standard triggers are, for example, "Main compressed air OFF", "MultiSeal seal break", "MultiFlow delivery completed", etc. These triggers depend on the activated applications and availability can vary accordingly.
- The GPS and event files transferred from the MultiTask to the configured data FTP server can be analyzed and graphically prepared by customer-specific, external evaluation software. For a more current evaluation, the evaluation software may require additional triggers for the file transfer. As part of the "Monitoring" function, additional triggers for file transfer can be configured and the transfer behavior of the MultiTask can be adapted according to the requirements of the evaluation software.
- ▶ GPS and event files are transferred in FTL format.
- FTL Time Trigger
  - When the time trigger is active, the event file is sent to the configured data FTP server according to the configured interval. The definition range is between '0' and '1440' minutes, where '0' disables the event trigger.
  - The time trigger is reset after each transmission, even if the transmission was not triggered by the time trigger. If no events have been logged since the last transfer, an event file containing only the FTL file header is transferred.
  - Possible values: "0 .. 1440 min"
  - o Required access level: 3
  - Factory setting: "0 min"
- FTL File Transfer in Loading or Discharge
  - By default, trigger events in Load and Discharge mode do not directly trigger a file transfer. The transfer only starts when you leave loading or delivery.
  - If the system is to respond to triggers during loading and discharge, this parameter must be activated. In this case, FTL time triggers and other triggers are also active in loading and discharge. This means that each time a trigger is detected, an FTL event file and, if such events are available, an FTL level and FTL meter file are created. It is therefore possible that the information from different chambers or measuring systems of a loading or delivery are not part of the same FTL files.
  - "Yes": Triggers for transferring event files are also observed during loading and discharge
  - "No": Triggers for transferring event files are ignored during loading and discharge. The transfer only takes place after loading or discharge mode were left.
  - Required access level: 3
  - Factory setting: "No"

#### Additional trigger-events:

Mode Change into Loading or Discharge

- Each time you switch to loading or discharge mode, a new trigger is generated that starts file creation and transfer to the data FTP server.
- "Yes": Trigger for transferring event files when switching to loading or discharge mode.
- o "No": No trigger to transfer event files when changing to loading or discharge
- o Required access level: 3
- Factory setting: "No"
- Mode Change out of Loading or Discharge
  - Each time loading or discharge mode were left, a new trigger is generated that starts file creation and transfer to the data FTP server.
  - o "Yes": Trigger for transferring event files when leaving loading or discharge mode.
  - o "No": No trigger to transfer event files when leaving loading or discharge
  - Required access level: 3
  - Factory setting: "No"
- Cabinet Door Opened
  - If cabinet door sensors are configured, each time a cabinet door is opened, a new trigger is generated, which starts the creation of the event file and the transmission to the data FTP server.
  - o "Yes": Trigger for transferring event files when opening a cabinet door.
  - o "No": No trigger to transfer event files when opening a cabinet door
  - Required access level: 3
  - Factory setting: "No"
- API Outside Loading or Discharge Opened
  - If API sensors are configured, each time a API coupling is opened outside of loading or discharge mode, a new trigger is generated, which starts the creation of the event file and the transmission to the data FTP server.
  - "Yes": Trigger for transferring event files when opening a API coupling outside loading and discharge mode.
  - "No": No trigger to transfer event files when opening a API coupling outside loading and discharge mode.
  - Required access level: 3
  - Factory setting: "No"
- Manlid Outside Loading or Discharge Opened
  - If manlid sensors are configured, each time a manlid is opened outside of loading or discharge mode, a new trigger is generated, which starts the creation of the event file and the transmission to the data FTP server.
  - "Yes": Trigger for transferring event files when opening a manlid outside loading and discharge mode.
  - "No": No trigger to transfer event files when opening a manlid outside loading and discharge mode.
  - Required access level: 3
  - Factory setting: "No"

API Outside Geofencing Opened

- If API sensors are configured, each time a API coupling is opened outside of a valid geofencing position, a new trigger is generated, which starts the creation of the event file and the transmission to the data FTP server.
- "Yes": Trigger for transferring event files when opening a API coupling outside geofencing.
- "No": No trigger to transfer event files when opening a API coupling outside geofencing
- Required access level: 3
- Factory setting: "No"
- Manlid Outside Geofencing Opened
  - If manlid sensors are configured, each time a manlid is opened outside a valid geofencing position, a new trigger is generated, which starts the creation of the event file and the transmission to the data FTP server.
  - o "Yes": Trigger for transferring event files when opening a manlid outside geofencing.
  - o "No": No trigger to transfer event files when opening a manlid outside geofencing.
  - Required access level: 3
  - Factory setting: "No"



#### HINWEIS:

The (de)activation of the different triggers should be chosen with care, as depending on the number and event, an increased number of files can be transferred and the contained events could be fragmented, which can make evaluation more difficult. For example, depending on the configuration, it may happen that not all related loadings or discharged are contained in the same file.



13.2.6 >>> SETTINGS >>> Configuration >>> NoMix

Fig. 135 : Menu NoMix



#### 13.2.6.1 >>> SETTINGS >>> Configuration >>> NoMix >>> Loading

Settings Configuration	NoMix Loading	$\rightarrow$
Permission Loading Valve ON	Control-Mode 'loading'	- 10
Permission Loading Valve OFF	On system error	
Auto. open Comp.	No	
Comp. Empty	Test	
Comp. Empty Test	No	
Delay between Comp.	5	sec
Test Time for each Comp.	10	sec
Close Comp. after Test	Yes No	
Test filled Comp.	Yes No	
Misc		
Close Comp. after loading	Yes No	
TAG Info Delay	2	sec
ф 🔩 🔹 Васк	ОК	

Fig. 136 : Menu NoMix/Loading

- General NoMix parameters for loading.
- All product parameters are non- W&M-relevant.
- Permission Loading Valve ON
  - o Controls the activation behaviour of the loading permission valve.
  - "In "Control-Mode 'loading'" status": The loading permission valve is activated as soon as a fault-free loading mode is achieved, even if no compartment is connected.
  - "In "Status 'connected'": The loading permission valve is not activated until at least one compartment is completely connected/correctly coupled in fault-free loading mode.
  - Required access level: 3
  - Factory setting: "In "Loading" status"
- Permission Loading Valve OFF
  - o Controls the deactivation behaviour of the loading permission valve.
  - "On compartment error": NoMix fault, loading fault and compartment fault (e.g. Compartment 1: Wrong product) cause the loading permission valve to be deactivated.
  - "On system error": Only severe faults within the NoMix system (e.g. I/O no connection) result in the loading permission valve being deactivated.
  - "On loading error": NoMix faults and loading faults not related to a compartment (e.g. discharge hose connected) result in the loading permission valve being deactivated.

- Required access level: 3
- Factory setting: "On system error"
- Auto. Open Comp.
  - Determines whether the bottom valves open automatically when the compartments are correctly connected.
  - o "No": The bottom valves do not open automatically.
  - "Yes": The bottom valves open automatically.
  - "Not at manual Loading Plan": The bottom valves open automatically when filling is coded, but not after loading plan has been entered manually.
  - Required access level: 3
  - Factory setting: "Yes"
- Comp. Empty Test
  - The Compartment Empty Test serves to recognise any coalesced residual product before loading. This requires, of course, that all compartments/bottom valves are opened before loading. The functionality and operation depend on the tank truck type.
  - "No": Compartment Empty Test deactivated.
  - "Yes, without override": Test must be completed without problem before loading process may be entered.
  - "Yes, with override": Test must be completed, but it is then possible to switch into loading process despite problems that have occurred.
  - "Yes, with skipping": Test is automatically started when loading is activated, but can be interrupted at any time, regardless of progress of test, to switch directly to loading.
  - Required access level: 3
  - Factory setting: "No"
- Delay between Comp.
  - Compartment Empty Test parameter to set the delay between opening the individual bottom valves.
  - Possible choices: "1s .. 15s"
  - Required access level: 3
  - Factory setting: "5s"
- Test Time for each Comp.
  - Compartment Empty Test parameter to set the actual test duration per compartment.
  - Possible choices: "3s .. 15s"
  - Required access level: 3
  - Factory setting: "10s"
- Close Comp. after Test
  - o Compartment Empty Test parameter
  - This parameter enables setting whether the bottom valves are closed after completion of the Compartment Empty Test or left open to save compressed air.
  - "No": Bottom valves remain open.
  - "Yes": Bottom valves are closed.
  - Required access level: 3
  - o Factory setting: "No"
- Test filled Comp.
  - Compartment Empty Test parameter to set whether the test should be carried out on compartments already identified as "not empty".
  - "No": No Compartment Empty Test on filled compartments.
  - "Yes": Compartment Empty Test also when compartments filled.

- Required access level: 3
- Factory setting: "No"
- Close Comp. after loading
  - This parameter determines if the compartment (bottom valve) closes immediately when the loading arm is disconnected, or if it remains open.
  - o "No": Bottom valves remain open.
  - "Yes": Bottom valves are closed.
  - Required access level: 3
  - o Factory setting: "Yes"
- TAG Info Delay
  - Parameter determines how long a TAG is considered connected when no longer recognised. This compensates for poor connections when loading arm is being connected and for intermittent short-circuits when two loading arms come int contact.
  - Possible choices: "0s .. 10s"
    Required access level: 3
  - Factory setting: "2s"

#### 13.2.6.2 >>> SETTINGS >>> Configuration >>> NoMix >>> Discharge

Discharge Mode	NOMIX & COP-HSV	
Override active	No	
Override Mode	HSV & COP & Vapour	
lumber of Overrides	0	
Override Timeout	30	min
Consider Alternative Products	Yes No	

Fig. 137 : Menu NoMix/Discharge

- General NoMix parameters for discharging.
- All product parameters are non- W&M-relevant.
- Discharge Mode
  - "NoMix": As part of the MultiTask configuration with NoMix functionality, electronic identifiers are installed at the fuel station tanks. These contain electronic circuitry which stores the appropriate product quality. The units are known as TAGs. When the product hose, vapour recovery hose and limit sensor cable are connected to the tank, the TAGs on the product filling nozzles and vapour recovery nozzles are supplied with low voltage, intrinsically safe power via the hoses. The TAG then begins transmitting its internally saved data and information via the conductive hoses to the MultiTask with NoMix functionality on the tank truck. At the same time, a signal

is transmitted via the limit sensor cable to the MultiTask circuitry to ensure that the limit sensor connector is connected to the correct ground tank. When the connection is correct and there is a product match between the tank truck and the fuel station truck, and NoMix permission has been granted, the tank truck driver can now initiate product discharge.

"COP-HSV": When COP-HSV is selected, consecutive "scan signals" are sent to the connected ground tank via the electrically conductive product and vapour recovery hose. The "scan signals" reach an insulated contact on the limit sensor mounting via the ESD module(s) installed to drain electrostatic charge and to de- couple the fuel nozzles and via the cabling on the fuel nozzles. The "scan signals" are then transmitted via the limit sensor cable to the on-board electronics as "Listener" signals for evaluation. The product code in COP-HSV mode is received and evaluated via the limit sensor cable. TAG signals received during discharge are ignored.

For technical reasons, in COP-HSV discharge mode it is possible to detect whether the product and vapour recovery hoses have been connected, but not to which connection.

- "NoMix & COP-HSV": With this setting, switching between NoMix and COP-HSV mode takes place automatically, depending on the equipment level at the fuel station; NoMix mode has priority. As soon as NoMix receives a TAG signal, any previously launched COP-HSV discharge is interrupted, the system switches from COP-HSV mode to NoMix mode, and an error message is displayed.
- Required access level: 3
- Factory setting: "NoMix & COP-HSV"
- Override active
  - Switches overrides on/off in general.
  - "No": Do not permit overrides.
  - "Yes": Permit overrides in general.
  - "Outside of Geofencing positions": In general, only permit overrides if the system is located outside of permitted geofencing positions.
  - Required access level: 3
  - Factory setting: "No"
- Override mode
  - Definition of the override mode that may be used, if override in general is permitted.
  - "HSV & COP & Vapour": COP information is not evaluated, bypassing HSV, GPS, and quality assurance is permitted.
  - "HSV & Vapour": Valid quality information (valid limit sensor code) is required at all times. HSV and GPS override is permitted, but quality assurance cannot be overridden. Discharge is not possible without valid quality information (valid limit sensor code).
  - "HSV & Vapour & COP excl. Code": Override is permitted if valid quality information is present (valid limit sensor code). If this information is present, it will be evaluated. Override of HSV and GPS with quality assurance. If no valid quality information is present (no limit sensor code), an override of HSV, GPS and quality assurance is still possible.
  - "Vapour": Override only possible with vapour return sensor.
  - Required access level: 3
  - Factory setting: "HSV & Vapour & COP"
- Number of Overrides
  - o Setting for how many simultaneous overrides are permitted.
  - Possible choices: "0 .. 3"

- Required access level: 3
- Factory setting: "0" 0
- **Override Timeout** 
  - $\circ$  The time set here determines when a discharge started with an override is automatically ended. An override is always cancelled when leaving discharge mode. Possible choices: "10min - 120min"
  - 0
  - Required access level: 3 0
  - Factory setting: "10min" 0
- **Consider Alternative Products** 
  - The user is asked if an alternative product is recognised at delivery. 0
  - 0 "No": User not asked.
  - "Yes": The user is asked about an alternative and must confirm before discharge can 0 begin.
  - Required access level: 3 0
  - Factory setting: "Yes" 0

## 13.2.7 >>> SETTINGS >>> Configuration >>> MultiSeal

Settings Configuration	MultiSeal	$\geq$	
Manual Sealing	Yes	No	
Man. Seal Loading	2		
Man. Seal Discharge	2		
Manual Seal if Empty	Yes	No	
Rest-Amount Sealing	Yes	No	
Break Seal on Power-Down	Yes	No	
Bottom- and Top-Loading Seal	Yes	No	
Wetleg breaks Top-Loading Seal	Yes	No	
Disable Wetleg at Top-Loading	Yes	No	
Cabinet Door breaks Seal	No		
ச் ஒயி Back		ок	

Fig. 138 : Menu MultiSeal

- General MultiSeal parameters.
- All product parameters are non- W&M-relevant.
- Manual Sealing
  - Specifies whether compartments may be manually sealed. If this is activate, the user has the option of sealing all non-empty compartments manually by pressing a button.
  - $\circ$  "No": Manual sealing is not permitted.
  - "Yes": Manual sealing is permitted.
  - Required access level: 3
  - Factory setting: "Yes"
- Man. Seal Loading
  - o Specifies how often a manual seal may be set for a single loading.
  - Possible values: "0 .. 9, 99". "99" means unlimited.
  - Required access level: 3
  - Factory setting: "0"
- Man. Seal Discharge
  - o Specifies how often a manual seal may be set after discharge is complete.
  - Possible values: "0 .. 9, 99". "99" means unlimited.
  - Required access level: 3
  - o Factory setting: "0"
- Rest-Amount Sealing

- Specifies whether compartments should be sealed when containing residual product.
- o "No": Sealing not permitted with residual product.
- "Yes": Sealing permitted with rest-amount.
- o Required access level: 3
- o Factory setting: "Yes"
- Break Seal on Power-Down
  - If the system power supply is continuous when sealed, this parameter allows for all compartments to be automatically unsealed when the system is switched off.
  - o "No": No unsealing at power-off.
  - "Yes": When the system is powered off (e.g. via main battery switch), all compartment seals are broken.
  - Required access level: 3
  - Factory setting: "Yes"
- Bottom- and Top-Loading Seal
  - Different seal symbols can be displayed for visualisation of whether the vehicle is loaded from bottom or top.
  - $\circ$  "No": no differentiation between bottom and top loading.
  - $\circ$  "Yes": Differentiation between bottom and top loading.
  - Required access level: 3
  - Factory setting: "No"
- Wetleg breaks Top-Loading Seal
  - The compartment seal is broken during top loading as soon as a change of state is registered for the applicable wetleg sensor.
  - o "No": State change for wetleg sensor has no effect on compartment seal.
  - "Yes": State change for wetleg sensor breaks compartment seal.
  - Required access level: 3
  - Factory setting: "No"
- Disable Wetleg at Top-Loading
  - Definition of whether the status of the wetleg sensor should be taken into account for top loading or not.
  - "No": No deactivation. The wetleg sensor is taken into account.
  - "Yes": Deactivation. The wetleg sensor is ignored.
  - Required access level: 3
  - Factory setting: "No"
- Cabinet Door breaks Seal
  - o Definition of how opening the configured cabinet doors(s) should have an effect
  - o "No": Opening the cabinet doors(s) does not affect MultiSeal seals
  - "Main Seal": Opening the cabinet door(s) will break the main seal/vehicle seal, but not the compartment seals.

- "Main- & Compartment-Seal": Opening the cabinet doors(s) breaks the main seal/vehicle seal and all compartment seals.
- o Required access level: 3
- Factory setting: "No"

## 13.2.8 >>> SETTINGS >>> Configuration >>> MultiLevel



Fig. 139 : Menu MultiLevel



#### 13.2.8.1 >>> SETTINGS >>> Configuration >>> MultiLevel >>> General

roduct Compensation	Yes	No
evel Hysteresis	0	μm
emperature Hysteresis	0	1/1000 °C
lope Hysteresis	0	1/1000 °
atabase-Update Time	500	ms

Fig. 140 : Menu MultiLevel/General

- General MultiLevel parameters.
- All parameters are W&M-relevant.
- Product Compensation
  - General activation of the temperature compensations determined in the respective product setups.
  - "No": In general, temperature compensation is not carried out for any of the stored products.
  - "Yes": Temperature compensations depend on the product settings.
  - Required access level: 5
  - Factory setting: "Yes"
- Level Hysteresis
  - o Sensitivity for internal processing of level gauge data.
  - Standard value: "100µm"
  - Possible values: "1 .. 9999µm"
  - Required access level: 5
  - Factory setting: "100µm"
- Temperature Hysteresis
  - o Sensitivity for internal processing of temperature sensor data.
  - Standard value: "100/1000°C"
  - Possible values: "1 .. 9999 1/1000°C"
  - Required access level: 5
  - Factory setting: "100 1/1000°C"

Slope Hysteresis

- Sensitivity for internal processing of inclination sensor data.
- Standard value: "100/1000°"
- Possible values: "1 .. 9999 1/1000°"
- o Required access level: 5
- Factory setting: "110 1/1000°"
- Database-Update Time
  - o Delay time for entry of the levels in the database
  - o Standard value: "500 ms"
  - o Possible values: "300 .. 9999 ms"
  - Required access level: 5
  - Factory setting: "500ms"

#### 13.2.8.2 >>> SETTINGS >>> Configuration >>> MultiLevel >>> Loading



Fig. 141 : Menu MultiLevel/Loading

- MultiLevel parameters for loading.
- All product parameters are non- W&M-relevant.
- Measured Loading
  - Volume measurement is carried out during loading.
  - o "No": No measurement during loading.
  - o "Yes": Measurement during loading is activated.
  - o Required access level: 3
  - Factory setting: "No"

- Display only VT
  - Display of VT or V0 during loading.
  - $\circ$  "No": Volume is only displayed in V<sub>0</sub> during loading.
  - o "Yes": Volume is only displayed on VT during loading.
  - o Required access level: 3
  - Factory setting: "No"
- Product Change with Restamount
  - o Product change before loading allowed, even when restamount detected.
  - $\circ$  "No": No product change when restamount detected
  - o "Yes": Product change possible when restamount detected
  - o Required access level: 3
  - Factory setting: "No"
- Operate Line Valve in Loading
  - $\circ$   $\,$  In the loading mode, line valves are optionally switched together with the bottom valves  $\,$
  - $\circ$   $\$  "No": Line valves not switched in loading mode
  - $\circ$  "Yes": Line valves and bottom valves are switched together in loading mode
  - o Required access level: 3
  - Factory setting: "No"

# 13.2.8.3 >>> SETTINGS >>> Configuration >>> MultiLevel >>> Discharge



Stop-is-Stop	Yes	No		
Level Gauging before Bottom Valve	Yes	No		
Tolerance of Level Gauging before Bottom Valve	0		mŧ	
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Fig. 142 : Menu MultiLevel/Discharge

- MultiLevel parameters for discharge.
- Manifold Support
  - o Parameter for the general release of the MultiLevel delivery via manifold
  - o "No": No MultiLevel delivery via manifold supported
  - o "Yes": Additional MultiLevel delivery mode "Manifold" available.
  - Displayed value is W&M-relevant.
  - Required access level: 5
  - Factory setting: "No"
- Manifold Override
  - Parameter for the general release of overriding for MultiLevel deliveries via manifold.
    When dispensing via manifold, certain conditions must be met in order to ensure correct measurements. If these are not met, a delivery cannot be started or ended.
    - At the beginning of a delivery, the wetleg sensor of the manifold must be dry.
    - At the end of a delivery, the wetleg sensor of the manifold must be dry.
  - In order to be able to start or end a delivery despite unfulfilled conditions, the general possibility of bypassing these conditions can be enabled via this parameter. The type of bypass/override can be explicitly selected by the user in the "Manifold" delivery mode.
  - o Overridings are documented in the logbook.
  - o An delivery with overriding is always unapproved
  - "No": No override possible
  - o "Yes": Optional overriding possible
  - Required access level: 3
  - Factory setting: "No"
- Manifold Pump Delay
  - Definition of the delay time between the start of delivery and activation of the pump (for pumped deliveries via manifold)
  - Required access level: 3
  - Factory setting: "0s"
- Preset Confirmation
  - o Parameters for defining volume preselection behaviour.
  - "No": No volume preselection possible.

- "Automatic": Volume preselection is pre-loaded with standard setting.
- "Manual": Volume preselection can be manually entered by user.
- "Mandatory": When changing to disscharge mode, the volume preselection dialog appears automatically.
- Required access level: 3
- Factory setting: "No"
- Preset Type
  - Type of volume preselection
  - o "V<sub>0</sub>": Preselection of compensated volume.
  - $\circ$  "V<sub>T</sub>": Preselection of uncompensated volume.
  - o Required access level: 3
  - $\circ$  Factory setting: "V<sub>0</sub>"
- Preset Adjustment
  - Parameter for general activation of automatic corrective volume preselection adjustment to achieve the exact preselected volume.
  - "No": Automatic corrective adjustment deactivated.
  - "Yes": Automatic corrective adjustment activated.
  - Required access level: 3
  - Factory setting: "No"
- Customer-No.
  - o Query of the customer number in the delivery
  - o Required access level: 3
  - Factory setting: "No"
- Order Number
  - Query of the customer number in the delivery
  - Required access level: 3
  - Factory setting: "No"
- Stop-is-Stop
  - Parameters for defining the flow of a delivery.
  - "No": A current delivery is paused by pressing <Stop> once and can then be continued or terminated completely.
  - "Yes": A current delivery is terminated completely by pressing <Stop> once. It is not possible to pause a delivery!
  - Required access level: 3
  - Factory setting: "No"
- Level Gauging before Bottom Valve
  - Additional level monitoring before opening the bottom valves
  - Required access level: 3
  - Factory setting: "No"

- Tolerance of Level Gauging before Bottom Valve
  - o Tolerance quantity above which the deviation must be recorded in the logbook
  - o Standard value: "0 ml"
  - Possible values: "0 .. 999999 ml"
  - o Required access level: 3
  - o Factory setting: "0 ml"

# 13.2.8.4 >>> SETTINGS >>> Configuration >>> MultiLevel >>> Compartments



Fig. 143 : Menu MultiLevel/Compartments

<b>E</b> Settings	Configuration	MultiLevel	Compartments	Compartment 1
	Current Lev	el		
Level		0	μm	
State		Invalid		
Current Float		Refresh		
	Settings -			
Zero Level		25000	μm	
Current Float		Apply		
Offset Ice		25000	μm	

#### MultiTask ◀ ► Menu overview

Offset Float	0	μm
Offset x	0	mm
Offset y	0	mm
Offset Temperature	0	°C
Comp. Volume	5000	e
Rest-Amount	0	ml
Pipe Volume	0	ml
Float min	40000	μm
Float max	1000000	μm
Correction Factor	1	
Min. Delivery Volume	5000	ł
Max. diff. V15	0	٤
Pre-Stop	0	mm
Slope-Stop	300	mm
Overfill Prevention	0	t
Preset Stop	20000	ml
Default Preset		
Delault Fleset	5	٤
Delauit Preset	5	ł

Fig. 144 : Menu MultiLevel/Compartments/Compartment 1

- Definition of compartment-specific MultiLevel parameters.
- Here as an example Compartment 1.
- Level
  - $\circ$  Display the current float height in [µm].
  - o Displayed value is W&M-relevant.
  - Required access level: 5
- State
  - Display current state of level gauge.
  - o Displayed value is W&M-relevant.
  - o Required access level: 5
- Current Float
  - o Update the float data with the current values as determined by level gauge.
  - o Influence on W&M-relevant parameters.
• Required access level: 5

## Zero Level

- o Zero level for the level gauge
- Possible values: "2000 .. 40000 μm"
- Parameters are W&M-relevant.
- o Required access level: 5
- Factory setting: "25000 μm"
- Current Float
  - Set the current float position as zero level.
  - o Influence on W&M-relevant parameters.
  - Required access level: 5

## Offset Ice

- o Offset of ice protection
- Possible values: "2000 .. 40000 μm"
- Parameters are W&M-relevant.
- o Required access level: 5
- Factory setting: "25000 μm"

## Offset Float

- o Float immersion depth (see preliminary test certificate)
- o Possible values: "0 .. 50000 μm"
- Parameters are W&M-relevant.
- Required access level: 5
- Factory setting: "0 μm"
- Offset x
  - Lengthwise adjustment to level gauge.
  - Possible values: "-500 .. 500 mm"
  - Parameters are W&M-relevant.
  - Required access level: 5
  - Factory setting: "0 mm"
- Offset y
  - o Transverse adjustment to level gauge.
  - o Possible values: "-500 .. 500 mm"
  - Parameters are W&M-relevant.
  - Required access level: 5
  - Factory setting: "0 mm"
- Offset Temperature
  - o Adjustment to temperature measurement.
  - Possible values: "-5 .. 5 °C"

- Parameters are W&M-relevant.
- Required access level: 5
- Factory setting: "0°C"
- Comp. Volume
  - Volume of compartment
  - Possible values: "0 .. 999999 L"
  - Parameters are W&M-relevant.
  - Required access level: 5
  - Factory setting: "5000L"
- Rest-Amount
  - Volume between initial level gauge table and line valve. Automatically determined during calibration.
  - o Possible values: "0 .. 999999 mL"
  - Parameters are W&M-relevant.
  - Required access level: 5
  - Factory setting: "0 mL"
- Pipe Volume
  - Volume between bottom valve and line valve. Automatically determined during calibration.
  - o Possible values: "0 .. 999999 mL"
  - Parameters are W&M-relevant.
  - o Required access level: 5
  - Factory setting: "0 ml"
- Float min
  - Minimum height of float.
  - Possible values: "0 .. 40000000 μm"
  - Parameters are W&M-relevant.
  - Required access level: 5
  - Factory setting: "40000 μm"
- Float max
  - o Maximum height of float.
  - Possible values: "0 .. 40000000 μm"
  - Parameters are W&M-relevant.
  - Required access level: 5
  - Factory setting: "1000000 μm"
- Correction Factor
  - Corrective value for level gauge table.
  - Possible values: "0.5 .. 2.0"
  - Parameters are W&M-relevant.
  - Required access level: 5
  - Factory setting: "1"

- Min. Delivery Volume
  - Minimum volume for calibrated discharge.
  - Possible values: "0 .. 50000 L"
  - Parameters are W&M-relevant.
  - Required access level: 5
  - Factory setting: "500 L"
- Max. diff. V15
  - Warning alert value for maximum difference of V0 between loading and discharge, 0L = OFF.
  - Possible values: "0 .. 250 L"
  - Parameters are W&M-relevant.
  - Required access level: 5
  - Factory setting: "0"
- Pre-Stop
  - Filling level at which a pre-stop takes place, 0mm = OFF.
  - o Possible values: "0 .. 500 mm"
  - Non-W&M-relevant parameter.
  - o Required access level: 3
  - Factory setting: "0 mm"
- Slope-Stop
  - Filling level at which slope stop takes place, 0mm = OFF.
  - o Possible values: "0 .. 50000 mm"
  - Non-W&M-relevant parameter.
  - Required access level: 3
  - Factory setting: "300 mm"
- Overfill Prevention
  - Filling level at which loading is automatically stopped in order to prevent compartment overfill.
  - Possible values: "0 .. 50000 L"
  - Non-W&M-relevant parameter.
  - o Required access level: 3
  - Factory setting: "0L"
- Preset Stop
  - Volume at which discharge is stopped in order to achieve exact preselected value.
  - Possible values: "-999999999 .. 999999999 mL"
  - o Non-W&M-relevant parameter.
  - Required access level: 3
  - o Factory setting: "20000 mL"

Default Preset

- Standard setting for preselected ("preset") volume.
- Possible values: "0 .. 5000000 L"
- Non-W&M-relevant parameter.
- o Required access level: 3
- Factory setting: "5000 L"

# 13.2.9 >>> SETTINGS >>> Configuration >>> MultiFlow



Fig. 145 : MultiFlow menu



# 13.2.9.1 >>> SETTINGS >>> Configuration >>> MultiFlow >>> General

Settings Configuration	MultiFlow			
Supported Meters	1			
Collector valve control	Complete numb	er of valves		
Discharge				
Preset Confirmation	Automatic			
No. of Discharges	9			
Price Correction	Yes	No		
No-Flow Timeout	99		min	
Customer-No.	Yes	No		
Additional Products	Yes	No		
Order Number	Yes	No		~
Billing	Gross & user e	ditable		
Auto. Receipt Print	Yes	No		
Single Receipt per Discharge	Yes	No		
General				
Density access	5 (W&M)			
OBC-Orders only	Yes	No		
dr 🗞 .rl 🛛 🛛 Back		ок		
2 0111				

Fig. 146 : MultiFlow/General menu

General MultiFlow parameters, valid for all metering systems.

## Supported meters

- o General definition of the number of metering systems to be supported by MultiTask.
- o Depends on the number of configured FPI interfaces
- Possible choices:
  - '0' No metering systems are supported
  - '1'.. '3': '1'-'3' metering systems are supported
- o W&M-relevant product parameter
- o Required access level: 5
- Factory setting: "0"
- Collector valve control
  - Determination of the switching combination of the compartment-dependent valves in double meter systems with a double collector.

- "Complete number of valves": In addition to the delivery release valve, the bottom and line valves are switched together with the respective collector valve for each compartment and meter.
  - Separate control of all compartment-specific valves
  - Easy to understand but needs more solenoid valves
- "Reduced number of valves": In addition to the delivery release valve, the bottom and line valve for meter 1 and the bottom valve for meter 2 together with collector valve 2 are switched for each compartment.
  - Optimized control as already known from former NoMix2000
  - Complicate optimized control. Requires less solenoid valves.
- Required access level: 3
- o Factory setting: "Complete number of valves"
- Preset Confirmation
  - Parameters for defining volume preselection behaviour.
  - o "Automatic": Volume preselection is pre-loaded with standard setting.
  - o "Manual": Volume preselection can be manually entered by user.
  - o "Last selection": The last entered and used pre-selection quantity is preset.
  - Required access level: 3
  - Factory setting: "Automatic"
- No. of Discharges

0

- o Maximum number of liquid product deliveries per receipt
  - Possible values:
    - '1'..'9'
- W&M-relevant product parameter
- Required access level: 5
- Factory setting: "1"
- Price Correction
  - Determines whether it is permitted to subsequently change prices of products recorded in measurement system.
  - "No": Subsequent price change not possible.
  - "Yes": Subsequent price change possible.
  - o W&M-relevant product parameter
  - o Required access level: 5
  - Factory setting: "Yes"
- No-Flow Timeout
  - Determines the time period after which a delivery will be terminated if no flow is detected.
  - Possible values:
    - '0' Function not active
    - '1'..'99' minutes

- W&M-relevant product parameter
- Required access level: 5
- Factory setting: "0"
- Customer-No.
  - Activates the input field for the customer number in the quantity pre-selection window.
  - o Required access level: 3
  - Factory setting: "No"
- Additional Products
  - Enables the ability to add multiple products to a delivery (for example, bulk goods).
  - o "No": No additional products can be added to deliveries
  - o "Yes": Additional products can be added to deliveries
  - o Required access level: 3
  - Factory setting: "Yes"
- Order Number
  - o Activates the input field for the order number in the quantity pre-selection window.
  - Required access level: 3
  - Factory setting: "No"
- Billing
  - Defines the type of invoicing
  - Possible choices:
    - "OFF": Delivery notes only
    - "Gross": All deliveries are performed as an invoice (gross)
    - "Net": All deliveries are performed as an invoice (net)
    - "Gross & user editable": All deliveries are performed as an invoice by default (gross) However, the type of invoicing can be changed in the quantity preselection window before starting discharge.
    - "Net & user editable": All deliveries are performed as an invoice by default (net) However, the type of invoicing can be changed in the quantity preselection window before starting discharge.
  - Required access level: 3
  - Factory setting: "OFF"
- Auto. Receipt Print
  - o Automatic printing of new delivery receipt when leaving discharge mode
  - o "No": There is no automatic receipt printing when leaving discharge
  - "Yes": When exiting the discharge process, the current receipt is automatically printed
  - o Required access level: 3
  - Factory setting: "No"
- Single Receipt Per Discharge

- o Separate receipt numbering for each discharge
- "No": Deliveries that were performed one after another in discharge mode are assigned the same receipt number.
- o "Yes": The receipt number is incremented after each delivery operation.
- Required access level: 3
- Factory setting: "No"
- Density access
  - o Defines the parameter protection for product density
  - In order to ensure the legal requirements for temperature quantity conversion, it is no longer sufficient to enter a fixed mean density where product densities severely fluctuate. The mean density is normally controlled as a parameter under calibration protection and can only be changed by breaking the seal. In order to avoid the need to re-seal, the access rights can be parameterised.
  - o Possible choices:
    - '1': The density value from the non- W&M-relevant product data is used for the compensation calculation. The non-calibration relevant density value can be changed by users with access level '1'!
    - '2': The density value from the non- W&M-relevant product data is used for the compensation calculation. The non-calibration relevant density value can be changed by users with access level '2'!
    - '3': The density value from the non- W&M-relevant product data is used for the compensation calculation. The non-calibration relevant density value can be changed by users with access level '3'!
    - '4': The density value from the non- W&M-relevant product data is used for the compensation calculation. The non-calibration relevant density value can be changed by users with access level '4'!
    - '5 (W&M)': The density value from the W&M-relevant product data is used for the compensation calculation. This can only be changed if the W&M seal is broken.
  - W&M-relevant product parameter
  - Required access level: 5
  - o Factory setting: "5"
- OBC Orders only
  - Deliveries can only be carried out on orders transferred from the OBC. Manual deliveries not possible
  - "No": Manual and OBC orders can be performed.
  - "Yes": Only OBC orders are permitted. Manual deliveries not possible.
  - Required access level: 3
  - Factory setting: "No"

# 13.2.9.2 >>> SETTINGS >>> Configuration >>> MultiFlow >>> Currency

ctive Currency	Standard	
xchange Rate	1.00000	
tandard Currency Symbol	EUR	
standard Currency Resolution	2	
Iternative Currency Symbol	USD	
Iternative Currency Resolution	2	
Product Price Resolution	5	

Fig. 147 : MultiFlow/Currency menu

- Currency-specific MultiFlow parameters, valid for all metering systems.
- MultiFlow parameters that are not relevant for calibration.
- Active Currency
  - Selection of the valid currency. All price specifications, invoice data and driver entries are stored in this currency.
  - Possible choices:
    - "Standard": The specifications defined as the default currency are used.
    - "Alternative": The specifications defined as the alternative currency are used.
  - o Required access level: 3
  - Factory setting: "Default"
- Exchange Rate
  - Exchange rate standard currency <-> alternative currency
  - o Required access level: 3
  - Factory setting: "1"
- Standard Currency Symbol
  - o Symbol for the standard currency
  - o Required access level: 3
  - Factory setting: "EUR"

- Standard Currency Resolution
  - Number of decimal places of the standard currency to be included in the price calculation
  - Required access level: 3
  - Factory setting: "2"
- Alternative Currency Symbol
  - o Symbol for alternative currency
  - o Required access level: 3
  - Factory setting: "EUR"
- Alternative Currency Resolution
  - Number of decimal places of the alternative currency to be included in the price calculation
  - o Required access level: 3
  - Factory setting: "2"
- Product Price Resolution
  - o Number of decimal places to be taken into account for the product price
  - Required access level: 3
  - Factory setting: "5"

# 13.2.9.3 >>> SETTINGS >>> Configuration >>> MultiFlow >>> Meters

- Metering system-specific MultiFlow parameters,
- Can be defined separately for each individual metering system



Fig. 148 : MultiFlow/Meters menu

#### MultiTask ◀ ► Menu overview



Fig. 149 : MultiFlow/Meters/Meter <x> menu

Setup	see "Setup" page 265
Delivery	see "Delivery" page 265
Draining	see "Draining" page 274
Flush Meter	see "Flush Meter" page 277
Idle-Mode- Metering	See "Idle-Mode-Metering" page 278

# 13.2.9.3.1 >>> SETTINGS >>> Configuration >>> MultiFlow >>> Meters >>> Setup

	Meters	Meter 1	Set	up
Metering Point Number				
Min. Delivery Volume	200		ł	
Product Compensation	Yes	No		
Pulse	counter			
Pulse Rating	1		pulses/l	
Pulse hysteresis	100			
Limited Return-Flow	Yes	No		
Max. Return-Flow	8.00		e	
Max. Error-Pulses	2		pulses	
Min. Flow-Rate	80		ℓ/min	
Invert Direction	Yes	No		
Temp.	Sensor			
Enable	Yes	No		$\sim$
Temperature Hysteresis	0		1/1000 °C	
Offset	0.00		°C	
Offset 0°C	0.00		°C	
Offset 100°C	0.00		°C	
Additiv	e Pump			~
Pump Position	Pre-Meter			
Piston Capacity	50		mł	
Meter Factor	1			
Hose Volume	50		ł	
Pump Cycle Time	6000		ms	$\sim$
Start Interval	80		ms	
End Interval	80		ms	
Flow	Control			
High Flow Rate ON	5		٤	$\sim$
High Flow Rate OFF	20		٤	

#### MultiTask ◀ ► Menu overview

Wet Hose OFF	0.5	٤	
Dry Hose (Gravity) OFF	0.5	٤	
Dry Hose (Pump) OFF	1.5	ł	
Enable Adjustment	Yes No		
Start Delay	0	sec	
Ctrl-/Release Delay ON	3	sec	
Ctrl-/Release Delay OFF	3	sec	
Hose Set			
Wet Hose	1		
Dry Hose	1		
Dry Hose (pumped)	1		
Bypass Cnt.	1	4	
Unmetered	1		
Additonal Hose Path	1		~
Valves -			
Valve Compilation	Standard		
dr ↔ ‡ Back	ок		

Fig. 150 : MultiFlow/Meters/Meter <x>/Setup menu

- Metering system-specific MultiFlow setup parameters
- Metering Point Number
  - Number of the metering point, see the rating plate of the associated metering system
  - W&M-relevant product parameter
  - o Required access level: 5
  - Factory setting: " "
- Min. Delivery Volume
  - o Minimum delivery volume via the metering system
  - Input option: '0 9999 litres
  - W&M-relevant product parameter
  - Required access level: 5
  - Factory setting: "200 L"
- Product Compensation
  - o General (de)activation of product compensation for this metering system
  - o "No": Product compensation is deactivated for this metering system

- "Yes": Product compensation is activated, but also depends on the type of compensation defined in the respective product setup.
- o W&M-relevant product parameter
- Required access level: 5
- Factory setting: "Yes"

--- Pulse counter ---

- Pulse Rating
  - o Number of pulses per litre (see test certificate and rating plate of the metering system)
  - o Input option: '1 .. 999,9999"litres
  - W&M-relevant product parameter
  - Required access level: 5
  - Factory setting: "1"
- Pulse hysteresis
  - Sensitivity with which the pulse sensor data is sent internally from the FPI interface and processed by MultiTask.
  - o Input option: '1 .. 9999" pulse
  - o W&M-relevant product parameter
  - Required access level: 5
  - Factory setting: "100"
  - o Has no effect on the transmission of pulse sensor data during delivery
- Limited Return-Flow
  - o Limit return or allow unlimited return
  - o "No": No return limitation active, unlimited return permitted
  - "Yes": The return is determined according to the return volume defined under "Max. return volume".
  - o W&M-relevant product parameter
  - Required access level: 5
  - Factory setting: "Yes"
- Max. Return-Flow
  - o Maximum return volume in litres
  - Input range "0.01–99.99 litres"
  - W&M-relevant product parameter
  - o Required access level: 5
  - Factory setting: "8L"
- Max. Error-Pulses
  - Maximum permissible number of error pulses
  - Input range "1–1000"
  - W&M-relevant product parameter

- Required access level: 5
- Factory setting: "2"
- Min. Flow-Rate
  - Minimum flow rate during delivery. Where this is not met, error pulses are not evaluated and discharge is stopped after 30 seconds.
  - o Input range "0-250 litres/min"
  - o "0 litres/min" causes this function to be switched off
  - W&M-relevant product parameter
  - Required access level: 5
  - Factory setting: "80 L/min"
- Invert Direction
  - o Definition of metering system rotation direction
  - o "No": Default metering system rotation direction
  - o "Yes": Reversed metering system rotation direction
  - o "0 litres/min" causes this function to be switched off
  - W&M-relevant product parameter
  - Required access level: 5
  - Factory setting: "No"

--- Temp. Sensor ---

#### Enable

- o General (de)activation of the temperature sensor
- o "No": Temperature sensor deactivated, no temperature compensation possible
- o "Yes": Temperature sensor activated
- W&M-relevant product parameter
- o Required access level: 5
- Factory setting: "Yes"
- Temperature Hysteresis
  - o Sensitivity for internal processing of temperature sensor data
  - Input option "1–9999" 1/1000°C
  - o W&M-relevant product parameter
  - Required access level: 5
  - Factory setting: "100 1/1000°C"
- Offset
  - o Temperature offset
  - Input range "-9.99 to 9.99" °C
  - For the same electronics, see the old parameter list, otherwise preliminary test certificate of the MultiFlow
  - W&M-relevant product parameter

- o Required access level: 5
- Factory setting: "0°C"
- Offset 0°C.
  - Adjustment of the temperature offset at 0°C
  - The parameter is set during the pre-test and cannot be changed.
  - o W&M-relevant product parameter
  - o Required access level: 5
- Offset 100°C.
  - Adjustment of the temperature offset at 100°C
  - The parameter is set during the pre-test and cannot be changed.
  - W&M-relevant product parameter
  - Required access level: 5

--- Additive Pump ---

- Pump Position
  - o Injection point of the additive pump
  - Possible choices:
    - "OFF": No additive pump
    - "Upstream of the metering system": A delivery receipt for product with additive
    - "Downstream of the metering system": For products with additive, a separate delivery receipt is generated for the additive
  - W&M-relevant product parameter
  - Required access level: 5
  - Factory setting: "OFF"
- Piston Capacity
  - o Additive volume per stroke in "mL"
  - Possible values: "10..500 mL"
  - o W&M-relevant product parameter
  - o Required access level: 5
  - Factory setting: "50 mL"
- Meter Factor
  - o Correction factor of the additive pump
  - Possible values: "0.5..1.5"
  - o W&M-relevant product parameter
  - Required access level: 5
  - Factory setting: "1"
- Hose Volume
  - o Volume of the metering system at full hose discharge
  - Possible values: "10..500L"

- o W&M-relevant product parameter
- Required access level: 5
- Factory setting: "50 L"
- Pump Cycle Time
  - o Maximum execution time of a pump cycle in ms.
  - Possible values: "3000–9999 ms"
  - o W&M-relevant product parameter
  - Required access level: 5
  - o Factory setting: "6000 ms"
- Start Interval
  - $\circ$   $\,$  Maximum dwell time of the piston in the rest position in ms  $\,$
  - Possible values: "50..400 ms"
  - W&M-relevant product parameter
  - Required access level: 5
  - Factory setting: "80 ms"
- End Interval
  - $\circ$  Maximum dwell time of the piston in the end position in ms
  - Possible values: "50..400 ms"
  - o W&M-relevant product parameter
  - Required access level: 5
  - Factory setting: "80 ms"

--- Flow Control ---

- High Flow Rate ON
  - o Switching point for switching from reduced to high flow rate
  - Possible values: "1..9999L"
  - Required access level: 3
  - Factory setting: "5 L"
- High Flow Rate OFF
  - o Residual volume at which the switch to reduced flow rate takes place.
  - Possible values: "1..9999L"
  - Required access level: 3
  - Factory setting: "20 L"
- Wet Hose OFF
  - o Residual volume at which the flow is stopped.
  - Possible values: "0–99.9L"
  - Required access level: 3
  - Factory setting: "0.5 L"

- Dry Hose (Gravity) OFF
  - Residual volume at which the flow is stopped.
  - Applies only to empty hose delivery under gravity conditions.
  - Possible values: "0–99.9L"
  - Required access level: 3
  - Factory setting: "0.5 L"
- Dry Hose (Pump) OFF
  - o Residual volume at which the flow is stopped.
  - Applies only to empty hose delivery in pump operation.
  - Possible values: "0–99.9L"
  - o Required access level: 3
  - Factory setting: "1.5 L"
- Enable Adjustment
  - o Activates the automatic pre-stop adjustment
  - o "No": No additional pre-stop adjustment
  - "Yes": Continuous adjustment of the pre-stop for the most accurate possible adherence to advance the specified quantity.
  - Required access level: 3
  - Factory setting: "Yes"
- Start delay
  - o Delay time between hose selection and delivery start.
  - "Possible values: "0..60s"
  - Required access level: 3
  - Factory setting: "0 s"
- Ctrl-/Release Delay ON
  - Delay when activating the control valve before the release valve.
  - Possible values: "0..99s"
  - Required access level: 3
  - Factory setting: "3 s"
- Ctrl-/Release Delay OFF
  - Delay when closing the release valve before the control valve.
  - Possible values: "0..99s"
  - Required access level: 3
  - Factory setting: "3 s"

--- Hose Release ---

- Wet Hose
- Dry Hose

- Dry Hose (pumped)
- Bypass Cnt.
- Unmetered
  - o General definition of the hose paths supported by this metering system.
  - The available selection depends on the outputs for hose path control defined in the sensor setup of the metering system.
  - o Required access level: 3
  - Factory setting: "0"
- Additional Hose Paths
  - o General definition of the additional hose paths supported by this metering system.
  - o Additional hose paths are controlled via the separate I/O interface.
  - The available selection depends on the outputs for hose path control defined in the sensor setup of the metering system for controlling additional hose paths via the I/O interface.
  - Required access level: 3
  - Factory setting: "0"

--- Valves ---

Valve Compilation

- Selection of the valve group for flow control
- o "Default": Standard configuration
- "GVLx\_xM": GVLx-xM, specific actuation for empty hose delivery
- Required access level: 3
- Factory setting: "Default"

## **Note on flow control**

The flow control of the MultiFlow allows the user to precisely pre-select the desired delivery volume. The exact delivery is achieved by the use of a two-stage shutdown.

### Flow control with conventional valve configuration:

Flow control at general valve compilation:



## Flow control using valve group GVLx\_XM (empty hose only):

Flow control utilizing the GVLx-xM valve compilation (only dry hose):



In both control variants shown above, the pre-stop is varied depending on the selected discharge hose. For more on this, see the explanations for the parameters from the "Flow Control" area.

The parameter **"High Flow Rate ON"** controls the changeover from low to high flow:

The switch to high flow rate occurs after the set quantity has flowed (in this example: after 50 litres). At standstill (flow rate = 0 litres/minute), the system is switched back to low flow.

If desired, the flow control can be self-adjusting, i.e. after the delivery is completed, the pre-selection volume and the achieved delivery volume are compared. If the values deviate, the pre-stop is automatically corrected so that the pre-selection quantity is precisely adhered to at the next delivery. However, the step width of the adjustment never exceeds  $\pm 0.2$  litres.

The default settings for the parameter "**Wet hose/Dry hose OFF**" are automatically overwritten but without breaking the electronic seal.

Pre-stop self-adjustment can be switched off using the parameter "Enable Adjustment".

## 13.2.9.3.2 >>> SETTINGS >>> Configuration >>> MultiFlow >>> Meters >>> Meter <x> >>> Delivery

Configuration MultiFlow	Meters	Meter 1	Delivery
Default Preset	50000	٤	
Preset Type	V0		
Order Number Preset			
Ф Ф *	ack		-

Fig. 151 : MultiFlow/Meters/Meter <x>/Delivery menu

- Metering system-specific MultiFlow parameters, particularly concerning delivery
- Default Preset
  - o Standard discharge quantity.
  - o Appears as the default value (pre-set) in the delivery pre-selection

- Possible values: "0.999999L"
- Required access level: 3
- Factory setting: "50000 L"
- Preset Type
  - Specifies whether the pre-selection quantity is shown compensated or uncompensated.
  - o "V0": Pre-selection quantity corresponds to the compensated volume
  - o "VT": Pre-selection quantity corresponds to the uncompensated volume
  - Required access level: 3
  - Factory setting: "V0"
- Order Number Preset
  - o Default pre-selection for the "order number" input field
  - Possible values: Up to 16 characters
  - Required access level: 3
  - Factory setting: " "

## 13.2.9.3.3 >>> SETTINGS >>> Configuration >>> MultiFlow >>> Meters >>> Meter <x> >>> Draining

Configuration MultiFlow	Meters	Meter 1	Draining
Control Mode	Off		1.1
Timeout	1		min
Drain-Request	Yes	No	
фФ \$ <b>В</b>	Back		

Fig. 152 : MultiFlow/Meters/Meter <x>/Draining menu

Metering system-specific MultiFlow parameters, particularly concerning residual emptying

If the draining control is activated, the fill level of the metering system is continuously monitored via the meter sensor connected to the FPI interface,

- If the draining control is activated, it is possible to control draining of the meter from MultiTask. For this purpose, an appropriate pump or the corresponding inlet and outlet valve of the sensor element (air supply and air discharge valve) must be connected to the draining pump output of the FPI interface. Draining can be performed on the metering system using the menu item "/Settings/Service/MultiFlow Draining". It can be controlled there while maintaining the maximum operating time.
  - Control Mode
    - Control of draining
    - "OFF": Draining is not supported
    - o "Al": Control of draining specifically for AI products
    - o "AIII": Control of draining specifically for AIII products
    - W&M-relevant product parameter
    - Required access level: 3
    - Factory setting: "OFF"
  - Timeout
    - Timeout for automatic emptying of the metering system with the help of the residue pump in "AI" or "AIII" mode. When this time is reached, draining is automatically stopped
    - Possible values: "1.20min"
    - o Required access level: 3
    - Factory setting: "2min"
  - Drain-Request
    - Drain prompt appears after each product change.
    - o "No": No residue prompt on product change
    - o "Yes": Residue prompt on product change
    - Required access level: 3
    - Factory setting: "No"

13.2.9.3.4 >>> SETTINGS >>> Configuration >>> MultiFlow >>> Meters >>>Meter <x> >>> Flush Meter

Configuration MultiFlow		Meter 1	Flush Meter
Flush Product			
Default Preset	0	٤	
Min. Flushing Volume	0	و	
\$ \$ \$	lack		

Fig. 153 : MultiFlow/Meters/Meter <x>/Flush Meter menu

- Metering system-specific MultiFlow parameters, particularly concerning flushing the metering system
- Flush Product
  - o Definition of the product to be used for flushing the metering system.
  - Flushing products must be clearly declared as "Flushing product" in the product setup under "Product type"
  - o Required access level: 3
  - Factory setting: "---"
- Default Preset
  - o Specification of the product quantity to be used for flushing the metering system
  - Possible values: "1-999 L"
  - Required access level: 3
  - Factory setting: "0 L"
- Min. Flushing Volume
  - Minimum pre-selection quantity after a product change (due to product contamination) in litres. Record according to calibration specifications.
  - Possible values: "1-999 L"
  - Required access level: 5
  - Factory setting: "0 L"

13.2.9.3.5 >>> SETTINGS >>> Configuration >>> MultiFlow >>> Meters >>> Meter <x> >>> Idle-Mode-Metering

Configuration MultiFlow	Meters	Meter 1	idie-Mode-Mete
Enable	Yes	No	
Minimum Volume	10	٤	
Activation Time	30	S	ec
Timeout	60	S	ec
ф <i>S</i> * Е	Back		

Fig. 154 : MultiFlow/Meters/Meter <x>/Idle-Mode-Metering menu

- Metering system-specific MultiFlow parameters, particularly concerning idle measurement
- The function "Idle-Mode-Metering" is used for product measurement when the MultiFlow control is bypassed. A quantity of dispensed product should be measured which was dispensed when MultiTask was switched on but delivery was not controlled via the MultiFlow application. The measurement is only given in V<sub>T</sub> [L] (at product temperature). The delivered product quantity is calculated based on the "Pulse Rating" specification. Temperature compensation is not performed.
- In order not to make the detection too "nervous" and thus to avoid possible incorrect measurements, a minimum quantity of product must have been measured within a definable "Activation Time" before the measurement is considered valid and continued. If these criteria are not met, the respective measurement is rejected. An idle measurement that is considered valid is automatically terminated as soon as no further product flow could be measured for a time-out period (also definable).

The measurement results of the idle measurement are specifically marked in the logbook.

An additional total accumulator is available to display the measured idle volume. Like the previous total accumulators, this is implemented as a day counter that can be reset and a continuous counter that cannot be reset. This displayed in Setup under /Settings/Totalizer. To avoid confusion, the corresponding idle V<sub>T</sub> counter is only shown when the "Idle-Mode-Metering" function has been enabled.

- Enable
  - Activation of the idle measurement
  - o "No": Deliveries are not monitored when idle
  - o "Yes": Monitoring of any delivery outside discharge mode
  - Required access level: 3
  - o Factory setting: "No"
- Minimum Volume
  - The minimum volume of product that must be measured in the time specified under "Active period" in order for the delivery to be considered valid and continued.
  - Possible values "1–50L"
  - Required access level: 3
  - Factory setting: "10 L"
- Activation Time
  - o Activation period of the idle measurement
  - The period during which the minimum product quantity "minimum quantity" must be measured during idle in order for the measurement to be considered valid and continued.
  - Possible values "1–300s"
  - Required access level: 3
  - Factory setting: "30 s"
- Timeout
  - Period after which an active idle measurement is automatically terminated without further product flow.
  - Possible values "1–300s"
  - Required access level: 3
  - Factory setting: "60 s"

# 13.3 >>> SETTINGS >>> Totalizer

# 13.3.1 MultiLevel

	Total VT [ℓ]	Total V0 [ℓ]	Total Mass [kg]	Tour VT [ℓ]	Tour V0 [ℓ]	Tour Mass [kg]
. 1	0	0	0	0	0	0
. 2	0	0	0	0	0	0
. 3	0	0	0	0	0	0
. 4	0	0	0	0	0	0
(. 5	0	0	0	0	0	0
. 6	0	0	0	0	0	0

Fig. 155 : Totalizer menu (MultiLevel)

- Display of daily and total accumulated values for level gauge data
- Required access level: 1
- Total VT
  - Non-resettable total accumulator for uncompensated VT volumes.
- Tour VT
  - $\circ$   $\;$  Resettable total accumulator for uncompensated VT volumes.
- Total V15
  - $\circ$   $\:$  Non-resettable total accumulator for compensated V\_{15} volumes.
- Tour V15
  - Resettable daily accumulator for compensated V<sub>15</sub> volumes.
- Total Mass
  - o Non-resettable total accumulator for metered mass.
- Tour Mass
  - Resettable total accumulator for metered mass.
- Reset Tour>
  - o Reset all daily accumulator ("totalizer") values.

# 13.3.2 MultiFlow

	M. 1	
Total Mass [kg]	0	
Total V0 [ℓ]	0	
Total VT [ℓ]	0	
Total Additive [mℓ]	0	
Tour Mass [kg]	0	
Tour V0 [ℓ]	0	
Tour VT [ℓ]	0	
Tour Additive [m <sup>e</sup> ]	0	

Fig. 156 : Total values menu (MultiFlow)

- Display of daily and total accumulated values for metering system data
- Required access level: 1
- Total Mass
  - o Non-resettable total accumulator for metered mass.
- Total V0
  - $\circ$  Non-resettable total accumulator for compensated volume V<sub>0</sub>.
- Total VT
  - o Non-resettable total accumulator for uncompensated VT volumes.
- Total Additive
  - o Non-resettable total accumulator for additive.
- Total Idle
  - o Non-resettable total accumulator for idle measurements.
  - o Appears only when idle measurement is enabled.
- Tour Mass
  - o Resettable total accumulator for metered mass.
- Tour V0
  - $\circ$  Resettable daily accumulator for compensated volume V<sub>0.</sub>
- Tour VT
  - o Resettable total accumulator for uncompensated VT volumes.
- Tour Additive

- Resettable total accumulator for additive.
- Tour Idle
  - o Resettable total accumulator for idle measurements.
  - Appears only when idle measurement is enabled.
- Reset tour>
  - Reset all daily accumulator ("totalizer") values.

# 13.4 >>> SETTINGS >>> Service

Settings	Service		
Diagnosis	Update	Temporary Password	Remote Access
Service-Mode	Loading Plan	Inclination-Tour	MultiFlow Calibration
MultiFlow Draining			
के देगा		Back	

Fig. 157 : Service Menu

- Status checks available from AccessLevel '1'.
- For active service tests (for example, setting the outputs on the I/O interface), AccessLevel '3' (Service) is required.









Fig. 158 : Menu Service/Diagnosis



(J)	SPD-Interfaces	see "SPD-Interfaces" page 293
(B)	TAG-Interfaces	see "TAG-Interfaces" page 294
(B)	Wetleg- Interfaces	see "WETLEG-Interfaces" page 295
(F	OP-Interfaces	see "OP-Interfaces" page 296
	Level-Interfaces	see "Level Interfaces" page 297
(F	Meter-Interfaces	see "Meter Interface" page 298
(d)	Additive-Pumps	See "Additive-Pumps" page 300
(F	BlueTooth	see "Bluetooth" page 221
(d)	Ethernet (internal)	see "Ethernet (internal)" page 302
(B)	Display	see "Display" page 303
(Jan	Serial Int. OBC	see "Serial Int. OBC" page 303
(F	Serial Int. Printer	see "Serial Int. Printer" page 304
	USB	see "USB" page 305

## MultiTask ◀ ► Menu overview



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13.4.1.1 >>> SETTINGS >>> Service >>> Diagnosis >>> CAN (HMI)



Fig. 159 : Display of Service/Diagnosis/CAN (HMI) menu

- Diagnosis information for the CAN interface connected to the CAN (HMI) bus.
  - Required access level: 1
- If the CAN bus is not active, the appropriate notice is displayed.
- Number of connected Interfaces
  - $\circ$  ~ Total number of CAN interfaces found on this CAN bus.
- Number of initialized Interfaces
  - $\circ$   $\;$  Number of configured CAN interfaces on this CAN bus.
- Number of erroneous Interfaces
  - o Number of CAN interfaces connected to this CAN bus and sending erroneous data.
- Valid data
  - o Displays whether valid data are being received on the CAN bus.
  - "Yes": Everything is correct.
- Error
  - o Displays whether errors have been detected on the CAN bus.
  - "No": Everything is correct.
- Connected Interfaces
  - o ID of CAN interface recognised on the CAN bus.
- Initialised Interfaces
  - o ID of CAN interface recognised and initialised on the CAN bus.
- Erroneous Interfaces
  - o ID of CAN interface recognised as erroneous on the CAN bus.

# 13.4.1.2 >>> SETTINGS >>> Service >>> Diagnosis >>> CAN (Application 1)

Settings Service Diagnosis CAN (Application	
Number of connected Interfaces	
Number of initialised Interfaces	
Number of erroneous Interfaces	
Valid data	
Error	
Connected Interfaces	
Initialised Interfaces	
Erroneous Interfaces	
d≠ % \$ Back	

Fig. 160 : Display Service/Diagnosis/CAN (Application 1)

- Diagnosis information for the CAN interface connected to the CAN (Application 1) bus.
- If the CAN bus is not active, the appropriate notice is displayed.
- Required access level: 1
- Number of connected Interfaces
  - o Total number of CAN interfaces found on this CAN bus.
- Number of initialized Interfaces
  - o Number of configured CAN interfaces on this CAN bus.
- Number of erroneous Interfaces
  - o Number of CAN interfaces connected to this CAN bus and sending erroneous data.
- Valid data
  - o Displays whether valid data are being received on the CAN bus.
  - "Yes": Everything is correct.
- Error
  - o Displays whether errors have been detected on the CAN bus.
  - "No": Everything is correct.
- Connected Interfaces
  - o ID of CAN interface recognised on the CAN bus.
- Initialised Interfaces
  - o ID of CAN interface recognised and initialised on the CAN bus.
#### Erroneous Interfaces

ID of CAN interface recognised as erroneous on the CAN bus.

# 13.4.1.3 >>> SETTINGS >>> Service >>> Diagnosis >>> CAN (Application 2)



Fig. 161 : Display Service/Diagnosis/CAN (Application 2) menu

- Diagnosis information for the CAN interface connected to the CAN (Application 2) bus.
- If the CAN bus is not active, the appropriate notice is displayed.
- Required access level: 1
- Number of connected Interfaces
  - o Total number of CAN interfaces found on this CAN bus.
- Number of initialized Interfaces
  - Number of configured CAN interfaces on this CAN bus.
- Number of erroneous Interfaces
  - o Number of CAN interfaces connected to this CAN bus and sending erroneous data.
- Valid data
  - o Displays whether valid data are being received on the CAN bus.
  - o "Yes": Everything is correct.
- Error
  - o Displays whether errors have been detected on the CAN bus.
  - o "No": Everything is correct.

- Connected Interfaces
  - $\circ$   $\;$  ID of CAN interface recognised on the CAN bus.
- Initialised Interfaces
  - $\circ$   $\;$  ID of CAN interface recognised and initialised on the CAN bus.
- Erroneous Interfaces
  - $\circ$   $\:$  ID of CAN interface recognised as erroneous on the CAN bus.

#### 13.4.1.4 >>> SETTINGS >>> Service >>> Diagnosis >>> Ethernet

<b>←</b> Settings	Service	Diagnosis	Ethernet	>
IP Address				
4 3 4		Back		

Fig. 162 : Display Service/Diagnosis/Ethernet

- Required access level: 1
- IP address of the external Ethernet interface to the secondary display.
  - o Standard value: 192.168.251.1
- 13.4.1.5 Information elements for >>> Service >>> Diagnosis >>> Interfaces



Fig. 163 : Display Service/Diagnosis/I/O-Interfaces

The basic structure of all CAN interface diagnosis screens is identical for all CAN interfaces.

- Interface number (IF)
  - Number of the interface module. Depending on the type, up to 4 interface modules per type may be used. Where necessary, the scrollbar is needed to move between individual modules.
- CAN info
  - State of CAN communications.
  - "No error": Everything OK
  - "Error": Communication to interface is interrupted.
- SW Version
  - The software version being used on the CAN interface in question as determined by fault-free communication.
- HW Version
  - The hardware version of the CAN interface in question as determined by fault- free communication.

#### 13.4.1.6 >>> SETTINGS >>> Service >>> Diagnosis >>> I/O-Interfaces

1 	2 □ ?						
□ ?	· ?						
1	0						
	2	3	4	5	6	7	8
C1 1 2	C2 0 2	M1 8	C4 1 2	C1 () 还	C2 (公函	M1 👔	692
			Passive	-	Active		
	c1 🖉 🖵	<u>여                                    </u>	cu () C (2 () C (M) (2)	ст <u>()</u> <u>С</u> <u>()</u> <u>()</u> <u>()</u> <u>()</u> <u>()</u> <u>()</u> <u>()</u> <u>()</u>	cr∂₽∝∂₽мı й сr∂₽cr∂≥a	cr () , , , , , , , , , , , , , , , , , ,	다 신 및 요 신 및 여 신 및 여 신 권 교 신 전 M1 위 - Passive Active

Fig. 164 : Diagnosis I/O Interfaces (with parameters for one sensor interface)

IF 1	CAN: No E	Irror	valid	SW-Version:		HW-Ve	rsion:	
Input	1	2						
State	· ?	° ?						
Output	1	2	3	4	5	6	7	8
State	C1 🖉 🖵	C2	C3 🖉 🖓	ç ↔ 0 ₽	C5 0 0	C6 0 7	- -	
IF 2	CAN: No E	Irror	valid	SW-Version:		HW-Ve	rsion:	
Input	1	2						
State	2	· · · · · · · · · · · · · · · · · · ·						
Output	1	2	3	4	5	6	7	8
State	?	2	?	?	2	?	2	?
			П	Passive		Active		

Fig. 165 : Diagnosis I/O-Interfaces (with parameters for two sensor interfaces)

- Overview of the state of the 2 inputs and 8 outputs per interface.
- Required access level: 1
- Display of configuration and compartment information.
  - C<n>: Compartment allocation (e.g. "C1" = Compartment 1)
  - Function allocation (e.g. symbol for bottom valve)
  - '?' when allocation missing
  - o Compartment state, empty or filled (drop symbol)
  - Possible states:
    - Passive
    - Active
- Simple recognition of not-yet configured inputs and outputs.
- State of inputs:

IF 1	CAN:		SW-Version:	HW-Version:
Input	1	2		
State	2	· · · · · · · · · · · · · · · · · · ·		

State of outputs:

Output	1	2	3	4	5	6	7	8
State								
Sidle	C1 🖉 🖓	C2 0 🖓	м1 🚱	C4 0 7	C1 🖉 🖾	C2 () 🖄	M1 🕅	699

Depending on the user's access level (min. Level 3), it is possible to switch the outputs by making the appropriate selection. The correct values are re-written to the output states of the I/O interface only after leaving the diagnosis section. If output states are manually changed in the I/O interface diagnosis, for example, they can be checked in the diagnosis for the sensor interface, if the appropriate sensors and installed and configured.

## 13.4.1.7 >>> SETTINGS >>> Service >>> Diagnosis >>> SPD-Interfaces

Fig. 166 : Diagnosis SPD-Interfaces

- Overview of the state of the 20 outputs per interface.
- Required access level: 1
- Display of configuration and compartment information.
  - C<n>: Compartment allocation (e.g. "C1" = Compartment 1)
  - Function allocation (e.g. symbol for bottom valve)
  - '?' when allocation missing
  - Compartment state, empty or filled (drop symbol)
  - Possible states:
    - Passive
    - Active
    - Disconnected
    - Short-circuit ("shorten")
- Simple recognition of not-yet configured inputs.
- The correct values are re-written to the output states of the I/O interface only after leaving the diagnosis section. If output states are manually changed in the I/O interface

diagnosis, for example, they can be checked in the diagnosis for the sensor interface, if the appropriate sensors and installed and configured.

#### 13.4.1.8 >>> SETTINGS >>> Service >>> Diagnosis >>> TAG-

#### Interfaces

CAN:	1	N	sw-version: ot connected	d	HV	V-Versior	ະ Scan-Mode
Line	Select	Туре	Information	Line	Select	Туре	Information
1				8			
2				9			
3				10			
4				11			
5				12			
6				13			
7				14			

Fig. 167 : Diagnosis TAG-Interfaces

- Overview of the state of the 14 scan channels per interface.
- Required access level: 1
- Scan information for connected product TAGs, including the affected compartments, are dis- played in the overview.
- Scan information for connected vapour recovery TAGs are displayed in the overview.
- When the appropriate scan channel is selected, detailed information is displayed above the overview.
  - Example (scan channel 1 selected):
    - Scan channel '1'
    - Connected to compartment 1 ("C1")
    - Tag serial number "44872"
    - TAG listener "0000"
    - Product code read "AIII SL 68"
    - Associated product name (where product is in setup).
- Switching scan mode
  - It is optionally possible to connect a inclination sensor to scan channel 14 of the TAG interface. In order to read this in the TAG diagnosis, the scan mode must be switched from TAG to inclination sensor. The scan mode changes every time this area is touched.
- Display of configuration and compartment information.
  - C<n>: Compartment allocation (e.g. "C1" = Compartment 1)
  - Allocation of vapour recovery

- '?' when allocation missing
- Simple recognition of not-yet configured scan channels.

#### 13.4.1.9 >>> SETTINGS >>> Service >>> Diagnosis >>> WETLEG-Interfaces

<b>←</b> s	ettings	s	ervice		Diagno	osis		Wetleg-Interfaces	
IF 1	CAN: No	Error	va	lid SW-	Version: 1	.13		HW-Version: 1.0	
Wetleg	1	2	3	4	5	6			
State	(1 W1	C2 ₩1	C3 ₩1	_C4 ₩1	<b>)</b> ?	<b>)</b> ?			
Input	1	2							
State		_ ?							
		Passive	arted		Active		×	Shorted	
	_			0.	,		-		
$\psi$					Ba	ck			

Fig. 168 : Diagnosis WETLEG-Interfaces

- Overview of state of 6 wetleg sensor inputs and 2 digital inputs per interface.
- Required access level: 1
- Display of configuration and compartment information.
  - C<n>: Compartment allocation (e.g. "C1" = Compartment 1)
  - Number of the wetleg sensor (e.g. 'W1' = wetleg sensor 1)
  - '?' when allocation missing
  - Compartment state, empty or filled (drop symbol)
  - o Possible states:
    - Dry
    - Wet
    - Passive
    - Active
    - Disconnected
    - Short-circuit ("shorten")
- Simple recognition of not-yet configured inputs.
- State of the 6 wetleg sensor inputs

IF 1	CAN:			SW-\	/ersion:		HW-Version:
Wetleg	1	2	3	4	5	6	
State	<b>(</b> ) ?	<b>)</b> ?	<b>)</b> ?	<b>)</b> ?	<b>)</b> ?	<b>)</b> ?	
	-						
State	of the	2 dig	ital in	puts			

### 13.4.1.10 >>> SETTINGS >>> Service >>> Diagnosis >>> OP-Interfaces

Settings Service	e Diagnosis	
CAN:	SW-Version:	HW-Version:
OP	Sensor	Product
1	Ð	
2	Ð	
3	Ð	
4	Ð	
Tank not filled	Tank filled	OP heating
¢r ≪ \$	Back	

Fig. 169 : Display Service/Diagnosis/OP-Interfaces

- Overview of the state of the limit sensors, up to 4 in number, connected to the OP interface.
- Required access level: 1
- Display of configuration and compartment information.
  - Product identifier
  - Possible states:
    - OP released (Tank not full)
    - OP stopped (Tank full)
    - OP heating
    - OP not connected
    - Sensor problem
  - Example (OP1):
    - OP1 connected, state "OP heating"
    - Product ID recognised via OP1: "SU10" (depends on product setup)

## 13.4.1.11 >>> SETTINGS >>> Service >>> Diagnosis >>> Level-Interfaces

<b>\</b>	Setting	js	Sen	vice	>	Diagnosis		Level	Interfaces
IF 1	CAN	No Error Level 765329 μ	m	valid S\	W-Vers Dip 0x0	sion: ostick CRC )		HW-Versi Dipstic	on: :k S/N
		Firmware	9		Fin	mware CRC		Param	eter CRC
Dipstick 1	C1	Dipstick 2	C2	Dipstick 3	C3	Dipstick 4	C4	Dipstick 5	Dipstick 6
Level		Level		Level		Level		Level	Level
765.33 mm		602.08 mm		Error: 100		61.32 mm		NC	NC
Offset		Offset		Offset		Offset		Offset	Offset
1.75 mm		1.75 mm		0.76 mm		1.75 mm		0 mm	0 mm
SU 5	4	SU10	۵	DK	۵	VPR	۵		
Temp. 1	C1	Temp. 2	C2	Temp. 3	C3	Temp. 4	C4	Temp. 5	Temp. 6
9.00 °C		8.00 °C		9.00 °C		9.00 °C		NC	NC
Input						Slope			
1		2						Net compared	a d
N/A		N/	A					NOT CONNECT	ea
D Pa	ssive	1		Active		Disc	onnec	ted 🗙	Shorted
4 %						Back			

Fig. 170 : Display Service/Diagnosis/Level-Interfaces

- Overview of all data read from level gauges and level gauge interface.
- Required access level: 1
- This includes:
  - o Information on level gauge connection:
    - Compartment allocation
    - Current level in [mm]
    - Parameterised immersion depth of float in [mm]
    - Product contained in compartment.
    - Compartment state (filled, residual, dry)
  - o Information from temperature sensor connection:
    - Compartment allocation
    - Current temperature in [°C]
  - o Information from inclination sensor connection:
    - Roll
    - Pitch
  - State information from the two digital inputs.
    - "N/A" = not used
  - Additional level gauge information when selecting a specific level gauge area (in above example: Compartment 1):
    - Compartment number:
    - Current level in [µm]
    - Level gauge CRC
    - Level gauge serial number

- Level gauge firmware
- Level gauge firmware CRC
- Level gauge parameter CRC

## 13.4.1.12 >>> SETTINGS >>> Service >>> Diagnosis >>> Meter-Interfaces

IF 1	CAN: No	Error	valid	SW-Version:	1.0	HW	-Version: 1.0	
Input	1	2	3	4	FREQ	PULS	ERR	TEMP
State				NPN 💭	° ?	+ 0 - 0	0 ERR	21.52°C
Output	1	2	3	4	5	6	7	8
State			•		•		•	
			(*)	(*)	0	0		(x)
		00			02	00		

Fig. 171 : Display Service/Diagnosis/Meter-Interfaces

- Overview of all data determined by the FPI interface.
- Required access level: 1
- This includes:

- Input states IN1–IN5
  - Icons:
    - Input metering system sensor
    - Input additive pump end position sensor
      - Input additive pump rest position sensor
        - Input additive pump fill level sensor
  - .
- Overfill protection input (digital)

- Status of the frequency input IN5
- Pulses counted at the pulse input
  - Separate counters depending on the direction of rotation
  - Display pulse values with internal accuracy (the counters are increased by the value '4' per pulse)
- o Display of pulse errors
- o Determined temperature
- Conditions of the outputs OUT1–OUT8
  - Icons:
  - Bypass output
  - Wet hose output
  - Wet hose high output
  - Ory hose output
  - Ory hose high output
  - Oraining pump output
  - Dual-Hose outlet pos. 1
  - Dual-Hose outlet pos. 2
  - Unmetered output
  - Additive pump output

The diagnostic meter interface is only used for general function tests and not for calibration!



The displayed pulse number depends on the pulse hysteresis defined in the setup. Pulses are only sent from the FPI interface to the MultiTask if the pulse number defined here is exceeded. Accordingly, the pulses displayed here may differ from the number of pulses actually counted.

# 13.4.1.13 >>> SETTINGS >>> Service >>> Diagnosis >>> Additive Pumps



Fig. 172 : Display Service/Diagnosis/Additive Pumps

- Overview of all states of the additive pump determined by the FPI interface (if configured).
- Option to perform a test stroke.
- Required access level: 5
- To determine that the additive pump is functioning correctly, a test stroke can be performed using **<START>** (*"Start Cycle"*). This test also includes monitoring of reservoir, piston end and rest position, and cycle time. During the test stroke, the status of the output required for actuation of the additive pump is displayed along with the associated sensor states.

### 13.4.1.14 >>> SETTINGS >>> Service >>> Diagnosis >>> Bluetooth



Fig. 173 : Display Service/Diagnosis/Bluetooth

- Display information from Bluetooth module.
- Required access level: 1
- Status
  - Current status of Bluetooth module.
- SW version
  - o Current software version of Bluetooth module.
- Device name
  - Internal identifier of Bluetooth module.

13.4.1.15 >>> SETTINGS >>> Service >>> Diagnosis >>> Ethernet (internal)

Settings	Service	Diagnosis	Ethernet (internal)	
IP Address		NA		
4 %		Back		

Fig. 174 : Display Service/Diagnosis/Ethernet (internal)

- Display the IP address of the internal Ethernet interface
  - o Standard value: 192.168.250.1
- Required access level: 1

# Settings Service Diagnosis Display Disp

13.4.1.16 >>> SETTINGS >>> Service >>> Diagnosis >>> Display

Fig. 175 : Display Service/Diagnosis/Display

- General test of display with aid of a test pattern.
- Required access level: 1

13.4.1.17 >>> SETTINGS >>> Service >>> Diagnosis >>> Serial int. OBC

Settings Service	Diagnosis Serial Int. OBC	
Interface	RS232/485	
Interface Type	RS232	
Baud Rate	9600	
Data Bits	8	
Stop Bits	1	
Parity	No	
Flow Control	No	
\$ \$ \$	Back	



- Display for the OBC serial interface.
- Required access level: 1
- COM-Port
  - o For example: "RS232/485"

- Interface-Type
  - For example: "RS232"
- Baud Rate
  - For example: "115200 baud"
- Data Bits
  - For example: "8"
- Stop Bits
  - For example: "1"
- Parity
  - For example: "no"
- Flow Control
  - For example "Xon/Xoff"

#### 13.4.1.18 >>> SETTINGS >>> Service >>> Diagnosis >>> Serial int. Printer

Settings Service	Diagnosis S	erial Int. Printer
COM-Port	RS232	
Interface Type	RS232	
Baud Rate	9600	
Data Bits	8	
Stop Bits	1	
Parity	No	
Flow Control	Xon/Xoff	
48 \$	Back	

Fig. 177 : Display Service/Diagnosis/Serial printer

- Display for the printer serial interface.
- Required access level: 1
- COM-Port
  - For example: "RS232/485"
- Interface-Type
  - For example: "RS232"

- Baud Rate
  - For example: "115200 baud"
- Data Bits
  - For example: "8"
- Stop Bits
  - For example: "1"
- Parity
  - For example: "no"
- Flow Control
  - For example "Xon/Xoff"

#### 13.4.1.19 >>> SETTINGS >>> Service >>> Diagnosis >>> USB

Settings Service	Diagnosis	USB	
USB Status	Unknown		
Vendor			
Model			
Size	0		
Mounting Point			
Path			
Device accepted	No		
Update-File detected	No		
Directory Structure OK	No		
\$\$\$\$ \$	Back		

Fig. 178 : Display Service/Diagnosis/USB

- Information on USB connection. When a USB stick is connected, the information determined by the system will be displayed here.
- One indication of a connected, recognised USB stick is that the USB symbol is white. If nothing is recognised on the USB interface, the symbol is greyed out.
- Required access level: 1
- USB status
  - o Unknown
  - o Connected

- Vendor
  - Vendor/manufacturer information for the connected USB stick.
- Model
  - o Model information for the connected USB stick.
- Size
  - Size information for the connected USB stick.
- Mounting point
  - o System information about where the drive is logically connected within the sys- tem.
- Path
  - o System information about where the drive can be accessed within the system.
- Device accepted
  - o Information about whether or not the device has been fully recognised and can be used.
- Update-File detected
  - o Is an update file present in the update directory on the USB stick?

#### 13.4.1.20 >>> SETTINGS >>> Service >>> Diagnosis >>> GPS

Settings Service	ce Diagnosis G	PS	
Timestamp	0001-01-01 12:00:00am		
Longitude	+ 0.000000	o	
Latitude	+ 0.000000	٥	
Altitude	0	m	
Quality	0	de l'	
Satellites	0		
HDOP	0	m	·
Time Diff	0	sec	
Speed	0	km/h	
Direction	0	•	
4 3 \$	Back		

Fig. 179 : Display Service/Diagnosis/GPS

Information on GPS interface. If valid GPS information is received via the GPS interface, the information received by the system is displayed here.

- One indicator of valid GPS information is the white satellite symbol. With 3 satellites, the symbol has one bar. For more than 3 satellites, it has 2 bars.
- Required access level: 1
- The following GPS information is displayed:
  - o Timestamp
  - o Longitude
  - o Latitude
  - o Altitude
  - o Quality
  - o Satellites
  - HDOP
  - $\circ$  Time diff.

13.4.1.21 >>> SETTINGS >>> Service >>> Diagnosis >>> GSM/GPRS

Settings Service	Diagnosis	GSM/GPRS	
Device Name			
IMSI			
IMEI			
RSSI	0		
BER	0		
Operator Info			
Mode GSM	No Network		~
SW-Version			
Mode GPRS	Ready		
PPP-Interface			
TTY Device		~~	
TX Speed	0		
Local IP			
Remote IP			
Status LT-Server	Unknown		
¢r≪>	Back		

Fig. 180 : Display Service/Diagnosis/GSM/GPRS

- General information on the GSM module and the state of possible GPRS transfers.
- One indicator of signal strength information for the GSM module is the maximum of 3 GSM bars.
- Required access level: 1
- The following GSM/GPRS information is displayed:
- Device name
  - Internal name for GSM module
- IMSI
  - o International Mobile Subscriber Identity
  - o Unique identifier for GSM module

IMEI

- o International Mobile Equipment Identity
- Unique 15-digit serial number, which allows every GSM- or UMTS device worldwide to be uniquely identified.
- Dependent on SIM card.
- RSSI
  - o Received Signal Strength Indicator
  - o Display of signal quality.
- BER
  - o Bit Error Ratio
  - o Bit error ratio
- Operator Info
  - o Information about the GSM operator currently in use
  - 1:1 Feedback of the command "AT+COPS?"
- Mode GSM
  - o Current operating status of GSM module.
- SW-Version
  - o Version information for the GSM module's software.
- Mode GPRS
  - Status of the GPRS connection
  - o "Offline": No GPRS connection present.
  - o "Online": GPRS connection present.
- PPP-Interface
  - o Internal identifier for the interface being used.
- TTY Device
  - o Internal identifier for the interface used by the PPP service.
- TX Speed
  - Data transfer rate for the PPP connection.
- Local IP
  - Local IP address of the PPP connection.
- Remote IP
  - Remote IP address of the PPP connection.
- Status LT server
  - o Status of connection to configured LT server.

13.4.1.22 >>> SETTINGS >>> Service >>> Diagnosis >>> System



Fig. 181 : Display Service/Diagnosis/System

- Internal system information. This includes:
  - Process names
  - Version information
  - Build information
- Required access level: 1

# 13.4.2 >>> SETTINGS >>> Service >>> Temporary Password



Fig. 182 : Display Service/Temporary Password

Input and activation of temporary passwords

- Allows users with a low access level to gain an increased access level for a specified period of time from a specified point in time.
- Temporary passwords are generated using a separate Windows program.
   Following settings can be defined:
  - Beginning of validity
  - Period of validity
  - Access level
- Temporary Password
  - o Text input field for entering the temporary password
  - o See also chapter 14.6
- Apply Temporäry AccessLevel
  - o Checking and acceptance of the password entered under "Temporary password".
- Required access level: 1

## 13.4.3 >>> SETTINGS >>> Service >>> Update

Settings Service	Update
HMI Update Status	Not available
Appl. Update Status	Not available
2nd Display Update Status	-
Copy Update-Files from USB	Start
FTP Update Check	Start
Clear Update Folder	Start
Start Update	Not available
ф. <i>4</i> 5	Back

Fig. 183 : Menu Service/Update

- General update management
  - Update can only be performed when compartments are empty.
- HMI Update Status
  - o Update status of W&M-relevant display on the main device.
  - o Update only possible when no W&M seal is set.
  - If an update is available, additional version information for the update will be displayed.
- Appl. Update Status
  - Update status of non-W&M-relevant lower part (application interface) of main device.
  - Update possible independent of W&M seal.
  - If an update is available, additional version information for the update will be displayed.
- 2nd Display Update Status
  - Update status of non-W&M-relevant secondary display.
  - Update possible independent of W&M seal.
  - If an update is available, additional version information for the update will be displayed.
- Update files from a connected USB stick may be copied onto the system.
  - The update files must be saved in the "/MultiTask/update" directory on the USB stick.
  - This procedure only copies the update files to the MultiTask. The update itself is not started.
  - Required access level: 3

- FTP Update Check
  - The configured update FTP server is checked for available update files. If a version other than the currently installed version is available, a download is commenced.
  - o Required access level: 3
- Update files may be deleted from the system.
  - If an available update is shown in the update status of the respective MultiTask system, this file may thus be deleted system-wide.
  - o Required access level: 3
- Start Update
  - This control element may only be selected if an update is available for a MultiTask system component and displayed in the "Status" area.
  - o Simultaneously starts all available updates.
  - o The user is informed of progress during the update of a system component.
  - o After the update completes, the system needs to be restarted.
  - After the restart, the user must confirm that the system startup was correct in order to permanently accept the update.
    - If the update is not confirmed or if it is interrupted/cancelled, the system will start with the previous version after a restart.
  - Required access level: 3

		_
HMI Status	Not necessary	
App Status	Preparing Database	
Secondary Display Status		
Progress		

# Fig. 184 : Update

# 13.4.4 >>> SETTINGS >>> Service >>> Remote access

Settings Service	Remote Acces	s	-	
CSI	)			
Enable	Yes	No		
Access ACK	Yes	No		
Offline	St	art		
VPM	4	6	/	
Connect VPN	St	art		
Disconnect VPN	St	art		
IP-Synchronization	St	art		
Connect VPN via ethernet	St	art		
Bac	k	ок		

Fig. 185 : Menu Service/Remote access

#### Remote access via CSD (direct call via GSM)

#### Enable

- "No": Remote access prohibited.
- "Yes": Allow remote access.
- o Required access level: 4

• Factory setting: "Yes"

#### Access ACK

- o "No": Remote access possible without additional confirmation by user.
- o "Yes": Remote access only possible with additional confirmation by user.
- Required access level: 4
- Factory setting: "Yes"
- Offline
  - If the system is still online due to a transmission, it can be made to go offline by pressing this button.
  - The system can only be reached via CSD (direct dialing using a data phone number) when it is offline.
  - Required access level: 2

#### Remote access via VPN

- Connect VPN
  - o Establishes a connection to the configured OpenVPN server via the GSM module
  - After successful login to the OpenVPN server, the VPN IP address required for remote access is recorded in the logbook and history and also transferred to the Service-FTP server as part of the system info file. In addition, it is displayed in the GSM/GPRS diagnosis.
  - Required access level: 1
- Disconnect VPN
  - Terminates an existing connection to the configured OpenVPN server.
  - Required access level: 1
- IP-Synchronization
  - Upload the system-info-file to the Service-FTP server, which contains information for remote access (VPN IP address).
  - Required access level: 1
- Connect VPN via ethernet
  - Establishes a connection to the configured OpenVPN server via the external Ethernet interface.
  - After successful login to the OpenVPN server, the VPN IP address required for remote access is recorded in the logbook and history and transferred to the Service-FTP server as part of the system-info-file. In addition, it is displayed in the GSM/GPRS diagnosis.
  - Required access level: 3

13.4.5 >>> SETTINGS >>> Service >>> Service-Mode

Settings Service	Service-Mode
Service-Mode	Start
Service-Mode BlueTooth	Start
Offline	Start
Clear SysLog TX-Files	Start
¢3) **	Back

Fig. 186 : Menu Service/Service-Mode

- Special functions needed for system service.
- Service-Mode
  - Activate the input console on the serial interface.
  - Required access level: 3
- Service-Mode Bluetooth
  - o Activate the input console on the Bluetooth interface.
  - o Required access level: 3
- Offline
  - Interrupt an active connection to the LT server for 5 minutes in order to allow remote access.
  - o Required access level: 3
- Clear SysLog Tx-Files
  - Delete system logbook files which were to be sent to the data FTP server but have not yet been sent.
  - o Required access level: 3

# 13.4.6 >>> SETTINGS >>> Service >>> Loading Plan

Settings	Sen	rice Loading P	Plan
1	Enter Loa	ading Plan	
Comp.	1: 💧	ОК	
Comp.	2: 💧	SU 5	
Comp.	3: 💧		
Comp.	4: 💧		
Comp.	5: 💧		
Comp.	6: 💧		
Additive Pur	np 1:		
		Zurück	ок

Fig. 187 : Menu Service/Loading Plan

- Change loading plan, even for non-empty compartments.
- Required access level: 4
- Only possible when the W&M seal is not active.
- Display of available compartments and their state (wet, rest, full) and the products they contain.



Fig. 188 : Menu Service/Loading Plan — product selection

# 13.4.7 >>> SETTINGS >>> Service >>> Inclination-Tour



Fig. 189 : Menu Service/Inclination-Tour

- Supports level gauge calibration.
- Display the current pitch and roll, the compartment state and the current compartment volume.
- Possibility of individual direct adjustment of the X and Y offset for each compartment.
- Direct printing of system information, compartment volume and pitch/roll values.
  - Required access level: 3
- Sample printout:

Inclination Tour				
MultiTask 1.5.0 / 1.5.0				
Serial No.: 70245B7F0000006E				
Date: 22.12.2016 17:20				
Driver: MultiTask W&M				
Tank ID: 112233				
Truck ID: PI-SM-172				
=======================================				
Compartment 1: ~~~ 7000 L				
Compartment 2: ~~~ 7000 L				
Compartment 3: ~~~ 7000 L				
Compartment 4: ~~~ 7000 L				
Compartment 5: ~~~ 7000 L				
Pitch: -0.8 DGR				
Roll: 0,3 GRD				

--- End of printing ---

# 13.4.8 >>> SETTINGS >>> Service >>> MultiFlow Calibration



Fig. 190 : Service/MultiFlow Calibration menu

<b>←</b> s				MultiFlow C	alibra M		
Calib	oration	Meter 1:					
0	00	000	0	l	VT	Start	
Volume V {	т	Volume V0 ℓ		Product to °C	əmp.	Flow rate ℓ/min	
Beiaktue 0.0000	llem K-Faktor	: vo C	lume VT ).0 {		١	/olume V0 0.0 ℓ	
Actual	٤	K1	1		ℓ/min	1	$\checkmark$
Target		K2	1		<b>ℓ</b> /min	1	$\checkmark$
ℓ/min		K3	1		ℓ/min	1	$\checkmark$
Factor	1.00000	0 K4	1		ℓ/min	1	$\checkmark$
Übernehm	en in Produkt	:				Apply	

Fig. 191 : Service/MultiFlow Calibration/Metering System <x>

Required access level: 5

The MultiTask application "MultiFlow" supports calibration of the metering system using this item in the service area. Before calibration, the basic parameters of the product must first be defined:

- Product code
- Reference product name
- Product type (liquid product)

• Unit

The calibration is carried out to determine the product-dependent and flow-dependent meter factors. For this purpose, several deliveries are carried out at different flow rates and a target-actual-value comparison is then carried out. Calibration mode supports the determination of the meter factors and their assignment to the respective product.



*No volume correction* occurs while delivery in calibration mode. Neither temperature compensation nor any previously defined meter factors are active.

After discharge is complete, the measured delivered volume, measured flow rate and the previous meter factor are displayed under "actual", "I/min" and "factor" and cannot be changed.

In the "setpoint" field, the actual delivered volume determined by the calibration container may be entered manually. These values can now be used to calculate up to 4 meter factors.

Pressing the respective confirmation button determines for which of up to 4 meter factors "K1"– "K4" the calculation is to be applied. When the button is pressed, the flow rate and the calculated meter factor are applied. This process can be repeated as desired. Since the calibration mode is only used to help determine the meter factors, the individual values can also be modified manually at any time.

If meter factors and flow rates are defined, they can be transferred to the W&M setup of the selected product via "Apply to product" area.

Ger If the counter is to be moved slightly to the positive or negative, this can be done by slightly varying the setpoint (measured volume of the calibration can) during the input. The following example illustrates this.

#### Example:

The volume display shows exactly 1000.0  $\ell$  and exactly 1000.0  $\ell$  volume was also measured in the calibration container. Based on measurements already taken, the displayed value should be shifted slightly in the **positive** direction. For the setpoint (measured value of the calibration container), do not enter the actual measured volume, but use a slightly increased volume as a basis.

For example, if you enter 1010.0  $\ell$  (see table), a meter factor of about 1.01 (positive displacement) is obtained. This meter factor means that a volume 1.01 times larger will be displayed next time the same volume is delivered.

In the opposite case, i.e. if the counter should be shifted slightly in the **negative** direction, enter a setpoint of 990.0  $\ell$  accordingly. At the next delivery, the actual measured volume will now be displayed reduced by a factor of 0.99.

MultiFlow (actual)	MultiFlow (target)	Metre factor
1000.0	1010.0	1.010000
1000,0	1000,0	1.000000
1000.0	990.0	0.990000

Example of positive or negative offset:

In general, only the setpoint can be changed during input. The actual value is always determined by the MultiFlow application. The same applies to the other values, such as the mean flow rate.

The meter factor is calculated in the MultiFlow application according to the following formula:

Meterfakto 
$$r = \frac{V_{Soll}}{V_{lst}}$$

- For *flow-dependent* compensation, enter the different flow rates at which the meter factor was determined, together with the determined meter factor, in the correction table.
- If you wish to work *with only one meter factor* across the entire flow rate range (which is normally the case), enter the *maximum* flow quantity from the counter. You also need to enter the determined meter factor under Factor. All other flow rates must be set to 0.
- Ger If the bottom valves are controlled via the IO interface, they can be switched via the overlay chamber view. The chamber view can only be displayed if an IO interface is also configured.

ء 🗲			MultiFlow			
Calib	pration Mete	er 1:	Dk			
0	0000	) (	00	VT	Start	
	Volume VT O {	Vol O	ume V15 {	Product temp. 0.00 °C	Flow rate 0.0 l/mi	n
٦	At current factor: 0.000000		<b>Volume VT</b> 0.0 ℓ		<b>Volume V15</b> 0.0 ℓ	
Actual	01	K1	1	ℓ/min	0	$\checkmark$
Target		K2	1	ℓ/min	0	$\checkmark$
ℓ/min	0.0	K3	1	ℓ/min	0	$\checkmark$
Factor	1.000000	K4	1	ℓ/min	0	$\checkmark$
Apply to product:		Dk			Apply	

Fig. 192 : Menu Service/MultiFlow-Calibration/Meter <x> valve control via IO-Interface

# 13.4.9 >>> SETTINGS >>> Service >>> MultiFlow Draining



Fig. 193 : Service/MultiFlow Draining menu

Settings			
Draining Me	eter 2: Start	۵	
Compartment 1:	Diesel	<b>G</b>	
Compartment 2:	Diesel	-	
Compartment 3:	Super E5	-	
Compartment 4:	Super E10	2	

Fig. 194 : Service/MultiFlow Residue Removal/Metering system <x> menu

- Required access level: 1
- Using the service item "MultiFlow Draining", the residue can be removed from the metering system via a draining pump connected to the FPI interface. The inputs and outputs required for draining must be configured correctly for this purpose.
- Draining is started by pressing the **START>** key. Pressing the **STOP>** key interrupts the draining and pressing the key again restarts it.

- If draining is not stopped manually with <STOP>, it will be terminated automatically following the "Timeout" specified in the draining setup.
- The draining process is automatically stopped after a complete drain (empty droplet icon) and refill cycle (full droplet icon) has been detected.



During draining, the condition of the meter sensor is monitored. The status of the sensor is indicated by the droplet symbol

If the system is equipped with an additional I/O interface for controlling



the bottom valves, these can be opened or closed via the button **the respective compartment**.

The buttons can be selected as soon as the metering system is determined by the meter sensor to no longer be full (empty drop symbol).

# 13.5 >>> SETTINGS >>> Logout

Settings	
Display	Configuration Totalizer Service
	Po you really want to logout "MultiTask W&M"?
Logout	Cancel Logout
Printout	Electronic Seal Manual
\$ \$ \$	Back

Fig. 195 : Menu Logout

- Log the current user out of the system.
- Logout only completed after confirmation in following screen.



- After logout, the system cannot be used until a user logs in with username and password.
- Templates for users with different access levels:
  - "AccessLevel 1": "Driver". User without access to configuration. Sensor status can be checked for service purposes.
  - "AccessLevel 2": "Master-Driver". User with extended access rights. Sensor status can be checked for service purposes. Logbook can be checked and transmitted via GPRS.
  - "AccessLevel 3": "Service". Access to almost all parameters or, if W&M seal is set, to all non-W&M-relevant parameters, and to the service area. No access to pricesensitive and administrative parameters such as management of geofencing tables.
  - o "AccessLevel 4": "Admin". Access to all non-W&M-relevant parameters.
  - "AccessLevel 5": "MultiTask W&M". Access to all parameters or, if W&M seal is set, to all non-W&M-relevant parameters. If W&M seal is set, AccessLevel automatically downgraded to '4'.
## 13.6 >>> SETTINGS >>> Loading Plan

- Manual entry of loading plan.
- When loading from above, or when loading without encoding, it may be necessary to enter the new loading plan manually.
- This function must be enabled in the vehicle using the associated parameter. Otherwise, this feature is not available.
- Loading plan can only be entered from Loading mode.
- Required access level: 1



Fig. 196 : Loading Plan Menu — Information message

	gs	$\geq$	Loading Plan			_
	Ent	er Lo	oading Plan			
Comp.	1:	٥				
Comp.	2:	$\Diamond$				
Comp.	3:	٥				
Comp.	4:	٥	SU 5			
Comp.	5:	٥	SUP			
Comp.	6:	٥	-			
Additive Pump	1:			0	ł	
			Zurück	0	ĸ	

Fig. 197 : Loading plan Menu



Fig. 198 : Loading plan (litre input required)

- Changes to loading plan are only possible when compartments are empty.
- After confirming with <OK>, the system returns to Loading mode. If after connecting the loading arm to the vehicle a different product is recognised as that defined here, the product is updated according to the loading arm.
- Depending on the configured type of manual load plan, there may be different items in the load plan display. In addition to simple product assignment, it is optionally possible to enter loading quantities with the setting "litre input required" (only with MultiFlow). If an I/O interface is available for controlling the bottom valves, the bottom valves can also be actuated directly.

# 13.7 >>> SETTINGS >>> Seal MultiSeal



Fig. 199 : Menu Seal MultiSeal



# 13.7.1 >>> SETTINGS >>> Seal MultiSeal >>> Status



Fig. 200 : Menu Seal MultiSeal/Status

- Selection of compartment for which MultiSeal seal information is to be displayed.
- Here as an example Compartment 1.
- Required access level: 1

### 13.7.1.1 >>> SETTINGS >>> Seal MultiSeal >>> Status >>> Compartment <x>

Settings Set	eal MultiSeal Status Compartment 1	
Report Number	0	
Compartment	1	
Seal State	broken	
Product	DK	
Seal Time Stamp	1970-01-01 12:59:59am	
Seal User	MultiTask W&M	
Seal GPS	LAT:0/LON:0	~
Seal break Time	1970-01-01 12:59:59am	
Seal break User	Driver	
Seal break GPS	LAT:0/LON:0	
¢n ↔ *	Back	

Fig. 201 : Menu Seal MultiSeal/Status/Compartment 1

- Required access level: 1
- Here as an example Compartment 1.
- Report Number
  - Sequential number of the MultiSeal seal
- Compartment
  - o Indicates the compartment being displayed
- Seal State
  - o Status of MultiSeal seal
- Product
  - o Product contained in compartment at the time when the MultiSeal seal was set.
- Seal Time Stamp
  - Timestamp for time when the MultiSeal was set.
- Seal User
  - User logged in at time when the MultiSeal was set.
- Seal GPS

- GPS positioning data for time when the MultiSeal was set.
- Seal break Time
  - o Timestamp for time when the MultiSeal seal was broken.
- Seal break User
  - User logged in at time when the MultiSeal seal was broken.
- Seal break GPS
  - GPS positioning data for time when the MultiSeal seal was broken.

### 13.7.2 >>> SETTINGS >>> Seal MultiSeal >>> Print



Fig. 202 : Menu Seal MultiSeal/Print

- Output MultiSeal seal report to printer!
- Required access level: 1
- Sample printout:

Status report	t
No.:	59
MultiTask	1.5.0 / 1.5.0
Serial No .:	706904D9000000B
Date:	22.12.2016 14:25
Driver:	MultiTask W&M
Tank ID:	Tank123
Truck ID:	PI-SM-123

\_\_\_\_\_ Compartment 1: DK -?-Seal broken 21/12/2016 14:31:13 -----Compartment 2: SU10 -?-Seal broken 21/12/2016 14:31:13 \_\_\_\_\_ Compartment 3: VPR -?-Seal broken 21/12/2016 14:31:13 -----VPD Compartment 4: -?-Seal broken 21/12/2016 14:31:13 \_\_\_\_\_ --- End of printing ---

# 13.8 >>> SETTINGS >>> Datatransfer



Fig. 203 : Menu Data transfer



(F	Logbook	see "Logbook" page 335
	Database	see "Database" page 337
(B)	Configuration	see "Configuration" page 338
(B)	Layouts	see "Layouts" page 339
(D)	Screenshots	see "Screenshots" page 340
(F	Profiles	see "Profiles" page 341
Ē	Level Tables	see "Level Tables" page 342
(B)	Parameter	see "Parameter" page 343
Ē	Feature Key	see "Feature Key" page 344

# 13.8.1 >>> SETTINGS >>> Datatransfer >>> USB Interface

Fig. 204 : Datatransfer/USB

- Identical with "USB/General" in interface configuration. Also available here to allow for rapid preparation of USB stick for data transfer if needed.
- "Init": Initialising the USB stick with the MultiTask directory structure required for data transfer.
  - o Required access level: 3



Fig. 205 : USB stick directory structure

- "Clear & Init": Deletes an existing MultiTask folder structure on the USB stick and creates a new MultiTask folder structure.
  - Required access level: 3
- "Eject": Ends all read and write access to the USB stick so that it can be disconnected from the system without data loss.
  - Required access level: 1

# 13.8.2 >>> SETTINGS >>> Datatransfer >>> Bluetooth

Settings	Datatransfer	BlueTooth		
Start Scan			OK	
Scan Results				
1.0			_	
Ψ· <i>δ</i> *		Back		

Fig. 206 : Menu Datatransfer/Bluetooth

- Connected devices
  - Display of devices connected with MultiTask via Bluetooth.
- Start Scan
  - o Search for visible Bluetooth devices in the vicinity of the MultiTask system.
  - o Required access level: 3
- Scan Results
  - o Bluetooth devices found in an already completed scan are listed here.
  - o Required access level: 3

## 13.8.3 >>> SETTINGS >>> Datatransfer >>> Logbook

Settings	Datatransfer	Logbook	-
Destination		FTP	
Туре		Complete	
Start Date		2022-01-12	
Start Time		00:00	
End Date		2022-01-12	
End Time		23:59	
Export		Export	
43 *		Back	

Fig. 207 : Menu Datatransfer/Logbook

- Destination
  - Setting for which interface is to be used for data transfer.
  - Possible choices:
    - FTP: Transfer data to FTP server
    - USB: Transfer data to prepared USB stick, in "/MultiTask/logbook" directory
  - Required access level: 2
- Туре
  - o Definition of logbook to be transferred
  - o Possible values (dependent on destination chosen):
    - Complete: Event and delivery data over the specified time period in FTL format.
      - EVE-Files
      - LEV-Files
      - MTR-Files
    - Complete (HTML): "System" logbook in HTML format. Files are transferred in the compressed format ".tar.gz". After decompressing the logbook can be viewed on the PC using any web browser.
    - Complete W&M (HTML): "W&M" logbook in HTML format. Files are transferred in the compressed format ".tar.gz". After decompressing the logbook can be viewed on the PC using any web browser.
    - Delivery: Delivery data over the specified time period in FTL format.
      - LEV-Files
      - MTR-Files

• Event: Event data over the specified time period in FTL format.

• EVE-Files

- System: System log files. Files are transferred in the compressed ".tar.gz" format.
- Required access level: 2
- Start Date
  - Starting date for logbook entries; not needed for all logbook types.
  - Required access level: 2
- Start Time
  - Starting time for logbook entries; not needed for all logbook types.
  - Required access level: 2
- End Date
  - Ending date for logbook entries; not needed for all logbook types.
  - o Required access level: 2
- End Time
  - Ending time for logbook entries; not needed for all logbook types.
  - o Required access level: 2
- Export
  - Start data transfer.
  - Required access level: 2

# 13.8.4 >>> SETTINGS >>> Datatransfer >>> Database

Settings	Datatransfer	Database
Interface		USB
Import		ОК
Export		ОК
43 \$		Back

Fig. 208 : Menu Datatransfer/Database

- There are 2 SQLite databases in the MultiTask. The central database containing all settings and logbook entries, and the database of the W&M-relevant system, used as long-term W&M storage.
- Files are saved compressed in ".tar.gz" format. Import accepts ".tar.gz" and ".sqlite" formats.
- Interface
  - o Setting for which interface is to be used for data transfer.
  - o Possible choices:
    - USB: Transfer data to/from prepared USB stick, in "/MultiTask/database" directory
  - o Required access level: 3
- Import
  - Import the database from the "/MultiTask/database" directory on the USB stick into MultiTask.
  - o Required access level: 3
- Export
  - Export the databases from MultiTask (incl. W&M long-term storage) to "/MultiTask/database" directory on the USB stick.
  - Required access level: 3



#### Attention:

When importing a database to the MultiTask, it is essential to ensure that

only databases compatible with the MultiTask software version are imported.

Database import is mainly required for importing databases generated on MultiTask Simulator into the MultiTask system. The area ">>> Settings >>> Datatransfer >>> Configuration" is used to transfer configuration data.

## 13.8.5 >>> SETTINGS >>> Datatransfer >>> Configuration

Settings	Datatransfer Configuration
Interface	USB
Import	ОК
Export	ОК
43 \$	Back

Fig. 209 : Menu Datatransfer/Configuration

- Different configurations can be saved on MultiTask. For each configuration, 2 XML files are created.
- Files are saved compressed in ".tar.gz" format. Import accepts ".tar.gz" and ".xml" formats.
- Interface
  - $\circ$   $\;$  Setting for which interface is to be used for data transfer.
  - o Possible choices:
    - USB: Transfer data to/from prepared USB stick, in "/MultiTask/config" directory
  - Required access level: 3
- Import
  - Import the configurations from the "/MultiTask/config" directory on the USB stick into MultiTask.
  - o Required access level: 3
- Export

- Export configurations from MultiTask to "/MultiTask/config" directory on the USB stick.
- Required access level: 3

## 13.8.6 >>> SETTINGS >>> Datatransfer >>>

### Layouts

Settings	Datatransfer	Layouts	_
Interface		USB	
Import		ОК	
Export		ОК	
40 *		Back	

Fig. 210 : Menu Datatransfer/Layouts

- Different print layouts (templates) can be saved on MultiTask for various different forms. They can be created in XML format using a special software tool on a PC. The allocation of forms to layouts is then done in Setup.
- Files are transferred in ".xml" format.
- Interface
  - o Setting for which interface is to be used for data transfer.
  - Possible choices:
    - USB: Transfer data to/from prepared USB stick, in "/MultiTask/layout" directory
  - Required access level: 3
- Import
  - Import the print layouts from the "/MultiTask/layout" directory on the USB stick into MultiTask.
  - Required access level: 3
- Export
  - Export print layouts from MultiTask to "/MultiTask/layout" directory on the USB stick.
  - Required access level: 3

# 13.8.7 >>> SETTINGS >>> Datatransfer >>> Screenshots

Settings Datatransfer	Screenshots
Interface	USB
Delete Screenshots	ОК
Export	ОК
	50
¢r ♦ \$	Back

Fig. 211 : Menu Datatransfer/Screenshots

- Screenshots can be created on MultiTask. This is done by pressing a point on the screen for 3s. The capture of a screenshot is signalled by a brief reduction in the brightness of the backlight.
- Files are transferred in ".png" format.
- Interface
  - $\circ$   $\;$  Setting for which interface is to be used for data transfer.
  - Possible choices:
    - FTP: Transfer to "Log" directory of data FTP server.
    - USB: Transfer data to prepared USB stick, in "/MultiTask/screenshot" directory
  - o Required access level: 3
- Delete screenshots from MultiTask
  - o Delete all screenshots saved in the system.
  - o Identical to "Settings/Configuration/System/File/Clear Screenshot Files"
  - Required access level: 3
- Export
  - Export screenshots from MultiTask to "/MultiTask/screenshot" directory on the USB stick.
  - Required access level: 3

### 13.8.8 >>> SETTINGS >>> Datatransfer >>> Profiles



Fig. 212 : Menu Datatransfer/Profiles

- MultiTask supports different user profiles. They can, for example, be created with the external service simulator. Profiles saved on the MultiTask system can be selected under "/Settings/Profiles", provided profile support has been activated.
- Files are transferred in ".js" format.
- Interface
  - o Setting for which interface is to be used for data transfer.
  - o Possible choices:
    - USB: Transfer data to/from prepared USB stick, in "/MultiTask/profile" directory
  - Required access level: 3
- Import
  - Import the profile files from the "/MultiTask/profile" directory on the USB stick into MultiTask.
  - Required access level: 3
- Export
  - Export profile files from MultiTask to "/MultiTask/profile" directory on the USB stick.
  - o Required access level: 3

13.8.9 >>> SETTINGS >>> Datatransfer >>> Level Tables

<b>←</b> Settings	Datatransfer	Level Tables	
Interface		USB	
Import		ОК	
Export		ОК	
4 % *		Back	

Fig. 213 : Menu Datatransfer/Level Tables

- In order to function correctly, the MultiLevel application requires level gauge tables for volume calculation for the individual compartments.
- Files are transferred in ".LGT" and ".ICT" format.
- Interface
  - $\circ$   $\;$  Setting for which interface is to be used for data transfer.
  - Possible choices:
    - USB: Transfer data to/from prepared USB stick, in "/MultiTask/LGM" directory
  - Required access level: 3
- Import
  - Import the level gauge tables from the "/MultiTask/LGM" directory on the USB stick into MultiTask.
  - o Import is only possible when W&M calibration seal is not active.
  - o Required access level: 3
- Export
  - Export level gauge tables from MultiTask to "/MultiTask/LGM" directory on the USB stick.
  - o Required access level: 3

# 13.8.10 >>> SETTINGS >>> Datatransfer >>> Parameter

Settings Datatransfer	Parameter
Interface	USB
Туре	Complete
Characters per Line	60
Export	Start
<ul><li>↔</li><li></li></ul>	Back

Fig. 214 : Menu Datatransfer/Parameter

- In order to function correctly, the MultiLevel application requires level gauge tables for volume calculation for the individual compartments.
- Files are transferred in ".txt" format.
  - Complete list: "Parameter\_All.txt"
  - o W&M Parameter: "Parameter.txt"
- Files may be used, for example, to quickly differentiate between different parameter lists on a PC.
- Interface
  - $\circ$   $\;$  Setting for which interface is to be used for data transfer.
  - Possible choices:
    - USB: Transfer data to prepared USB stick, in "/MultiTask" directory
- Туре
  - o "Complete": Creates a list with all MultiTask parameters.
  - o "W&M": Creates a list with all W&M-relevant W&M MultiTask parameters.
  - Required access level: 3
- Characters per line
  - Setting for the number of characters per line. Used to adjust the file layout in case the file is to be printed using an external printer.
  - o Required access level: 3
- Export
  - Export selected parameter list to the "/MultiTask" directory on the USB stick.
  - Required access level: 3

13.8.11 >>> SETTINGS >>> Datatransfer >>> Feature Key

Settings		Feature Key	
Interface		USB	
Import		ОК	
Export		ОК	
Feature Key			
400 \$	Ba	ск ОК	

Fig. 215 : Menu Datatransfer/Feature Key

- A Feature Key is required to activate basic functions and the associated correct operation of the affected MultiTask application.
- Files are transferred in "key.txt" format.
- Interface
  - o Setting for which interface is to be used for data transfer.
  - o Possible choices:
    - USB: Transfer data to/from prepared USB stick, in "/MultiTask/key" directory
  - o Required access level: 4
- Import
  - o Import the contents of the "/MultiTask/key/key.txt" file on the USB stick into MultiTask.
  - $\circ$   $\;$  The Feature Key is then automatically used by the system.
  - Required access level: 4
- Export
  - Export the Feature Key being used by MultiTask as file "key.txt" to "/MultiTask/key" directory on the USB stick.
  - Required access level: 4
- Feature Key
  - o Shows the Feature Key currently in used in the system (e.g. before or after import).
  - o Required access level: 3

## 13.9 >>> SETTINGS >>> Logbook

Settings Logbook
Source
Type System
Data
Start Date         2022-01-12         Start Time         00:00
End Date         2022-01-12         End Time         23:59
Filter
NoMix / SPD Receipt Seal W&M System
User Control Mode GSM / FTP Parameter
Send
dự ↔ ‡ Back

Fig. 216 : Menu Logbook



- There are 2 logbooks in MultiTask. A general logbook, in which <u>all</u> actions and events are recorded, and a W&M-relevant logbook, containing only W&M-relevant events such as changes to W&M-relevant parameters, status change of the W&M seal, and the measured loading and discharge events. This also serves as long-term storage.
- Both logbooks are stored as ring buffers, with space for 100.000 entries each.
- In order to improve the readability of the general logbook, it is possible to activate individual filters which show or hide specific groups of entries.
- 🕨 Туре
  - o "System": General logbook, containing all actions and events.
  - "W&M": a W&M-relevant logbook, containing only W&M-relevant events such as changes to W&M-relevant parameters, status change of the W&M seal, and the measured loading and discharge events. The long-term storage!

#### Data

- o Serves to limit the timeframe for entries being displayed.
- The data may be entered via a calendar.
- The year may also be entered directly. This is done by selecting the year field of the calendar.

#### MultiTask ◀ ► Menu overview

Please choose a Start Date:						
January 2022						
Мо	Tu	We	Th	Fr	Sa	Su
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						
today						



•			anuary 2022			
Мо	Tu	We	Th	Fr	Sa	Su
		Ple	ase choose a year		1	
3			•••••		8	
10			2022		15	1
17			°0 <sub>0</sub> 0°		22	2
24			ок		29	3
31						

Fig. 218 : Logbook menu – Direct input annual figure

Please choose a year	
e <sup>e®</sup> ee	
*****	
ок	

Fig. 219 : Menu Logbook — Time entry

#### Filter

- o "System" logbook
  - "NoMix / SPD": Only contains the entries relevant to NoMix & MultiSeal.
  - "Receipt": Only contains receipt entries.
  - "Seal W&M": Only contains entries relating to W&M seal.

- "System": Contains all system-relevant entries.
- "User": Contains user actions.
- "Control Mode": Only contains information on the various operating modes and switching between them.
- "GSM / FTP": Contains all information relating to GSM/GPRS connections and to data transfer to configured FTP servers.
- "Parameter": Contains all recorded parameter changes.
- o "W&M" logbook
  - "Receipt": Only contains receipt entries.
  - "Seal W&M": Only contains entries relating to W&M seal.
  - "Parameter": Contains all recorded W&M-relevant parameter changes.

#### Start

- Switch to logbook display
- Required access level: 2

## 13.9.1 >>> SETTINGS >>> Logbook >>> Contents - System



Fig. 220 : Menu Logbook/System

- All entries in the system logbook from the chosen timeframe will be displayed. The chosen timeframe is displayed.
- For navigation, the sequential numbers of the currently displayed entries are shown with relation to the total number of entries for the chosen timeframe (here: Entry 51 to 60 out of a total of 97116 entries)

- Each entry consists of
  - "Date": Date of entry.
  - "Time": Time of entry.
  - "Icon": The individual icons/symbols used within the system are displayed here to make it easier to identify entry subjects.
  - "Event": Description of event. If the complete text cannot be displayed, the field can be selected for complete display.
- The blue arrow keys in the lower left and right corner of the display are used for navigation within the logbook. Here you can choose whether to jump forward or backward by 10, 100 or 1000 entries with each page change.



## 13.9.2 >>> SETTINGS >>> Logbook >>> Contents – W&M

Z022-01-12         Isom         Isom	Set	tings	Logbook	W&M	1	
Date         Time         Icon         Event           5         50         500         >         >	2022-01-	12 12:00am ti	o 2022-01-12 11:59pm	0 to 0 from 0		100000 entries lef
<ul> <li>Step count</li> <li>5 50 500</li> </ul>	Date	Time	Icon		Event	
<ul> <li>Step count</li> <li>5 50 500</li> </ul>						
<ul> <li>Step count</li> <li>5 50 500</li> </ul>						
<ul> <li>Step count</li> <li>5 50 500</li> </ul>						
<ul> <li>Step count</li> <li>5 • 50 • 500 •</li> </ul>						
<ul> <li>Step count</li> <li>5 • 50 • 500 • 200</li> </ul>						
<ul> <li>Step count</li> <li>5 50 500</li> </ul>						
<ul> <li>Step count</li> <li>5 50 500</li> </ul>						
<ul> <li>Step count</li> <li>5 50 500</li> </ul>						
<ul> <li>Step count</li> <li>5 50 500</li> </ul>						
<ul> <li>Step count</li> <li>5 50 500</li> </ul>						
<ul> <li>Step count</li> <li>5 • 50 • 500 &gt;</li> </ul>						
Step count         >           5         50         500         >						
Step count         >           5         50         500         >						
Step count         50         500         >						
Step count         50         500         >						
5 50 500				Step count		
	<		5 🔘	50	500	>

Fig. 221 : Menu Logbook/W&M

- All W&M-relevant entries in the W&M logbook from the chosen timeframe will be displayed. The chosen timeframe is displayed.
- For navigation, the sequential numbers of the currently displayed entries are shown with relation to the total number of entries for the chosen timeframe (here: Entry 11 to 15 of total 745 entries)
- Each entry consists of
  - o "Date": Date of entry.
  - "Time": Time of entry.
  - "Icon": The individual icons/symbols used within the system are displayed here to make it easier to identify entry subjects.
  - "Event": Description of event. If the complete text cannot be displayed, the field can be selected for complete display.
- The blue arrow keys in the lower left and right corner of the display are used for navigation within the logbook. Here you can choose whether to jump forward or backward by 5, 50 or 500 entries with each page change.





# 13.10 >>> SETTINGS >>> Printout

Status	System Information	Work Report	Logbook
Receipt	Invoice	Zero-Receipt	Tour Report
Parameter	MultiLevel Tables	Layout	

Fig. 222 : Menu Printout





Different information is displayed for the individual printouts.

- o Printout is running
- Transfer of data to the printer may be stopped before it is completed by pressing "Cancel". The printer will then only print the data already transferred.



Fig. 223 : Printout Status Menu

o Printout finished!



#### Fig. 224 : Printout Status Menu

### 13.10.1 >>> SETTINGS >>> Printout >>> Status



Fig. 225 : Menu Printout/Status

- The system status will be printed. Contents may vary according to system configuration.
  - o Required access level: 1
- Example (information contained may vary depending on activated functionality of the MultiTask system):

Status report					
No.:	4				
MultiTask	1.5.0 / 1.5.0				
Ser.No.: 702	Ser.No.: 70245B7F0000006E				
Date: 16.	12.2016 13:29				
Driver name:	MultiTask W&M				
Tank ID:	112233				
Truck ID:	PI-SM-172				
Compartment 1: Restamount Seal broken	Super E5				
Compartment 2: Restamount Seal broken	Super E5				
Compartment 3: Restamount Seal broken	Diesel				
Compartment 4: Restamount Seal broken	Super Plus				
Compartment 5:					

Restamount
Seal broken
End of printing

# 13.10.2 >>> SETTINGS >>> Printout >>> System information

- The system information that can also be viewed under <?>, such as version numbers and build IDs, is printed out.
- Required access level: 1

## 13.10.3 >>> SETTINGS >>> Printout >>> Work Report

Settings	Printout	Work Report	rt	
Printout			Start	
			_	
₩ % ¥		Back		

Fig. 226 : Menu Printout/Work Report

- The work report will be printed. The printout contains all new information since the last time a work report was printed.
- Required access level: 1
- Example (information contained may vary depending on activated functionality of the MultiTask system):

Work Report				
MultiTask	1.5.0 / 1.5.0			
Ser. No.: 706904D9000000B				
Date: 22.12.2016 14:31				
Driver:	MultiTask W&M			
Tank ID:	Tank123			
Truck ID:	PI-SM-123			
Period:	21.12.2016 07:59			
2	2.12.2016 14:31			
=========				
LOAI	JIN G			
Start:	21.12.2016 08:34			
End:	21.12.2016 08:37			
1: SU10	L			
2: SU10	L			
Compartmer	t 1 Connected: VPR			
08:37-08:36	Not empty			
Compartmer	t 2 Connected: STD			
08:35-08:36	Not empty			
1: VPR	4838 E F			
2: STD	1640 L G			
	======================================			
Start:	21.12.2016 08:38			
End:	21.12.2016 08:40			
1: VPR	F			
2: STD	F			
Compartmen	t 1 Connected: VPR			
08.40-08.40	empty			
Compartmer	t 2 Connected: STD			
08:39-08:40	Empty			
1: VPR	4838 E E			
2: STD	1640 E E			

\_\_\_\_\_

Compartment state before loading: E = Empty

Compartment 1: Encoded Loading, change from SU10 to VPR Compartment 2: Encoded Loading, change from SU10 to STD

Compartment state after loading: F = Filled

Compartment status before discharge: F = Filled

Compartment 1: Coded discharge VPR

Compartment 2: Coded discharge STD

Compartment state after discharge: E = Empty

## 13.10.4 >>> SETTINGS >>> Printout >>> Logbook



Fig. 227 : Menu Printout/Logbook

- Printout of contents of system logbook.
- Required access level: 1
- 🕨 Туре
  - o Definition of logbook contents to be printed
  - o Possible values (dependent on destination chosen):
    - "Complete": All logbook entries are printed
    - "Delivery": Logbook printout only contains discharge/delivery
    - "Event": not supported
    - "System": Logbook printout only contains general system information.
    - "Parameter": Logbook printout only contains parameter changes.
    - "Parameter (W&M)": Logbook printout contains only W&M-relevant parameter changes.
    - "Seal Status (W&M)": Logbook printout contains only information on W&M seal.
    - "Seal History (W&M)": Logbook printout contains only information on W&M seal.
    - "Seal (MultiSeal)": Logbook printout contains only information on MultiSeal.
    - "W&M": All logbook entries from the W&M-relevant long-term storage will be printed.

#### Start Date

• Starting date for logbook entries.

- Start Time
  - o Starting time for logbook entries.
- End Date
  - Ending date for logbook entries.
- End Time
  - Ending time for logbook entries.
- Start
  - Commence printing
- Example ("Complete"):

```
Logbook
MultiTask
               1.5.0 / 1.5.0
Ser.No.: 70245B7F0000006E
Date: 16.12.2016 13:42
Driver Name: MultiTask W&M
Tank ID: 112233
Driver 112200
Tank ID: 112200
PI-SM-172
Period: 16.12.2010 02.
16.12.2016 23:59
          16.12.2016 00:00
_____
# 696902
              08:52:42
Info file transfer completed
# 696903
                08:53:16
Download update file completed
# 696904
               09:50:59
Cabinet flap locked
# 696905
               10:14:18
Operating Mode menu
# 696906
         10:14:19
Cabinet door released
           11:03:27
# 696907
COP start
          11:03:34
# 696908
SPD start
11:03:40
MultiTask W&M has logged in
# 696910 11:03:40
Operation mode status
_____
```

--- End of printing ---



"Logbook" cannot be printed in Chinese!



## 13.10.5 >>> SETTINGS >>> Printout >>> Receipt

Fig. 228 : Menu Printout/Logbook



# 13.10.5.1 >>> SETTINGS >>> Printout >>> Receipt >>> Receipt compartment-based

Settings Printout	Receipt MultiLevel comp based
Last Receipt Number	0
Receipt Number	0
Printout	Start
ф. <i>Ф</i>	Back

Fig. 229 : Menu Printout/Receipt/Receipt compartment-based

- A compartment-oriented delivery note will be printed.
- Required access level: 1
- Last receipt number
  - o Number of last receipt generated
- Receipt number
  - o Number of the receipt to be printed
- Printout
  - Commence printing
- Example (information contained may vary depending on activated functionality of the MultiTask system):

	Discharge		
	MultiTask 1.5.0 / 1.5.0		
	Ser.No.: 706904D9000000B		
	Date: 22.12.2016 14:37		
	Driver Name: MultiTask W&M		
	Tank ID: Tank123		
	Truck ID: PI-SM-123		
	Receipt No.: 120		
Compartment 1			
Period: 21.12.2016 08:39-08:40			
	Product: * VPR *		
Counter at start: * 0 Liter *			
Amount at Del.Tem.: * 4839 Liter *			
	Amount at 15 Cel: * 4803 Liter *		
	Average Temp.: * 21.1 Cel *		

Compartment 2

Period: 21.12.2016 08:39-08:40 Product: \* STD \* Counter at start: \* 0 Liter \* Amount at Del.Tem.: \* 1679 Liter \* Amount at 15 Cel: \* 1670 Liter \* Average Temp.: \* 20.9 Cel \* Summation - Delivery VT(L) V15(L) -----VPR 4839 4803 STD 1679 1670 \_\_\_\_\_ Measured values from an ancillary device not under legal control. The calibration-capable stored data can be viewed. --- End of printing ---

-----

### 13.10.5.2 >>> SETTINGS >>> Printout >>> Receipt >>> Receipt product-based

Settings Printout	Receipt MultiLevel product- based	
Last Receipt Number	0	
Receipt Number	0	
Product	-	
Printout	Start	
4 <i>3</i>	Back	



- A product-oriented delivery note will be printed.
- Required access level: 1
- Last receipt number
  - o Number of last receipt generated
- Receipt number
  - o Number of the receipt to be printed
- Product
  - Product for which receipt is to be printed.

- Printout
  - Commence printing
- Example (information contained may vary depending on activated functionality of the MultiTask system):

Discharge				
MultiTask	1.5.0 / 1	.5.0		
Ser.No.:	706904D900	00000B		
Date:	22.12.2016 1	4:40		
Driver:	MultiTask	W&M		
Tank ID:	Tank123	5		
Truck ID:	Truck ID: PI-SM-123			
Receipt No.:	120			
Product:	VP	R		
Period: 21.12.2016 08:39-08:40				
Counter at s	tart:	0 Liter		
Amount at Del.Tem.: 4		839 Liter		
Amount at 1	5 Cel:	4803 Liter		
Compartme	nt status:	1L		
=======				
End of printing				

### 13.10.5.3 >>> SETTINGS >>> Printout >>> Receipt >>> Receipt Metering system <x>

Settings Printout	Receipt Metering sy	vstem 1
Last Receipt Number	570	
Receipt Number	570	
Printout	Start	
-5		
के देग	Back	



- A delivery note for meter <x> will be printed
- Required access level: 1
- Last receipt number
  - o Number of last receipt generated
- Receipt number
  - o Number of the receipt to be printed
- Printout
  - Commence printing
- Example (information contained may vary depending on activated functionality of the MultiTask system):

Receipt		
MultiTask	1.14.0 / 1.14.0	
Ser.No.:	123321z	
Date:	2023-06-29 11:49am	
Driver Name:	MultiTask W&M	
Tank ID:	Tank123	
Truck ID:	PI-SM-123	
Seal:	NOT OK	
Receipt No.:	570	
Meter 1		
Meter ID:	111111	
Period: 2023 Product: Amount at De	B-06-28 12:22pm-12:22pm DIESEL el.Tem:	

Signature

You've been served by MultiTask W&M

Measured values from an ancillary device not under legal control. Measured values under legal control can be viewed. --- End of Printing ---

### 13.10.6 >>> SETTINGS >>> Printout >>> Invoice



Fig. 232 : Printout/Invoice menu

Settings Printout	Invoice Meter 1	
Last Invoice Number	31578	
Invoice Number	31578	
Printout	Start	
\$ \$ ● ● ■ *	Back	

Fig. 233 : Printout/Invoice/Meter <x> menu

- An invoice is printed out for a delivery from this metering system.
- Required access level: 1

- Last invoice number
  - o Number of last invoice generated
- Invoice number
  - Display of the invoice number to be printed.
- Printout
  - Commence printing
- Example (information contained may vary depending on activated functionality of the MultiTask system):

```
Invoice

        MultiTask
        1.9.0 / 1.9.0

        Ser.No.:
        123321

        Date:
        03.09.2020 16:20

Driver Name: MultiTask W&M
Tank ID:Tank123Truck ID:WL-RL-1772Cool:NOT OK
Seal: NOT OK
Receipt No.: 434
Invoice No: 435
_____
Meter 1
Meter ID.: 111111
Period: 31.08.2020 15:43-15:43
Product: DIESEL
Amount at 15 Cel: 407 Liter
w. VAT: 1.00000 EU / litre
      = 407.00 EU
_____
Amount ex. VAT 342.02 EU
VAT 19.00% 342.02 64.98 EU
Amount incl. VAT 407.00 EU
_____
```

Signature

You were served by MultiTask W&M

Measured values from an ancillary device not under legal control. Measured values under legal control can be viewed. --- End of printing ---

# 13.10.7 >>> SETTINGS >>> Printout >>> Zero-Receipt

Aultil ovol	Start	
VIUITILEVEI	Start	
Vetering system 1	Start	

Fig. 234 : Menu Printout/Zero-Receipt

- A zero receipt can be printed for MultiLevel and/or MultiFlow
- Required access level: 1
- Information contained may vary depending on activated functionality of the MultiTask system.
- MultiLevel zero receipt:

Zero receipt		
MultiTask	1.9.0 / 1.9.0	
Ser.No.:	123321	
Date: 03	3.09.2020 16:24	
Driver Name:	MultiTask W&M	
Tank ID:	Tank123	
Truck ID:	WL-RL-1772	
Seal:	NOT OK	
Receipt No.:	1	
Counter at start: 0 Liter		
Signature		
You were served by MultiTask W&M		
End of printing		

Mu	ltiFlow zero	receipt:	
	Zero receipt	•	
	MultiTask	1.9.0 / 1.9.0	
	Ser.No.:	123321	
	Date:	03.09.2020 16:26	
	Driver Name:	MultiTask W&M	
	Tank ID:	Tank123	
	Truck ID:	WL-RL-1772	
	Seal:	NOT OK	
	Receipt No.:	436	
	======================================		
	Meter ID:	111111	
	Counter at str	art: Oliter	
	Counter at sta		
	Signat	ure	

You were served by MultiTask W&M ----- End of printing ---

# 13.10.8 >>> SETTINGS >>> Printout >>> Tour Report



Fig. 235 : Menu Printout/Tour Report

- Printing of a tour report for a specific time period.
- Required access level: 1
- Start Date
  - o Starting date for tour report
- Start Time
  - Starting time for tour report

- End Date
  - o Ending date for tour report
- End Time
  - Ending time for tour report
- Start
  - o Commence printing
- Example (information contained may vary depending on activated functionality of the MultiTask system):

```
Tour report
MultiTask 1.5.0 / 1.5.0
Ser.No.: 706904D9000000B
Date: 22.12.2016 14:42
Driver Name: MultiTask W&M
_____
 Tank ID: Tank123
 Truck ID: PI-SM-123
 W&M Seal: NOT OK
 Sealcounter: 33
_____
Date Start: 21.12.2016 00:00
Date End: 21.12.2016 23:59
_____
21/12/2016
Receipt no. Time Com Pr Tmp E VT(L) V0(L)
B 0000117 06:20 01G 01 +20 - 4508 4478
B 0000117 06:20 02G 01 +20 - 1580 1571
A 0000118 07:54 01E 01 +21 - 4509 4477
B 0000119 08:35 02G 08 +21 - 1640 1632
B 0000119 08:35 01G 04 +21 - 4838 4802
A 0000120 08:39 01L 04 +21 + 4839 4803
A 0000120 08:39 02L 08 +21 + 1679 1670
A 0000121 08:43 011 02 +21 - 0 0
A 0000121 08:46 01L 02 +21 - 0 0
A 0000121 08:46 02L 05 +21 - 0 0
A 0000122 09:25 01L 02 +21 + 1741 1731
A 0000123 09:32 01G 02 +21 - 1 1
A 0000123 09:33 01G 02 +21 - 3057 3040
A 0000124 09:41 01G 02 +51 - -33 -32
A 0000124 10:03 01R 02 +22 - 3234 3215
Summation - Loading VT(L) V0(L)
_____
_____

        01 SU10
        6088
        6049

        04 VPR
        4838
        4802

        08 STD
        1640
        1632

Summation - Delivery VT(L) V0(L)
-----
-----
01 SU10450902 DK800004 VPR4839
                          4477
                          7955
                          4803
```

05 VPD	0	0	
08 STD	1679	1670	
A = Discharge			
B = Loading			
E = Error			
F = Filled			
E = Empty			
R = Restamount			
+ = Calibration status	s: calibrated	delivery	
- = Calibration status	: Not calibra	ated delivery	1

\_\_\_\_\_

--- End of printing ---

#### Legend

- o See footnote on receipt.
- o "Receipt ID"
- o "Time"
  - - Time of delivery/loading.
- o "Com"
  - Compartment number:
- o "Pr"
  - Product code, list of product codes and product names at end of receipt.
- o "Tmp" ■ /
  - Average discharge temperature
- ∘ "C"
  - Calibration status (+ = calibrated)
- o "VT"
  - Volume at product temperature
- o "V0"
  - Compensated product volume

### 13.10.9 >>> SETTINGS >>> Printout >>> Parameter

Settings	Printout	Parameter
Complete		Start
W&M		Start
\$P \$		Back

Fig. 236 : Menu Printout/Parameter

- Required access level: 1
- Complete
  - Printout of a complete parameter list.
  - Example:

MultiTask:	1.5.0 / 1.5.0
Ser.No.:	
Date:	16.12.2016 13:04
Login:	MultiTask W&M
Tank ID:	112233
Truck ID:	PI-SM-172
Seal:	NOT OK
SW version	n: mt-release-1.4.9
LRP check	sum ccc5b35a

\_\_\_\_\_

Display	
Brightness Display 1	50%
Brightness Display 2	50%
Standby after	5 min
Customer language:	English
oustonner language.	Linghon

-----General------Feature Key: ibLQKKM5CKboHBpZz Login required: No NoMix: Yes MultiSeal: Yes MultiLevel: Yes undefined: No

------ Time and Date ------Time zone: (UTC+01:00) Amsterdam Allow daylight savings time: Yes [...]

--- End of printing ---

#### N&W

- Printout of a parameter list containing only W&M-relevant parameters.
- Example:

MultiTask: 1.5.0 / 1.5.0 Ser.No.:		
Date: 16.12.2016 13:02		
Login: MultiTask W&M		
Tank ID: 112233		
Truck ID: PI-SM-172		
Seal: NOT OK		
SW version: mt-release-1.4.9		
LRP checksum ccc5b35a		
CAN – CAN HMI		
Protocol: FAS (W&M)		
CAN – CAN W&M		
FPI-Interface: 0		
Level-Interface: 1		
Wet leg interface 1		
Products		
Braduat "DK"		
Product DK		
Product code: 2		
Product type: Liquid product		
Calculation Type: API 54B		
Compensation: Yes		
Compensation Temperature: 15 Cel		
[]		

\_\_\_\_\_

--- End of printing ---

## 13.10.10 >>> SETTINGS >>> Printout >>> MultiLevel Tables

Settings Printout	MultiLevel Tables
Туре	Level Table
Compartment	1
Print single Compartment	Start
Print all Compartments	Start
\$P\$ \$	Back

Fig. 237 : Menu Printout/MultiLevel Tables

- Printout of level gauge and inclination tables.
- For the entire system and for the individual compartments.
- Note! Very large amount of data!
- Required access level: 1
- 🕨 Туре
  - Choice of which tables are to be printed.
  - o Possible values: "Level Table", "Slope Table"
- Compartment
  - o Choice of compartment, if only compartment-specific tables are to be printed.
- Print single Compartment
  - Commence printing of compartment-specific tables.
- Print all Compartments
  - o Commence printing of all tables of the selected type.
- Example:

Level table	
MultiTask	1.5.0 / 1.5.0
Device Serial:	
Date:	16.12.2016 14:11
Login:	MultiTask W&M
Tank ID:	112233
Truck ID:	WL-RL-172
Seal:	NOT OK
Calibration Un	it: MultiLevel
Version:	00.16

Serial No.:		1322804	
Compartment no.: Entries: Table-CRC:		1 196 9AC77E72	
No.	High [mm]	VT [Liter]	
1. 40,000 2: 50,000 3. 60,000 []		400,000 500,000 600,000	
End of printing			

### 13.10.11 >>> SETTINGS >>> Printout >>> Layout



Fig. 238 : Menu Printout/Layout



# 13.10.12 >>> SETTINGS >>> Printout >>> Layout >>> File Assignment

Settings Printout		
MultiLeve	3	
MultiLevel Zero-Receipt		
Select MultiLevel Zero-Receipt	Selection	
MultiLevel Loading Note	-	
Select MultiLevel Loading Note	Selection	
MultiLevel Delivery Note (comp based)	-	
Select MultiLevel Delivery Note (compbased)	Selection	
MultiLevel Delivery Note (prod based)	-	
Select MultiLevel Delivery Note (prodbased)	Selection	
MultiFlov	N	
MultiFlow Zero-Receipt	-	
Select MultiFlow Zero-Receipt	Selection	
MultiFlow Delivery Note	-	
Select MultiFlow Delivery Note	Selection	
MultiFlow Invoice	-	
Select MultiFlow Invoice	Selection	
∯ % u[] Back	ок	

Fig. 239 : Printout/Layout/File Assignment

- User-defined print layouts are created using the PC tool "Report Editor".
- Assignment of user-defined printing layouts.
- Zero-Receipt
  - o Display defined print layout for printout of zero receipt.
- Select-Zero Receipt
  - Selection list with all available layouts. If the standard layout stored on the system is to be used, select "---"!
  - o Required access level: 3
  - Factory setting: "---"

- MultiLevel Delivery Note (comp.-based)
  - Display the selected printing layout for printout of compartment-related MultiLevel delivery note.
- MultiLevel Delivery Note (comp.-based) Device Selection
  - Selection list with all available layouts. If the standard layout stored on the system is to be used, select "---"!
  - Required access level: 3
  - Factory setting: "---"
- MultiLevel Delivery Note (prod.-based)
  - o Display the selected printing layout for printout of product-related MultiLevel delivery note.
- MultiLevel Delivery Note (prod.-based) Device Selection
  - Selection list with all available layouts. If the standard layout stored on the system is to be used, select "---"!
  - Required access level: 3
  - Factory setting: "---"
- MultiFlow Delivery Note
  - o Display the selected printing layout for printout of MultiFlow delivery note.
- MultiFlow Delivery Note Device Selection
  - Selection list with all available layouts. If the standard layout stored on the system is to be used, select "---"!
  - Required access level: 3
  - Factory setting: "---"
- MultiFlow Invoice
  - o Display the selected printing layout for printout of MultiFlow invoice.
- MultiFlow Invoice Device Selection
  - Selection list with all available layouts. If the standard layout stored on the system is to be used, select "---"!
  - Required access level: 3
  - Factory setting: "---"

# 13.10.13 >>> SETTINGS >>> Print >>> Layout >>> Required Elements

Settings Printout	Layout	Required	Elements	
Version	Yes	No		
Serial Number	Yes	No		
Device ID	Yes	No		
Receipt Number	Yes	No		
Seal Number	Yes	No		
Seal State	Yes	No		
Product Name	Yes	No		
Product Code	Yes	No		
Average Depaity	Vec	No		
Average Density		NU	/ /	
Average Temp.	Yes	No	6	
Discharge Volume V0	Yes	No		
Discharge Volume VT	Yes	No		~~
Compensated Product Weight	Yes	No		
Average Flow Rate	Yes	No		****
Meter Zero	Yes	No		
Reference Product Name	Yes	No		
Compensation Temp.	Yes	No	/ /	
Product Totalizer	Yes	No		
Invoice Number	Yes	No		
¢r �5 \$ ₿	ack	ок		

Fig. 240 : Printout/Layout/Required Elements

- Defines the minimum number of receipt elements available in the user-defined layout.
- If the elements defined with "Yes" are not included on the user-defined layout, the default layout is used.
- Required access level: 5
- Factory setting: "No"

# 13.11 >>> SETTINGS >>> Electronic Seal W&M



Fig. 241 : Menu Settings Electronic Seal



# 13.11.1 >>> SETTINGS >>> Electronic Seal W&M >>> Status

Settings Electronic	: Seal Status	_	
Seal Set	ΝΟΤΟΚ		
Sealcounter	0		
Tank ID	123456		
Vehicle ID	хх-уу-123		
Device Serial			
Time Set	1970-01-01 1:00:00am		
Sealed By			•••
LRP Checksum			
Login Set			
Position Set	_		
SW Version Set			
SW Hash Set	AAAAAAAA		
Parameter Hash Set	AAAAAAAA		~
Time Break	1970-01-01 1:00:00am		
Username Break			
Position Break	-		
SW Version Break			
SW Hash Break	АААААААА		
Parameter Hash Break	ААААААААА		
\$	Back		

Fig. 242 : Menu Electronic Seal/Status

- Display all relevant information on the state of the electronic W&M calibration seal.
  - o Required access level: 1
- Seal Set
  - Status of the electronic seal.
- Sealcounter
  - Sequential, non-resettable seal counter. Incremented with every status change of the W&M electronic seal.

- Tank ID
  - Unique identification number of the tank trailer.
- Vehicle ID
  - Unique registration ID of tank trailer.
- Device Serial
  - Serial number affixed to MultiTask housing.
- Time Set
  - o Time of last setting of W&M seal.
- Sealed By
  - o Username entered when W&M seal was set.
- LRP Checksum
  - o Checksum for W&M-relevant subsystem when W&M seal was set.
- Login Set
  - o Login info when W&M seal was set.
- Position Set
  - o GPS information from when W&M seal was set.
- SW Version Set
  - o Software version from when W&M seal was set.
- SW Hash Set
  - o Hash value generated when W&M seal was set.
- Parameter Hash Set
  - $_{\odot}$  Hash value of relevant parameters from when W&M seal was set.
- Time Break
  - Time of last breaking of W&M seal.
- Username Break
  - Login info when W&M seal was broken.
- Position Break
  - o GPS information from when W&M seal was broken.
- SW Version Break
  - o Software version from when W&M seal was broken.
- SW Hash Break
  - Hash value generated when W&M seal was broken.
- Parameter Hash Break
  - Hash value generated when W&M seal was broken.

# 13.11.2 >>> SETTINGS >>> Electronic Seal W&M >>> Settings

Settings Electro	nic Seal Settings	
Vehicle ID	хх-уу-123	
Tank ID	123456	
Device ID	MultiTask	
Device Serial		
Long	g Term Storage	
Min. retention period	100	days
¢r ≪ → 🛊	Back	

Fig. 243 : Menu Electronic Seal/Settings

- General settings affecting the W&M seal. Data provided will be entered in appropriate information for W&M seal.
- Vehicle ID
  - o The registration number for the trailer, used for unique identification of system.
  - o Required access level: 5
  - o Factory setting: " "
- Tank ID
  - Tank ID for unique identification of system.
  - o Required access level: 5
  - Factory setting: " "
- Device ID
  - o Required access level: 5
  - Factory setting: "MultiTask"
- Device Serial
  - o Serial number of system for unique identification of system.
  - o Required access level: 5
  - Factory setting: " "
- Min. retention period
  - o Minimum retention period for entries in W&M-relevant long-term storage.
  - The W&M-relevant long-term storage contains only W&M-relevant events such as changes to W&M-relevant parameters, status change of the W&M seal, and the measured loading and discharge events.

- Entries in the long-term storage that are older than the minimum retention period specified here will be overwritten without further notification.
- Entries in the long-term storage that are younger than the minimum retention period specified here shall only be overwritten after the driver has been notified and has confirmed this.
- o Possible values: "100 .. 999 days"
- Required access level: 5
- Factory setting: "100"
- All changes to the status of the W&M software seal are recorded in the long-term storage.

### 13.11.3 >>> SETTINGS >>> Electronic Seal W&M >>> Set

<b>E</b> Settings	Electronic Seal	Set	_
Sealed by			
Seal set		Start	
4 4 4		Back	

Fig. 244 : Menu Electronic Seal/Set

- Activation of W&M seal.
- Sealed by
  - Name of the person who set the W&M electronic seal.
  - o Required access level: 5
- Seal set
  - Sets the W&M electronic seal.
  - Required access level: 5
  - Only possible when an OFF-ON cycle has been recognised on DIP switch 4 of the main display and the DIP switch is then left at ON.
  - All changes to the status of the W&M software seal are recorded in the long-term storage.
  - o Maximum AccessLevel when the W&M electronic seal is set is '4'.

• If DIP switch 4 needs to be set to OFF before the W&M seal is set, o if it is not currently set to ON, an appropriate alert is displayed.

Electr. Seal activation not possible, please use the Seal Switch	Electr. Seal activation not possible, please set Seal Switch to ON
ОК	ОК
Close all messages	Close all messages

Fig. 245 : Notifications for electronic seal and/or DIP switch 4

### 13.11.4 >>> SETTINGS >>> Electronic Seal W&M >>> Break

Settings	Electronic Seal	Break	_
Seal break		Start	
\$\$ \$		Back	

Fig. 246 : Menu Electronic Seal/Break

- Deactivation of W&M seal.
- Seal break
  - o Breaks (deactivates) the software W&M electronic seal.
  - Alternatively, the W&M seal can be broken by setting DIP switch 4 of the main display to OFF.

- Alternatively, the W&M software seal will be automatically broken when manipulation of the W&M-relevant program subsystems and/or data is recognised.
- All changes to the status of the W&M software seal are recorded in the long-term storage.

Required access level: 5

### 13.11.5 >>> SETTINGS >>> Electronic Seal W&M >>> Print

Status	Start	
Parameter export to USB	Export	

Fig. 247 : Menu Electronic Seal/Print

- Printing of status information for the W&M electronic seal to the local printer.
- Parameter export to USB
- This function is often used in conjunction with the W&M status printing and is therefore also made available here to improve user-friendliness and to save time.
- Saves a text file ("Parameter.txt") containing all W&M-relevant parameters to the "/Multi-Task" directory on the USB stick.
- File may be used, for example, to quickly differentiate between different parameter lists on a PC

Required access level: 1

Seal Docume MultiTask Serial No.: Date: Login:	ent 1.5.0 / 1.5.0 706904D9000000 22.12.2016 16:31 MultiTask W&M	0B		
209				
Tank ID: Truck ID:	Tank123 PI-SM-123			
Device Serial:				
Seal:	NOT OK			
Sealcounter	r: 33			
Sealtime:	21.12.2016 08:38			
Sealed by:	Mustern	nann		
Software Version: 1.5.0				
Checksum:	a79441cd			

--- End of printing ---

# 13.12 >>> SETTINGS >>> Profiles



Fig. 248 : Profile Menu

- The MultiTask system supports >10 different profiles.
- Profiles may be created in JavaScript using the external MultiTask-Service-Simulator and imported to the system via USB.
- Within the profiles, all parameters can be adjusted as appropriate. It is, for example, possible to use different product names for each profile.
- If the W&M electronic seal is set, only changes to non-W&M-relevant parameters will be accepted.

- The most recently loaded profile (and therefore the currently active one) is displayed in System-Info '?'.
- Data in profiles overwrites existing configurations.
- "/Settings/Configuration/System/File/Clear Profile Files"
  - Delete all profiles saved in the system.
- Required access level: 1
- For more information, see also chapter 14.3.

# 13.13 >>> SETTINGS >>> Manual



Fig. 249 : Manual Menu

- Manuals for the individual MultiTask functions are stored in this area.
  - The following are available:
    - NoMix & MultiSeal
    - o MultiLevel
    - o Icons
      - Overview and explanation of individual icons used in MultiTask.
    - o Licenses
      - Displays legal licensing information
- Required access level: 1
- Navigation within the manuals is by means of the blue navigation arrows displayed on the right-hand side.



Fig. 250 : Manual display

# **14 System Functions**

# **14.1 Touchscreen calibration**

### 14.1.1 Calibration

The MultiTask system is operated via a touchscreen. MultiTask offers various options if this needs to be re-calibrated.

- If MultiTask can still be operated, i.e. the deviation is minor, calibration may be started in Setup under "/Settings/Display/Touch Calibration".
- If calibration cannot be started via Setup, an alternative is to activate calibration using DIP switch 6 on the display. DIP switch 6 must be set to ON to activate calibration. Once calibration mode has been started, DIP6 can be set back to OFF.



Fig. 251 : DIP switch touch calibration

If a MultiTask display cannot find touch calibration data at startup (e.g. after new installation or complete update), calibration mode is automatically started.

Calibration is always launched for all MultiTask displays present in the system at the same time.

The display is calibrated with a 5-point calibration process, i.e. 5 points are shown on the MultiTask display, one after another, and the user touches each of these points with a pencil or similar object.

Due to the integration of the display in the system, text displayed during calibration is upside down!

### 14.1.2 Five calibration steps

#### Request for point 1



Fig. 252 : Calibration — step 1

#### Request for point 2



Fig. 253 : Calibration — step 2

Request for point 3



Fig. 254 : Calibration — step 3

### Request for point 4



Fig. 255 : Calibration — step 4

#### Request for point 5



Fig. 256 : Calibration — step 5

After touching the last point, calibration is complete and the display is restarted. If multiple MultiTask displays are present in the system, calibration must be carried out on all MultiTask displays before the displays will automatically restart.

Alternatively, the system may be manually restarted after calibration is correct. In this case, calibration must not be carried out on all MultiTask displays. A MultiTask system with a secondary display can thus, for example, be manually restarted after only one display has been calibrated.

# 14.2 Screenshot

- Screenshots can be created on MultiTask. This is done by pressing a point on the screen for 3s. The capture of a screenshot is signalled by a brief reduction in the brightness of the backlight.
- Files are saved in ".png" format.
- The screenshots can be exported from MultiTask via the "Datatransfer" section of the system. There is a choice of exporting to a connected and prepared USB stick or to an FTP server (subdirectory "/Log").

# **14.3 Profiles**

### 14.3.1 General

A general description of how to handle the profiles is given in Chapter 13.2.5.8.

A standard profile can be defined in the MultiTask, which is automatically loaded under certain circumstances. With this mechanism, for example, a temporarily activated function can be automatically deactivated again.

Automatic return to the standard profile takes place:

- On reboot
- When exiting delivery mode after all compartments have been delivered
- After the temporary password has expired

Only if a standard profile has been defined, an automatic return according to the conditions listed above is supported. If "---" was selected in the profile selection or if the profile file belonging to the selected profile is no longer available on the system or is damaged, there is no automatic return to the standard profile!

In general, the system needs a few seconds to load a profile and apply the settings it contains. During an automatic return, a corresponding message is displayed for the duration of the adoption of the settings from the standard profile.

For security reasons, the automatic return to the standard profile only takes place if the user is in the status display (the transport mode). So e.g. when leaving loading and delivery or after a restart. The automatic return to the standard profile does not take place if the user is still in loading, delivery or setup.

### 14.3.2 **Profile files**



Fig. 257 : Profile Menu

Each profile consists of a separate file with the extension ".js" (JavaScript), which can be imported into MultiTask via a USB stick. The respective file name is used as a button label following import to MultiTask, meaning the appropriate profile can be identified and selected. This should be taken into account when choosing the file name.

It is theoretically possible to configure the entire system with profile files apart from a few exceptions. However, this is not the purpose of a profile and it can be done more efficiently via the configuration files! The profiles are intended to specifically adapt individual system settings or product definitions. For example, it is possible to use profiles to (de)activate the compartment empty test, GPS or main applications such as MultiSeal or to change a non W&M-relevant product name. General hardware configurations such as the definition of sensor positions cannot be changed via profiles. The same applies to W&M-relevant product parameters when the calibration seal is set.



#### NOTE:

Logically, at least 2 profiles are always required so that changes made in one profile can always be undone.

### 

The file name may only contain letters, numbers, spaces, hyphens and underscores!



#### NOTE:

If compartments are not empty, product-related parameters of a profile are ignored.

The configuration change contained in the profile file is programmed in JavaScript.

Multitask supports a variety of parameters that can be addressed in JavaScript via the parameter name in conjunction with the respective parameter group. A profile file always consists of 2 areas: Definition of the parameter and the value to be assumed as well as the final write to the MultiTask setup.

The internal structure of a simple profile file is as follows:

Example: File "GPS on.js" -> enables GPS reception MT.SetupGps.Enable = 1; MT.Update.SetupGps();

Example: File "GPS off.js" -> disables GPS reception MT.SetupGps.Enable = 0; MT.Update.SetupGps();

#### Meaning:

"MT.SetupGps.Enable = 1;" or "MT.SetupGps.Enable = 0;"

- "MT": Identifier for MultiTask parameters. JavaScript commands always start with "MT" in MultiTask
- o "SetupGps": The product group of the following parameter.
- o "Enable": The internal name of the parameter to be written
- o In this case, '1' activates GPS or '0' deactivates it
- → This line only defines the value to be written to the setup!

"MT.Update.SetupGps();"

• The previously defined changes are finally written to the setup.

It is possible to describe the values of several parameters from different parameter groups in one profile file. It must be ensured that the final "*MT.Update.<xyz>()*;" is also taken into account for all parameter groups.

Example: Enable GPS reception and Bluetooth

MT.SetupGps.Enable = 1; MT.SetupBlueTooth.Enable = 1; MT.Update.SetupBlueTooth(); MT.Update.SetupGps();

The MultiTask system supports up to 12 different profiles.

- Within the profiles, all parameters can be adjusted as appropriate. It is, for example, possible to use different product names for each profile.
- ☐ If the W&M electronic seal is set, only changes to non-W&M-relevant parameters will be accepted.
- See also chapter 13.12.

### ATTENTION:

Profiles are intended to specifically adapt individual settings of the system or product definitions and always contain only the parameters to be changed. They should never include the entire setup!

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### NOTE:

If you have any questions about "*Profiles*" and how to create them, please contact our service department.

### 14.3.3 Service-Simulator

The MultiTask service simulator provides an easy way to create a profile file. Here, the complete setup can be generated in JavaScript format for an already configured vehicle using the "Export as customer profile" function. This can be used as a basis for generating the actual profile files, since all parameters are included here with their correct names and their parameter groups! The content of this JavaScript file can then be reduced to the desired change and saved as a profile file.

Profiles may be created in JavaScript using the external MultiTask-Service-Simulator and imported to the system via USB.

### ATTENTION:

The content of JavaScript files generated by the ServiceSimulator must be reduced to the desired change before importing them as a profile file to the MultiTask.

# 14.4 Remote access

### 14.4.1 Direct dial-in

- For direct dial-in (CSD), a SIM card with a data telephone number must be installed and configured in MultiTask.
- Direct dial-in makes use of a PC with a terminal program (e.g. "Putty") and a connected (GSM) modem. The interface settings of the terminal program must be set according to the (GSM) modem used. Typically to 115200 baud, 8 data bits, no parity and 1 stop bit.
- C Data transfer via GSM is typically at 9600 baud!
- C After successful dial-in, the remote user has to log in with username and password. The remote menu then starts automatically. The structure of the remote menu is identical to that of the menu shown on the display.

C Not all parameters can be changed via the remote menu.



Fig. 258 : Remote Menu

### 14.4.2 VPN

As an alternative to remote access via direct dial-in, the MultiTask supports remote access via VPN. This variant is somewhat more complex, since it requires a VPN client installed on a PC in addition to a VPN server that can be reached via the Internet. However, the advantage over direct dial-in is that the user has direct access to the MultiTask user interface via VPN. The PC thus becomes a second display that can be used to operate the MultiTask as if you were standing directly in front of it.

- In order to be able to use the VPN functionalities described, VPN must first be activated in the interface setup chapter 13.2.2.11 and configured accordingly.
- The MultiTask is prepared on system side in such a way that it can be connected to a correspondingly configured OpenVPN server of version 2.5.5. can communicate.
- Ger The OpenVPN server provided by TechnipFMC has static IP 81.20.82.93 and uses port 1194.
- Ger The VPN IP addresses assigned by the VPN server are in the "10.19.14.<xyz>" range.
- Ger From version V1.11.0/1.11.0, the MultiTask supports remote access via VPN.
- Ger For further information and support on the topic of "Remote Access via VPN" please contact TechnipFMC!

The OpenVPN client on the MultiTask connects to the configured VPN server on instruction from the user. In order to access the MultiTask via VPN, another OpenVPN client (e.g. installed on a Windows PC) is required. This also connects to the VPN server. The VPN server then assumes the function of a switching center so that the VPN client on the PC and the VPN client on MultiTask can communicate with each other via the VPN server.

### 14.4.2.1 Establish the VPN connection

For establishing the VPN connection 2 interfaces are available:

- GSM-Module (Standard)
- External Ethernet-Interface
- Since the complete user interface of the MultiTask is initially transmitted when the connection is established, there is a waiting time of a few minutes when connecting via GSM/GPRS before the MultiTask transport display is displayed and the MultiTask can be operated via the remote PC.
- Ger When connecting via the external Ethernet interface, it must be ensured that the second display that may be connected there must be disconnected for the duration of the remote access.
- When connecting via the external Ethernet interface, make sure that the corresponding ports are not blocked in the network to which the MultiTask is connected. Talk to your IT department about this!

There are separate buttons in the "Remote Access" area of the service functions for establishing a connection via the GSM module and via an external Ethernet interface. The connection via GSM module is the standard interface for the VPN connection.

#### VPN via GSM-Module

Settings Service	Remote Access
CSI	D
Enable	Yes No
Access ACK	Yes No
Offline	Start
VPI	N
Connect VPN	Start
Disconnect VPN	Start
IP-Synchronization	Start
¢r 𝗞 ı∐ 🛛 🛛 🗖 🖉	к

Fig. 259 : Menu Service/Remote Access

Alternatively, the VPN connection can also be started from the transport display.

To do this, first "click" in the area of the GPS and GSM symbols and confirm the query that then appears regarding the VPN connection.



Fig. 260 : VPN via transport screen
Settings Service	Remote Access	5	-	_
Enable	Yes	No		
Access ACK	Yes	No		
Offline	Sta	urt		
VPN				
Connect VPN	Sta	art		
Disconnect VPN	Sta	art		
IP-Synchronization	Sta	ırt		
Connect VPN via ethernet	Sta	urt 🌟	4	
¢ ∿ulí Back		ок		

VPN via external Ethernet-Interface



After pressing the respective button, the MultiTask establishes a connection to the configured VPN server. This connection setup may take a few minutes. After the successful connection establishment, the VPN-IP received from the VPN server is displayed to the user. If the connection establishment fails, the user is also informed of this by a corresponding message on the display.





Fig. 262: VPN-Connection failed

**VPN-Connection successfull** 



Fig. 263 : VPN-Connection successfull

If the connection to the VPN server is successful, it assigns the MultiTask a unique VPN IP. This can be determined on the MultiTask in the history, the logbook or in the GSM/GPRS diagnosis.

Einstellungen Service	Diagnose GSM/GPRS	
PPP-Interface	ppp0	
TTY Device	/dev/ttyO4	
TX Speed	230400	
Local IP	10.28.57.231	
Remote IP	10.64.64	
Status LT-Server	Unbekannt	
Status VPN	VPN verbunden	
Eigene VPN-IP	10.19.14.2	

Fig. 264 : Menu Service/Diagnostic/GSM/GPRS

- Ger The VPN IP received from the VPN server is required so that the remote PC can connect to the MultiTask.
- An etablished connection to the VPN server is indicated by a red GSM symbol.

In addition, the VPN IP is automatically transferred to the Service-FTP server as part of the system-info-file and is therefore also available outside of the MultiTask.

After the connection to the VPN server has been established, the system info file on the service FTP server is automatically updated. If this did not work, the "IP Synchronization" can also be manually initiated again.

Settings Service		Remote Acces	is	-	
	CSD				
Enable		Yes	No		
Access ACK		Yes	No		
Offline		St	art		
	VPN				
Connect VPN		St	art		
Disconnect VPN		St	art		~
IP-Synchronization		St	art 🂥	L	
\$ S II	Back		ок		

Fig. 265 : Sync of the VPN-IP within the system-info-file

#### Loading the MultiTask user-interface via Remote-PC

- In order to establish the connection to the MultiTask from the remote PC with an existing VPN connection, an Internet browser must first be started on the remote PC.
- The respective VPN IP of the MultiTask is required to enter the URL in the browser of the remote PC. To call up the MultiTask user-interface, enter the following URL in the browser of the remote PC:

  - For <VPN-IP> the according VPN-IP-Address (e.g. 10.19.14.99) must be entered
    - Example: "10.19.14.99/fmc\_multitask\_gui/"

#### 14.4.2.2 Disconnection and actions when disconnecting

Settings Service	Remote Access	5		
CSD				
Enable	Yes	No		
Access ACK	Yes	No		
Offline	Sta	art		
VPN				
Connect VPN	Sta	art		
Disconnect VPN	Sta	art 💥		
IP-Synchronization	Sta	art	$\rightarrow$	
∲ % I∐ Back				

Fig. 266: Disconnect VPN-Connection

Alternatively, the VPN connection can also be terminated from the transport screen:



Fig. 267: Disconnect VPN-Connection from transport screen

To do this, first "click" in the area of the GPS and GSM symbols and confirm the query that then appears regarding the VPN connection.

- Ger The termination of the VPN connection is independent of the interface via which the VPN connection was established.
- ${\mathscr G}$  The GSM symbol is only colored red for the duration of an existing VPN connection.
- Ger After the end of the VPN connection, the system info file is updated again and the VPN IP is removed.

When the connection is terminated, various actions are available that the MultiTask should perform after the connection to the VPN server has been terminated. These are defined via the "Action after disconnection" parameter in the VPN setup. See chapter 13.2.2.11.

# **14.5 Configurable print layouts**

# 14.5.1 Report Editor



Fig. 268: Report editor

- The Report Editor is a tool for Windows PCs that can be used to create user-defined print layouts for MultiLevel. The layouts are saved in XML format and can be imported into MultiTask from a USB stick via the "Data Transfer" item.
- The Report Editor supports various elements (text, data and special W&M elements) that can be freely positioned on the report. In addition, it is possible to integrate your own text elements into the report. The Report Editor works independently of the actual translations. This has the advantage that translations made on MultiTask do not also have to be entered in the Report Editor. For this reason, however, the Report Editor does not know the actual length of the individual language-specific texts. Final fine-tuning of spacing and positioning must therefore take place in conjunction with a MultiTask.
- The Report Editor also supports several print options, such as "bold", "underlined" etc., which can be used to customize the appearance of the report, if supported by the printer. In addition, it is possible to define dependencies for individual elements as well as for entire areas (sub-blocks), such as "Status of W&M seal", "Repeat for all compartments involved in the transaction", etc.

The following layouts are supported:

- MultiLevel ZERO receipt
- MultiLevel loading certificate
- MultiLevel delivery note (compartment-related)
- MultiLevel delivery note (product-related)
- MultiFlow ZERO receipt
- MultiFlow delivery note
- MultiFlow invoice

**C**<sup>3</sup> The Report Editor is available in German and English. The respective language selection is made once at the time of installation.

C A detailed description of the Report Editor can be found in the document [7].

# **14.6 Temporary Passwords**

## 14.6.1 Temporary Password Generator

Temporary Password Gener	ator 1.0.0	– 🗆 X	
Date Hour AccessLevel	28.02.2022       09:49       3	Today Current	
Period (hours)		0 - 47 h	
	V		
Password			

Fig. 269: Temporary Password Generator

As of version V1.11.0/1.11.0, the MultiTask supports the entry of a temporary password. By entering this temporary password, it is possible to obtain an increased access level for a specified period of time. This makes it possible, for example, for users with a low AccessLevel to access higher level parameters for a limited period of time.

The temporary password is generated using a small Windows tool. For the generation following definitions are required:

- Starting date
  - Date from which the temporary password should be valid
- Starting time
  - Time from which the temporary password should be valid
- AccessLevel

-

- The temporary allowed AccessLevel
- Validity (hours)
  - Validity of the temporary password in hours
- Validity (minutes)
  - Validity of the temporary password in minutes

The 10-character temporary password is generated via the arrow buttons. A temporary password, that has already been generated, can also be "read out".

The temporary password generated in this way can be entered in a separate area on the MultiTask.

Settings Service	Settings Service Temporary Pass
Diagnosis Update Temporary Password Remote Access	Temporary Password Apply Temporary AccessLevel Start
Service-Mode Loading Plan Inclination-Tour MultiFlow Calibration	
MultiFlow Draining	
dr ≪u∬ Back	dý ⇔ <sub>nl</sub> ∫ Back

Fig. 270: Entering temporary password

Ger Signalizing an activated temporary AccessLevel, a "\*" is added to the shown user info.



Fig. 271: Showing tempory AccessLevel

- Get If the W&M seal is active, level 5 is also downgraded to level 4 for the temporary access level.
- After the validity of the temporary password has expired, when the current driver logs out and when restarting, the temporary AccessLevel is reset. Outside of the menu, this happens immediately, but in the menu it only happens after leaving the menu.
- Ger The setting and resetting of the temporary AccessLevel as well as failed attempts to enter a temporary password are recorded in the logbook, displayed in the history and shown as a warning message.

# 14.7 FTP Server

Up to 3 different FTP servers may be configured in MultiTask. They are used for different tasks and can be operated and configured independently of one another.

#### 14.7.1 Data FTP Server

- The data FTP server is needed for transferring event, tracking and system data.
- C Event and tracking data are transferred in FTL format.
- System log files are transferred in compressed ".tar.gz" format and are used for investigating and diagnosing problems and anomalies within the system.
- C Required directory structure:
  - "/"
  - "/GPS"
  - "/Log"

 $\Box$  Event files are transferred into the root directory "/".

GPS tracking information is transferred into the "/GPS" subdirectory.

System log files are transferred into the "/Log" subdirectory.

#### 14.7.2 Service FTP Server

The Service FTP server is needed for transferring the System-Info file.

- The System-Info file has just a few bytes and contains system data needed, for example, for remote access, determination of the data dial-in number, serial number, etc., along with checking the W&M electronic seal status.
- C The System-Info file is transferred as soon as the system goes online.
- C Required directory structure:

• "/"

#### 14.7.2.1 System-Info File

The System-Info includes the following, system depending information's.

Example:

NRP Serial:	7070BBEA0000026
LRP Serial:	7064A3EA00000E3
2nd Display Serial:	
Timestamp:	20240117093312
Data Number:	1234567890
PPP Local IP:	100.114.96.248
VPN Server IP:	81.20.82.93
VPN Server Port:	1194
VPN IP MultiTask:	
Feature Key:	xxJd7jyoBVGqvq8gBJItHw==xx
NRP Rootfs Version:	0.1.12
NRP SW-Version:	1.14.1
LRP Rootfs Version:	0.1.12
LRP SW-Version:	1.14.0
2nd Display Rootfs Version:	
2nd Display SW-Version:	
NRP HSV/Vap.:	
NRP Common:	1.14.0
LRP Common:	1.14.0
2nd Display Common:	
Seal state:	0

## 14.7.3 Update FTP Server

C The update FTP server is needed for automatic download of update files.

- Transferred as soon as the system goes online.
- C Optional subdirectory "/Test" is only used for the MultiTask -> Update FTP Server connection test and the associated transfer of a test file.

C Required directory structure:

"/""/Test"

# 14.8 Fuel Truck Link (FTL)

- MultiTask supports communication using the FTL protocol as specified in DIN EN 15969. The FTL nodes listed below are supported. SET and CLEAR functions are not available for all nodes.
- As not all information provided by MultiTask is taken into account in the FTL standard, MultiTask also makes a FAS node available. This allows for additional data to be requested and set in the same format.
- G Further information on supported FTL and FAS nodes along with the necessary access rights is available directly from the manufacturer.

## 14.8.1 Supported FTL nodes

List of supported FTL nodes.

- FTL,SYSTEM,FTL\_VERS
  - o ENQ
- FTL,SYSTEM,FTL\_FORMAT
  - o ENQ
- FTL,SYSTEM,DATETIME
  - o ENQ
  - o SET
- FTL,SYSTEM,BAUD
  - o ENQ
  - o SET
- FTL,PRN,PORT
  - o ENQ
  - o SET
- FTL,PRN,TYPE
  - o ENQ
  - o SET
- FTL,PRN,STATUS
  - o ENQ
  - o SET
- ► FTL,SYSTEM,NODELIST
  - o ENQ
- FTL,GPS,TVE
  - o ENQ

- FTL,COMP,COUNT
  - o ENQ
- ▶ FTL,COMP,STATUS
  - $\circ$  ENQ
- ► FTL,COMP,CONTENT
  - $\circ$  ENQ
- ► FTL,COMP,PID\_INFO
  - o ENQ
- FTL,COMP,LOADING
  - o ENQ
  - SET(n) (only for AccessLevel >= 3)
  - CLEAR (only for AccessLevel >= 3)
- FTL,DRIVER,DRIVERS
  - o ENQ
  - SET (only for AccessLevel >= 3)
  - CLEAR (only for AccessLevel >= 3)
- FTL,DRIVER,CURRENT
  - o ENQ
  - SET (only for AccessLevel >= 3)
  - CLEAR (only for AccessLevel >= 3)
- FTL,VEHICLE\_ID
  - o ENQ
- FTL,ORDER,Order
  - o ENQ
  - o SET
  - $\circ$  CLEAR
- FTL,ORDER,Plan
  - o SET
- FTL,ORDER,State
  - o ENQ
- FTL,ORDER,Delivery
  - o ENQ
- FTL, PRODUCT, ARTICLE
  - o ENQ
  - SET (only for AccessLevel >= 3)
  - CLEAR (only for AccessLevel >= 3)

- ▶ FTL,LOG,LH\_FILE
  - ENQ
- FTL,LOG,L\_FILE
  - o ENQ
- FTL,LOG,TIMESTAMP
  - o ENQ
  - SET (only for AccessLevel >= 3)
- FTL,LOG,SNAPSHOT
  - SET (only for AccessLevel >= 3)

### 14.8.2 Supported FAS nodes

- MultiTask has a large number of functions and parameters, not all of which are incorporated in the FTL standard. In order to nevertheless make this information available to external systems, a manufacturer-specific FAS node is implemented in parallel with the FTL nodes. This is used to make additional information available, still in the FTL format.
- Further information regarding the FAS node is available directly from the manufacturer.

#### 14.8.3 LT Server

- C Optionally, in addition to transferring GPS tracking data to the Data FTP server, such data may also be transferred direct to an LT Server. The LT Server serves for rapid display of GPS data in conjunction with the Web Viewer from Lomosoft.
- Depending on the configuration, GPS data can be transferred to the FTP server, the LT server or both.

# 14.9 Update

The individual steps for a system update via USB stick listed below use version "**mt-release-1.4.11**" as an example.

### 14.9.1 Prerequisites

- A MultiTask system with a prepared USB stick is required.
- The USB stick must have the /MultiTask directory with all of its subdirectories.
- If this is not present, the USB stick can also be prepared appropriately in MultiTask setup under "/Settings/Configuration/Interfaces/USB/General/Init".
- The "/MultiTask/update" directory on the USB stick must contain the update file to be used.
- The secondary display is optional.

#### 14.9.2 Preparation

- A USB stick prepared for the MultiTask system must be connected to the MultiTask
- In order to have access to all needed settings, a user with Access-Level '3' or higher must be logged in (e.g. "MultiTask W&M", "654321").
- The tank truck must be empty, i.e. all wetleg sensors must register 'dry'.
- If the W&M electronic seal is set, only non-W&M-relevant subsystems may be updated.

## 14.9.3 Update

- Both the main device and the secondary display must be started and the MultiTask must be running correctly. All displays in the system show the Transport screen.
- Switch to Settings Service Update.
- Press to "Copy Update-Files from USB" stick.

Settings Service	Update
HMI Update Status	Not available
Appl. Update Status	Not available
2nd Display Update Status	-
Copy Update-Files from USB	Start
FTP Update Check	Start
Clear Update Folder	Start
Start Update	Not available
ф. <i>д</i>	Back

Fig. 272 : Copy update from USB

- Close the "Successfully copied!" alert
- Files will now be decompressed on the system. This can take a moment.

Settings Service	Update	_
HMI Update Status	Not available	
Appl. Update Status	Preparing	
2nd Display Update Status		
Copy Update-Files from USB	Start	
FTP Update Check	Start	
Clear Update Folder	Start	
Start Update	Not available	
43	Back	

Fig. 273 : Update is prepared internally

- Close the alert message, "A software update is available"
- Start Update

HMI Update Status	Available (mt-release-1.10.3-0- g9cc69fc)	
Appl. Update Status	Available (mt-release-1.10.3-0- g9cc69fc)	
2nd Display Update Status	-	
Copy Update-Files from USB	Start	
TP Update Check	Start	
Clear Update Folder	Start	
Start Update	Start	•

Fig. 274: Start Update

HMI Status	Not necessary	
App Status	Preparing Database	
Secondary Display Status	-	
Progress		

Fig. 275 : Update being performed



Fig. 276 : Update completed

- Confirm message
- MultiTask automatically restarts.

When an update is performed via an Updatebundle file, touch calibration is automatically started on all MultiTask displays available in the system after the restart. In this case, it is **absolutely** necessary to calibrate **ALL** touchscreens after the restart **before** the update is finally applied!

After the restart and **before** the final update is applied, it is **essential** to ensure that all MultiTask displays available in the system are started correctly and displaying the message "Software update successful....."!

Afterwards, accept the update



Fig. 277 : Accept update

# 14.9.4 Final version check

The current version can be checked using the function button with the "question mark".

€/	9:13a 20	im die 🔍	<u> </u>	X 🕷
				5 Q
		LRP Serial	704E5EAB000000BF	<u>s</u>
		LRP Booter Version	0.1.11-c996	
		LRP Kernel Version	0.1.12-a6b7	
		LRP Rootfs Version	0.1.12-6c28	
		LRP SW-Version	1.11.0	
		LRP Checksum	d1445090	$\land$
		LRP Common	1.11.0	
				۵
NoMix	N			

Fig. 278 : Version control

Active Configuration	KonHom *	State of the second	
GUI Version	1.59.1		
Device Name	MultiTask Peter	0	
Device Serial	Dummy		
NRP Serial	70CD9B7D000000F4		
NRP Booter Version	0.1.11-6c0f		
NRP Kernel Version	0.1.12-95b0		
NRP Rootfs Version	0.1.12-89ec	6	
NRP SW-Version	1.11.0		
NRP Checksum	4dda25f7		
NRP Common	1.11.0		
	GUI Version Device Name Device Serial NRP Serial NRP Booter Version NRP Kernel Version NRP Rootfs Version NRP SW-Version NRP Checksum NRP Common	GUI Version     1.59.1       Device Name     MultiTask Peter       Device Serial     Dummy       NRP Serial     70CD9B7D00000F4       NRP Booter Version     0.1.11-6c0f       NRP Kernel Version     0.1.12-95b0       NRP Rootfs Version     0.1.12-95b0       NRP SW-Version     1.11.0       NRP Checksum     4dda25f7       NRP Common     1.11.0	GUI Version     1.59.1       Device Name     MultiTask Peter       Device Serial     Dummy       NRP Serial     70CD987D00000F4       NRP Booter Version     0.1.11-6c0f       NRP Kernel Version     0.1.12-95b0       NRP Rootfs Version     0.1.12-89ec       NRP SW-Version     1.11.0       NRP Checksum     4dda25f7       NRP Common     1.11.0

Fig. 279: Version control

# **15 Other information**

# 15.1 Maintenance

No mechanical or electronic modifications to the equipment on the part of anyone other than the manufacturer are permitted.

If cleaning is carried out using a steam jet or with pressurised water, the equipment must be protected from the water jet. Never direct a steam jet directly at the equipment!

If moisture is detected in the equipment, and this moisture can be traced to incorrect cleaning, the guarantee will be refused.



§

All equipment is subject to regular safety testing in accordance with the Industrial Safety Ordinance ("Betriebssicherheitsverordnung"). Equipment and protective systems covered by RL 94/9/EC and operated in an Ex-zone are counted as systems requiring monitoring. The international IEC / EN 60079-17 standard shall apply, as may other, country-specific guidelines and regulations.

## 15.1.1 Maintenance plan

	Daily	Weekly	Monthly	Annually
Clean equipment from outside			Х	
Visual inspection	Х			
Testing of LEDs				Х
Inspection of stability of enclosure mounting		Х		
Test cables and functionality with limit value sensor		х		

# 15.2 Software replacement

#### 15.2.1 Interface modules

F

The software is integrated in the microprocessor for all interface modules. In order to replace software, the microprocessor must be replaced.

⚠

Should it be necessary to replace the processor of the SPD sensor interface, in which the software is integrated, it is necessary that DIP switch 4 on the CPU circuit board is set to "OFF" before the processor is removed. This will interrupt the power supply from the internal battery (see also Diagram No.).



When working on the interface modules, ensure correct potential equalisation. Static discharge can destroy the electronic components or assemblies or change their functionality. It is therefore recommended to wear a grounding strap around the wrist. This equalises your potential with the assembly.

# 15.3 Display replacement

#### 15.3.1 Main display (MT-E display)

When replacing the main display, it is **ESSENTIAL** to ensure that the software version of the main display is compatible with that of the MT-E base! If the first two numbers of the version number match, the display can be replaced.

MT-E Base V<x>.<?> + Main Display V<x>.<?>



#### Example:

MT-E Base V1.10.0 + Main Display V1.10.3 → OK

MT-E Base V1.10.0 + Main Display V1.9.0 → Not OK

Settings Datatransfer	USB Interface
Connection State	
Init	ОК
Clear & Init	ОК
Eject	ок
\$P\$ \$	Back

Fig. 280: Initialise USB stick

1) Initialise USB stick. Do not forget to press the seal switch to break the W&M seal and log in at W&M level.

Settings	Datatransfer	Level Tables	
Interface		USB	
Import		ОК	
Export		ОК	
49 \$		Back	

Fig. 281: Data transfer level tables MultiTask -> USB stick

2) Transfer the level tables, configuration and database to the USB stick.

Settings Datatransfer	Parameter
Interface	USB
Туре	Complete
Characters per Line	60
Export	Start
the of the the	Back

Fig. 282: Data transfer parameter list MultiTask -> USB stick

3) Transfer the parameter list to the USB stick.

Active Configuration	-
Load Configuration	Load Configuration
Save Configuration	Save Configuration
Ignore Logbook	Yes No
File Name of Configuration	
Clear Config. Files	Clear Directory
Clear Backup Files	Clear Directory
Clear Log Files	Clear Directory

#### Fig. 283: File settings

- 4) Set the "Ignore Logbook" setting to "Yes", then save the configuration (assign file name and save).
- 5) Reload this configuration, the system reboots.
- 6) Switch off the MultiTask system after a successful reboot.
- 7) Replace the display.
- 8) After replacing the display:
  - Transfer the level tables from the USB stick to MultiTask.
  - Compare the time and date, adjust if necessary.
- 9) Finally, replace the W&M seal.

# 15.3.2 Second display (MT-D)

When replacing the second display, it is **ESSENTIAL** to ensure that the software version of the second display is identical to that of the main display! If these match, the display can be replaced.

# 15.4 DIP-Schalter

### 15.4.1 (Main-)Display

8 DIP switches are installed in each display, which are assigned different functions:

DIP-Switch	Function	Setting
1	UART0 Enable	OFF
2	Boot Sequence	ON
3	Boot Sequence	ON
4	W&M Seal-Switch (only Main Display)	ON
5	Reserved	OFF
6	Touch Screen calibration	OFF
7	Reserved	OFF
8	Reserved	OFF



#### NOTE:

Especially with the DIP switches 1, 2 and 3 you have to pay attention to the correct setting. Some of these DIP switches have a direct influence on the starting behavior of the system. Incorrect settings can lead to system startup problems.

i

#### NOTE:

It is important to note that DIP 6 is reset to the original value "OFF" after the touch calibration has been called up. If DIP 6 is in the ON position when switching on, the MultiTask stops the start-up process in the "Waiting for system ready signal" state.

## 15.4.2 MT-E Base

In the bottom part of the MT-E (MT-E Base), on the communication circuit board, a 8 DIP switch is installed, which are assigned different functions:

DIP-Switch	Funktion	Einstellung
1	UART0 Enable	OFF
2	Boot Sequence	ON
3	Boot Sequence	ON

DIP-Switch	Funktion	Einstellung
4	Reserved	ON
5	Reserved	OFF
6	Reserved	ON
7	Reserved	ON
8	Reserved	OFF



# 

Especially with the DIP switches 1, 2 and 3 you have to pay attention to the correct setting. Some of these DIP switches have a direct influence on the starting behavior of the system. Incorrect settings can lead to system startup problems.

# 16 Part numbers for NoMix/SPD application modules

Module	Part no.	Description
Electronic modules		
Wet leg sensor interface	NM2WET2	Wet leg sensor interface
SPD sensor interface	MSSPD-N2	SPD Namur sensor interface
TAG interface	NM2TAG	TAG scan interface
I/O interface	NM2IO	I/O interface, solenoid valve driver
Overfill prevention amplifier interface	NM2ASEM2	Multiple overfill prevention amplifier
GPS module	GPS4	GPS module
Printer	DR-295 or DR- 298	Protocol printer
Level gauge interface	MLIF	Level gauge interface
Electromechanical compone	nts	
Wet leg sensor	NS-2F	Wet leg sensor
Bleeder resistor	ASS-GW-ESA	Bleeder resistor for flange
Bleeder resistor	ASS-GW-ESU	Bleeder resistor
Solenoid valve	QMVBS	Load release solenoid valve
Solenoid valve	QMV1	Solenoid valve simple/single
Pneumatic indicator	7100160	Pneumatic indicator rotowink
Air gland	5300190	Air gland for pneumatic indicator
Insulating bushing	ASS-GW-IB50	Insulating bushing with connector for MK50
Insulating bushing	ASS-GW-IB80	Insulating bushing for G3 thread
Insulated cable	ASS-GS-SEIL-V	Insulated cable
Insulation for flange	ASS-GW-I80G	Insulation for flange NW80
Insulation for flange	ASS-GW-I100G	Insulation for flange NW100
Insulation for GPV	ASS-GW- GPI100	Insulation for GPV-2L(M)
Shuttle valve	PWV	Shuttle valve
Main air pressure switch	NM2DSS	Main air pressure switch, closer
Air pressure switch	MSDSO	Air pressure switch, opener

Module	Part no.	Description	
Air pressure switch	ASS-GW-DSW	Air pressure switch, changeover	
Limit sensor cable	ASS-GW- GWGS	Limit sensor connector with cable	
Cable set	NM2KABEL	Cable set for wiring the power supply and the internal CAN bus	
Cable set	ASS-GS-K25M	Connecting cable between TAG interface and insulated couplings	
Acoustic signal generator	NM2BEEP	Acoustic signal generator complete	
Sealing plugs	NM2PG	One set of sealing plugs	
Trailer cable	AK	F.A.S trailer cable	
Transponder	RFID	Replacement pressure switch (control cabinet sensor)	
Mechanical components			
API coupling *)	VKV1PA-I	Pneumatically powered API coupling with inductive proximity sensor	
API coupling *)	VKV1-I	Filling coupling with inductive proximity sensor	
API coupling *)	VKV1M-1	Hand-lever coupling with inductive proximity sensor	
Bottom valve super-flat *)	BO100-F1-SPD	Bottom valve DN100 super-flat, pressure- balanced, with sieve, with SPD air pressure switch incl. 2 x 4100357 ad 6300055	
Bottom valve flat *)	BO100-F2-SPD	Bottom valve DN100 flat, pressure-balanced, with sieve, with SPD air pressure switch	
Bottom valve 90-degree *)	BO100-SPD	Bottom valve DN100 90-degree with SPD air pressure switch	
Bottom valve T-SPD *)	BO100-T-SPD	Bottom valve DN100 T-shape, pressure- balanced, with sieve, with SPD air pressure switch	
Line valve *)	DV100-4D	Line valve with SPD air pressure switch	

\*) All API couplings, bottom valves and line valves are also available without sensors

Manuals		
	DOC-554	MultiTask User Manual
	DOC-555	MultiTask Operating Manual
	DOC-454	NoMix Approvals

\*) The labelled valves/couplings are also available without sensors.

Table 8: Part numbers for NoMix/SPD application modules

# 17 SPD sensors: overview/assignment

SPD sensors	Polarity / colour (no.) of connecting wire		Sensor type
API coupling	Wire (+) Wire (-)	brown white	Analog closer
Bottom valve with SPDDSOe	Wire (+) Wire (-)	brown white	Analog opener
Line valve DV100-3I	Wire (+) Wire (-)	brown blue	Analog closer
Line valve DV100-4D	Wire (+) Wire (-)	Brown White	Analog opener
Dome cover sensor MSDDST	Wire (+) Wire (-)	brown white	Analog closer
Dome cover P8000011956 (MANLID20A-SPD)	Wire (+) Wire (-)	brown white	Analog closer
Air pressure switch NM2DSS	Wire (+) Wire (-)	brown blue	Analog closer
Pressure switch MSDSO	Wire (+) Wire (-)	brown blue	Analog opener
Transponder RFID	Wire (+) Wire (-)	brown / 1 white / 2	Analog opener

Table 9: Overview of SPD sensors

# 17.1 Example of SPD sensor assignment

Example for a 6-compartment tank truck with monitoring of API couplings, bottom valves and line valves.

SPD sensor interface input	Connected sensor/coupling	Tank truck compartment
K1	API coupling (VKV1-I)	1
K2	API coupling (VKV1-I)	2
К3	API coupling (VKV1-I)	3

SPD sensor interface input	Connected sensor/coupling	Tank truck compartment	
K4	API coupling (VKV1-I)	4	
K5	API coupling (VKV1-I)	5	
K6	API coupling (VKV1-I)	6	
K7	Bottom valve sensor (SPD-DSOe)	1	
K8	Bottom valve sensor (SPD-DSOe)	2	
К9	Bottom valve sensor (SPD-DSOe)	3	
K10	Bottom valve sensor (SPD-DSOe)	4	
K11	Bottom valve sensor (SPD-DSOe)	5	
K12	Bottom valve sensor (SPD-DSOe)	6	
K13	Line valve (DV100-3I)	1	
K14	Line valve (DV100-3I)	2	
K15	Line valve (DV100-3I)	3	
K16	Line valve (DV100-3I)	4	
K17	Line valve (DV100-3I)	5	
K18	Line valve (DV100-3I)	6	
K19			
K20			

Table 10: Example of SPD sensor assignment

# 17.2 Blank form for SPD sensor assignment

SPD sensor interface input	Connected sensor/coupling	Tank truck compartment
K1		
K2		
K3		
K4		
K5		
K6		
K7		
K8		
K9		
K10		
K11		
K12		
K13		
K14		
K15		
K16		
K17		
K18		
K19		
K20		

# 18

# **Technical Information**

Electricity supply	$\label{eq:UN} \begin{array}{l} U_{N} = 12 VDC \; / \; 24 VDC \; (9 - 30 V) \leq 30 W \\ from \; 12 V/24 V \; vehicle \; battery \end{array}$		
CAN bus power circuits	$U_{max} = 24V; I_{max} = 1A$		
Printer power circuits	U <sub>max</sub> = 24V; I <sub>max</sub> = 1A		
Ethernet power circuits	$U_{max} = 24V; I_{max} = 1A$		
Serial interfaces	RS232 serial interface Combined RS232/RS485 serial interface For connection to printer or on-board computer Optional handshake: XON/XOFF		
GPS power circuit	Explosion-protection type: intrinsic safety Ex ib IIB Only for connecting the correct GPS module delivered with the system		
GPRS power circuit	Explosion-protection type: intrinsic safety Ex ib IIB Only for connecting the correct antenna delivered with the system		
Bluetooth power circuit	Explosion-protection type: intrinsic safety Ex ib IIB Only for connecting the correct antenna delivered with the system		
Operating temperature	-25 to +50 °C or -40°C to + 60°C, see identifier plate		
Enclosure	IP65, aluminium pressure die-cast		
Ex labelling	🐼 2 IIG Ex mb eb ib [ib] IIB T4		
Ex approval	TUeV 13 ATEX 126067		
IECEx certificate	IECEx TUN17.0004		



DO NOT OPEN WITHIN AN EXPLOSIVE ENVIRONMENT.

# **19 Address and contact**

Our service department is happy to support you.

#### Guidant

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# 20 Notes

# Anhang A. General Overview Icon

#### Icons for device mode



#### Icons for operation selection



#### **Icons for sealing**



#### Icons for compressed air and seal status display





### Icons for communications

= Bluetooth (low)	= Bluetooth (middle)	= Bluetooth (high)
= GPS (low)	= GPS (middle)	= GPS (high)
= GSM (0)	= GSM (1)	= GSM (2)
[ = GSM (3)	[[ = GSM (4)	
🧊 = WLAN (0)	🧊 = WiFi (1)	🧊 = WiFi (2)
🤿 = WiFi (3)	🤶 = WiFi (4)	

## Icons during LOADING

$\Diamond$	= Compartment EMPTY		= Compartment FULL		= Compartment PROBLEM
R	= Compartment REST AMOUNT				
.r.⊊ Ø	= TAG Inactive	.∩.⊑ ⊘∎	= TAG / Product RECOGNISED	.∩⊊ A	= TAG PROBLEM
R	= Seal SET	<b>^</b> .	= Seal BROKEN	$\mathbf{Q}_{\mathbf{r}}$	= Seal OPEN
	= Seal Manually SET				
# Icons during DISCHARGE

OPEN	API coupling CLOSED	= API PROBLEM
= Bottom valve	= Bottom valve	= Bottom valve
OPEN	CLOSED	PROBLEM
= Compartment	= Compartment	= Compartment
EMPTY	FULL	PROBLEM
R = Compartment REST AMOUNT		
= Manlid	= Manlid	= Manlid
OPEN	CLOSED	PROBLEM
= Limit sensor being HEATED	= Limit sensor DRY	E Limit sensor WET
= Limit sensor	= Limit sensor	= Limit sensor
MISSING	PROBLEM	MANUAL
□ = TAG	= TAG / product	TAG
INACTIVE	RECOGNISED	PROBLEM
= Line Valve	= Line Valve	= Line Valve
OPEN	CLOSED	PROBLEM
= Vapour recovery MANUAL	= Vapour recovery CONNECTED	= Vapour recovery PROBLEM
= Seal	= Seal	= Seal
SET	BROKEN	OPEN
= Seal Manually SET		

# **General icons**

= Printer	= Warning	= ERROR
= Pitch	= Roll	
= Pitch ERROR	= Roll ERROR	= Driver
= Tilt		= Time
- Open	= Close	CAN = CAN bus Data
= Brake RELEASED	= Brake ACTIVE	= Brake ERROR
= Dead man switch	= Changes	= Settings

# Anhang B. Antenna Mounting

#### **Technical information:**

Dimensions

**GSM** antenna:



#### **GPS4** receiver:



Max. torque:	5 Nm
GPS4:	1575.42 MHz / 27dB
GSM:	900 / 1800 MHz or 800 / 1900 MHz

#### Different antenna types are possible:

- GPS4 Antenne

   (1 RG 174 cable with one cap):
   Beside the SMA connection, the GPS cable is marked with "GPS" or "N70....".
- GSM and Bluetooth antenna (1 RG 174 cable with one cap): Beside the SMA connection, the GPS cable is marked with "GSM" or "M70....".

- The GPS4 antenna requires a "clear view" of the sky, otherwise satellites cannot be reliably identified and the position cannot be determined. It is therefore sensible to install the antenna in, for example, the upper area of the tank truck.
- The positioning of GSM and Bluetooth antennas is less critical. They may also be installed in the lower part of the tank truck. It is important to ensure, however, that both antennas must be installed within Zone 2.

#### Instructions for mounting antennas.

- The MultiTask antennas are connected to the EMIS using SMA plugs.
- The text that follows is intended to assist in fitting the antenna cable to the MultiTask.
- Before the antenna cable is fitted to the MultiTask, the antenna body must be completely mounted and the cabling must be completely laid.
- 1. MultiTask with GSM and Bluetooth antennas.













20. End of installation



# Anhang C. Connection of the data lines to EMC cable glands

Step 1: strip 70mm of cable insulation expose shield braid and shorten to 15mm



#### Step 2:

- Pass cable through union nut
- Insert cable into clamping piece
- Wrap shield braid over clamping piece
- Shield braid must cover O-ring for approx. 2mm



Step 3

- Place clamping piece in intermediate ring
- Mount and tighten gland
- Done!



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# 21 Drawings

#### P8000007497 - MultiTask - Extended Version







#### P8000007798 - Anschlussplan / Wiring Diagram - MultiTask-Extended







#### P8000017385 - FPI-Interface











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#### P8000007732 – Gesamtschaltplan – Extended Version + MultiLevel



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