BARTEC

System PETRO 3003

Aircraft Refuelling

Configuration

Software version 1.23.x

SAK 090322

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EU-Declaration of conformity	We,BARTEC BENKE GmbH, Schulstraße 30, D-94239 Gotteszell,hereby declare, that this product is in compliance with the essential requirements of the relevant EU-Directives The EU-Declaration of conformity for this product can be obtained from BARTEC BENKE GmbH, Schulstraße 30, D-94239 Gotteszell, gotteszell@bartec.com
Waste disposal	Make sure that the product described here is disposed of in an environmentally sound manner. Observe the national and local safety regulations.

1 About this manual

The operating instructions are part of the product and must be kept in the immediate vicinity of the measuring system. The personnel for assembly, operation and maintenance must have access to it at all times.
Following the instructions in this manual is important for correct functioning of the measuring system during operation. The configuration instructions are intended for everyone involved in the assembly installtion, commissioning and maintenance of the product.

The illustrations in this manual are intended to illustrate the information and descriptions. They cannot always be transferred unchanged and may differ slightly from the actual design of the device.
BARTEC GmbH reserves the right to make technical changes at any time.
BARTEC GmbH is under no circumstances responsible or liable for any indirect or consequential damages resulting from the use, operation or application of this manual.

Please read the Operating Instructions carefully before using the product.

This document must be kept by the user for the entire life of the product.

Signs and symbols

The following characters and symbols are used in this manual to highlight passages that need special attention.

Notes
This arrow indicates special features to be observed during operation.

Warning
This symbol draws your attention to passages that, if not followed or followed inaccurately, may result in damage to or destruction of parts of the system or loss of data.

Danger!
This symbol marks passages that, if not followed, endanger the health or life of humans.

General information within the text is marked with a frame.

2 Safety precautions

The operator of the system is responsible for observing all the regulations in force for the storage, transportation and loading/unloading of combustible liquids.

For safe installation and commissioning, the knowledge of the safety instructions and warnings in this service manual and their strict compliance are essential.

Careful handling and consistent adherence to instructions can help to prevent accidents, injuries and property damage.

Regulations and provisions lose none of their validity when the system is operated with PETRO 3003 units.

PETRO 3003 units are built with due consideration to the regulations currently in force and left the factory in perfect condition. Their installation and maintenance are to be entrusted to properly trained specialists only.

- Make sure that the data and operating conditions specified by BARTEC BENKE are observed.
- Follow the instructions for operating and servicing the units.
- If you discover any signs of damage or breakage on any parts of the system or if the system's safe operation cannot be guaranteed for any other reason, do not start the system or, if already in operation, shut down the system immediately.
  Notify your maintenance department.
- Get in touch with our service specialists if you discover any faults or defects during operation or if you have cause to doubt that the units are working properly.
- PETRO 3003 units are not a replacement for a tanker vehicle's safety equipment or for a user's own safety measures (e.g. overfill protection).

The measuring system may only be operated for applications that are subject to legal metrological control in the respective EU member state if the nominal operating conditions specified in the EU type examination certificate are met.

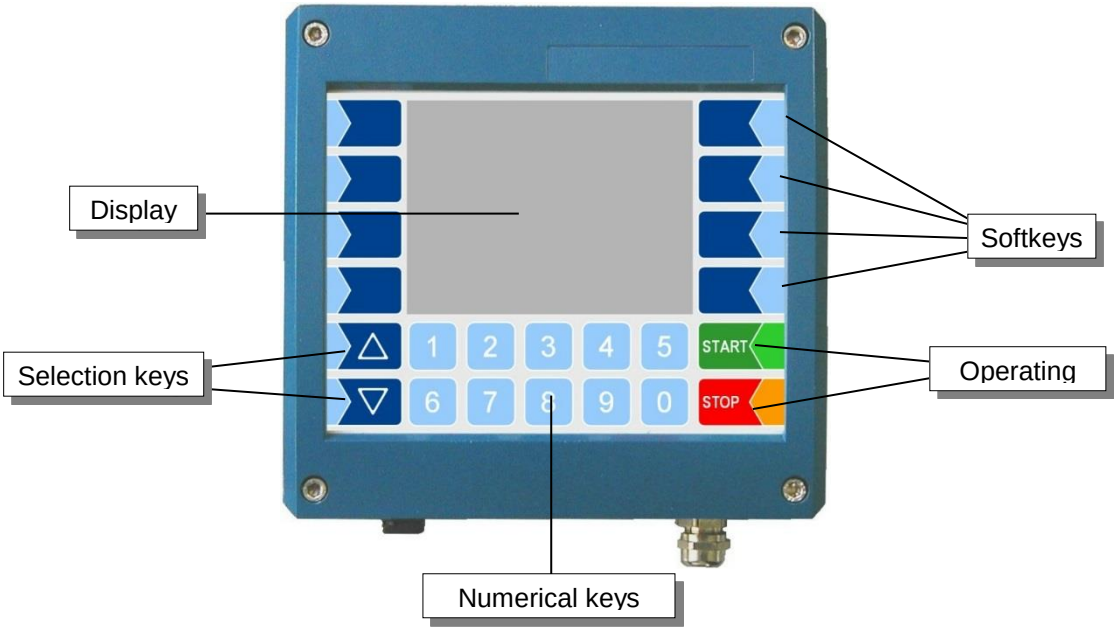
3 Basics

The PETRODAT 3003 system can be used to monitor, register and control all operations and operating processes for loading and unloading petroleum vehicles in hazard classes A1 and A3.
Aircraft Refuelling Version 3003 is used to control aircraft fuelling and defuelling operations as well as to enter and transmit the required and registered data.
It is operated using the operating unit (HMI).

How to start up the system and to operate the vehicle equipment depends on the vehicle type and the therefore valid operating instructions.

3.1 Operating unit (HMI)

The operating unit (HMI) acts as the central control and information unit for the entire system. Communication between the operating unit and other components within the system takes place via USB or, in the case of P-NET devices, via P-NET.



3.1.1 Keypad

The system can be operated using the touch-sensitive keys on the operating unit (touch screen with numerical keys, selection keys, softkeys and operating keys) as well as key functions that are shown on the display depending on the situation. The functions of the softkeys are controlled by the software according to the current operating status.

3.1.2 Display

A graphical screen designed as a touch screen is used to display all information. In addition to the touch-sensitive keyboard, various functions can also be operated directly using controls on the display surface.

3.2 Operating concept

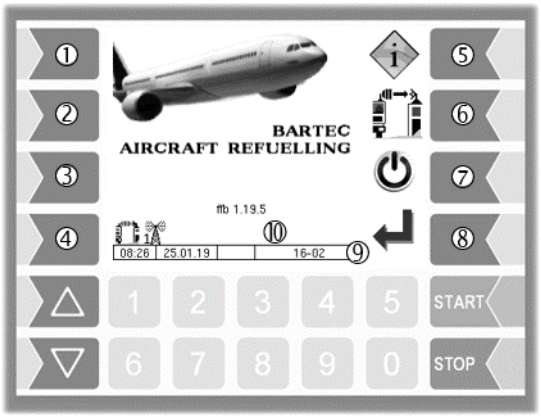
3.2.1 The software user interface

Due to differences between software releases and/or configurations, the displays illustrated in this document may differ slightly from the displays on your system.

An overview of the structure of the configuration menu together with instructions on how to access the appropriate password level in each particular case can be found in the Appendix.

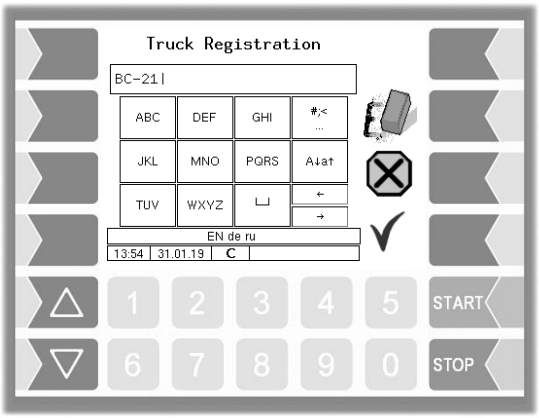
When the system is started up, the main menu appears on the display.
You can access the various displays or operating modes using the softkeys to the left and right of the display.

①	Open diagnostics menu
②	Open event display
③	Open menu selection
④	Open menu for specific messages
⑤	Depending on the configuration, this softkey has the following functions: • Call up interlock display • Print journal
⑥	Depending on the configuration, this softkey has the following functions: • Start TCP connection test • Start FTL/FTP data transfer
⑦	System switch off
⑧	Start delivery mode
⑨	Info line
⑩	Status line



3.2.2 Softkeys

The softkeys can be assigned various functions, the current meaning of which is indicated by symbols. All keys are touch-sensitive, meaning that you don't need to press them but simply have to touch them.



Symbol	Meaning	Effect
	Confirm	A selected menu is opened. A selected parameter setting is confirmed.
	Close menu	The menu that is currently open is closed and the system switches to the next menu up in the hierarchy.
	Cancel	The menu that is currently open is closed and the system switches to the next menu up in the hierarchy. Any settings or entries that have been made are discarded.
	Edit	An entry or selection dialog is opened for the selected parameter.
	Correct	The character to the left of the cursor in an entry dialog is deleted.
	Accept, save	The menu that is currently open is closed. All settings/entries that have been made (including those in lower level menus) are accepted and saved. **All changes are only saved if you exit the menu or entry dialog using this softkey!**
	End order, save, print	The current delivery order is ended, the data of this order is saved and the delivery note is printed.
	End order, save	*If no printer is configured:* The current delivery order is ended, the data of this order is saved.
	Switch temperature	The delivery display switches from the average temperature (AVG) to the actual temperature (ACT) or vice versa.
	Special functions	The menu for selecting special functions is opened.
	Password input	The window for entering the password is opened (Driver-, User- or Service-Password).
	Change user password	The user password (configuration level 2) can be changed.

Symbol	Meaning	Effect
	Connection test	When TCP communication is activated, a test message (ping) is sent to the office.
	FTL/FTP-Data transfer	When the FTP communication is activated, the return run data are generated, the WLAN interface is switched on and FTL/FTP communication between the vehicle and the office is started. When all the files have been exchanged, the WLAN interface is switched off again.
	Start download	The software download from the BARTEC server (Service menu) is started.
	Cancel download	The software download from the BARTEC server (Service menu) is cancelled.
	Print copy	Prints a copy of the delivery note.
	Order complete	Finishes the current order and sends the message „Order complete“ to the office.
	Check Interlock inputs	The current states of the configured interlock inputs are displayed.
	System Switch off	The system is switched off properly, shutting down all modules.
	Water test	The message "Water test performed" is sent. *(Available when the FOI interface is used and when the parameter „Detektor-Test message“ in the menu **Fehler! Verweisquelle konnte nicht gefunden werden.** is activated.)*
	send OK	Sends the message „OK“ *(This softkey is available only with FOI-interface.)*
	Dialog request	A dialog request is sent to the dispatcher. *(The softkey is only available when the BARTEC interface is used.)*
	Edit flight data	From the large display of the flight data out editing the flight data can be called.

3.2.3 Monitoring the connection

The connection between the vehicle, Internet and office is constantly monitored and its status is shown on the display. The following icons are used to display the current status of the connection. They appear in the display above the info line.

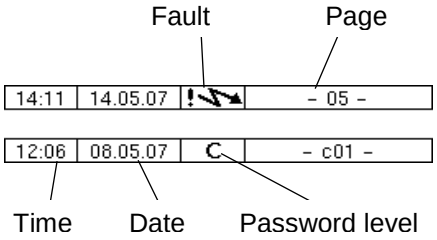
	Symbol	Meaning
Modem		Communication activated
		Modem is switched on, internet connection established.
Office/Remote TCP		Connection to the office present
		FOSI: Connection to server ok but no connection to dispatch
		Disconnected from the Office
Office/Remote FTP		Connection to the office/server interrupted
		Connection to the office/server is established.
		Tour data available and connection to the office/server interrupted
		Tour data available and connection to the office/server is established.
		Files to upload available and connection to the office/server interrupted.
		Files to upload available and connection to the office/server is established
		Data is send from the vehicle to the office/server.
		Data is send from the office/server to the vehicle
		Downloaded files available and connection is established
		Downloaded files available and connection is interrupted
WLAN		Connection to WLAN interrupted
		Connection ist established or interrupted.
		Connection to WLAN established.
Bluetooth		Bluetooth interface is active.
		Bluetooth connection is established
Connection to large leak detection		Connection to GLE OK
		Connection to GLE OK but data is not picked up
		No connection to GLE

	Symbol	Meaning
Selecting the meter		Meter 1 selected
		Meter 2 selected
		Meter unknown
Tank content		Quantity in the tank
Module basic		Connection to the base module is present
		Connection to the base module is interrupted
		Connection to the base module and print jobs is present
		Connection to the base module is interrupted and print jobs present

3.2.4 Info line

The info line shows the date and time, information about the operating status and the software page number.

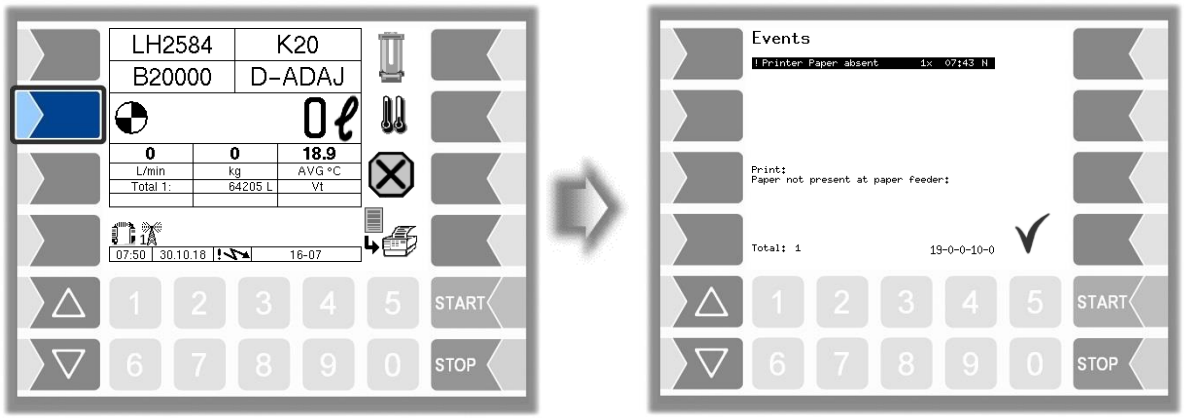
Example:



3.2.5 Event display

Important error- or fault messages are displayed directly on the display.
The second softkey down, to the left of the display, is used to open the event display, which shows all operating statuses and faults.

You use the softkey ✓ to acknowledge messages that are displayed. The window "Events" will be closed automatically after 20 seconds. Error messages are not deleted and the Fault-symbol is also displayed in the info-line, until the cause of the error has been removed.

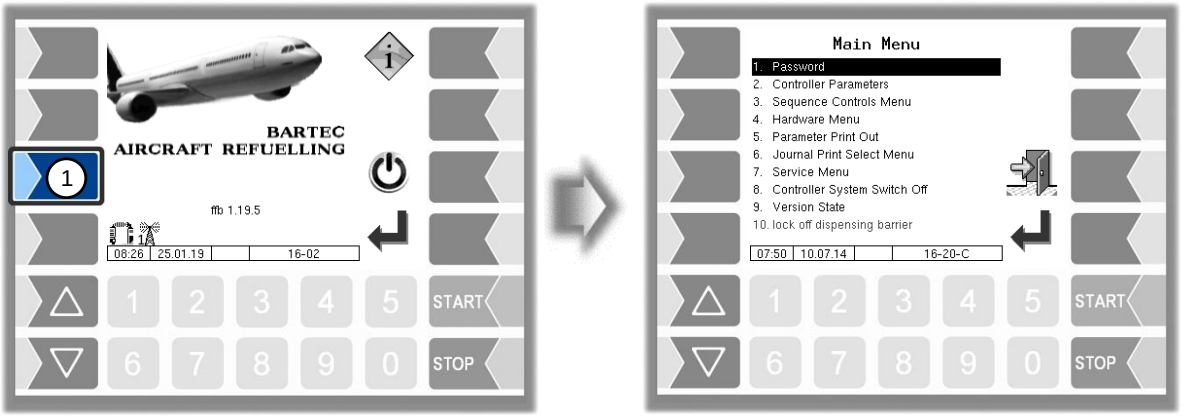


The Event Viewer may show several errors.
You can use the arrow keys to select the lines which show the errors.
More information and an error code are displayed for the error currently selected.

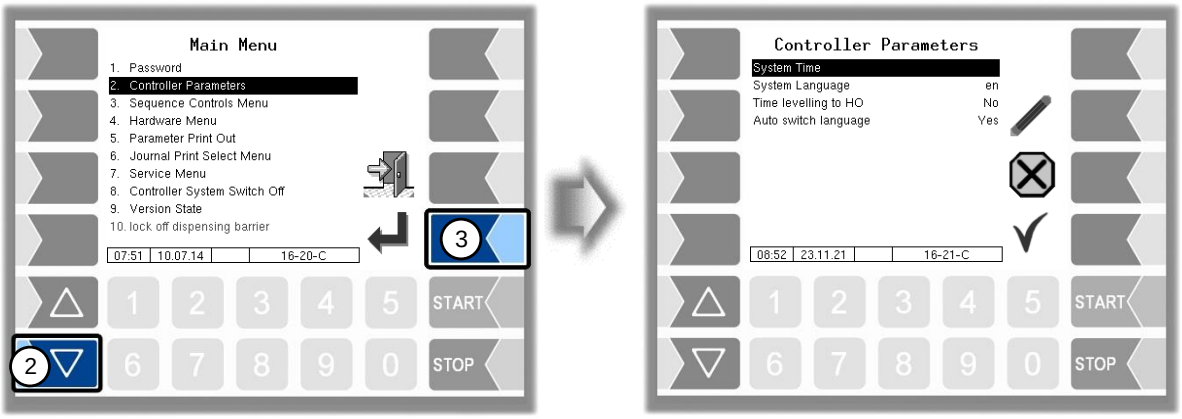
3.3 Operating the menus

3.3.1 Opening a menu

1. Touch the third softkey from top left of the display to open the main menu.



2. Use the selection keys ▽ and △ to select the menu you wish to open. The selected menu is highlighted with a black bar.
3. Touch the “Confirm” softkey to open the menu.



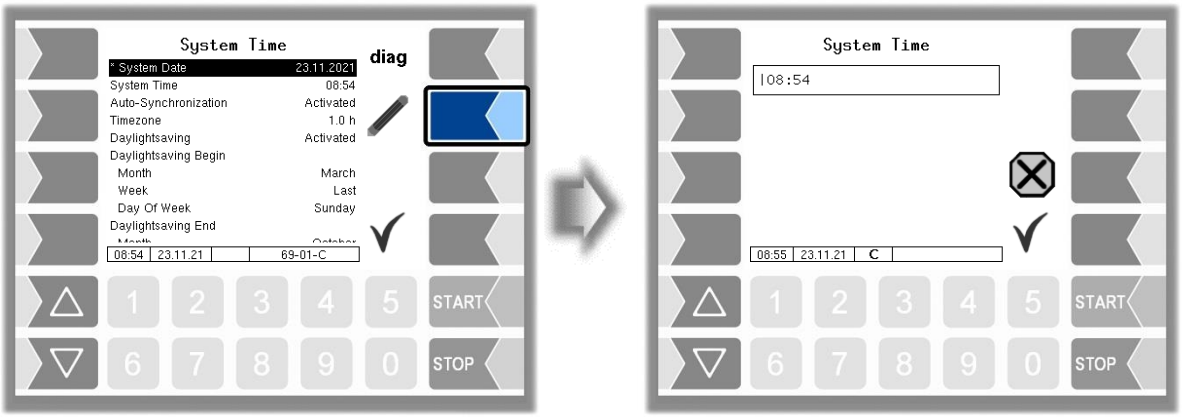
You can also open the desired menu directly using the corresponding numerical key.

If the menu contains further submenus, you can open the required submenu in the same way.

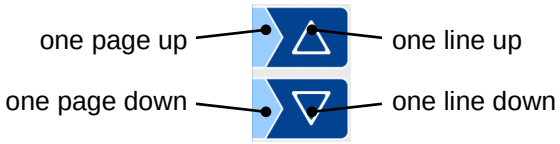
3.3.2 Editing parameters

1. Use the selection keys ▽ and △ to select the parameters you wish to edit. The selected parameter is highlighted with a black bar.
2. Touch the “Edit” softkey to open the edit window (entry or selection dialog).

The “Edit” softkey is only available if you are authorised to edit the selected parameter in the current password-protected configuration level.

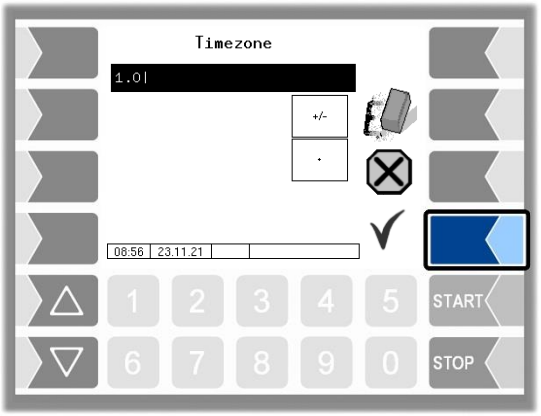


If not all entries in menus or lists can be displayed in the screen, you can use the selection keys to scroll lines or pages.



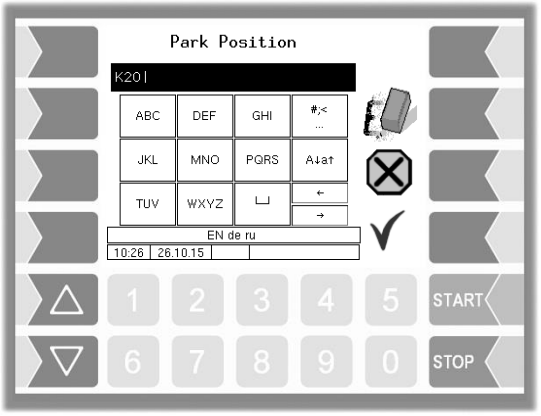
Numerical entries

Numerical entries are entered using the keys below the display.
If you need to make any corrections, you can use the softkey with the rubber symbol. When you touch this softkey, the character to the left of the cursor is deleted.
If a parameter must be entered with a positive or negative value or with decimal places, you can use the sign softkeys [+/-] or [.].
Confirm your entry using the “Confirm” softkey“.



Alphanumerical entries

Letters are entered using the keys that are shown on the display. To enter a letter, simply touch the corresponding key. The keys are assigned up to four characters. You determine which character appears in the input line by pressing the key the appropriate number of times in quick succession.
You can enter a blank with the [␣] key.



Shift key

You can use the [A↓a↑] key to switch from upper case to lower case letters and vice versa.

Special characters

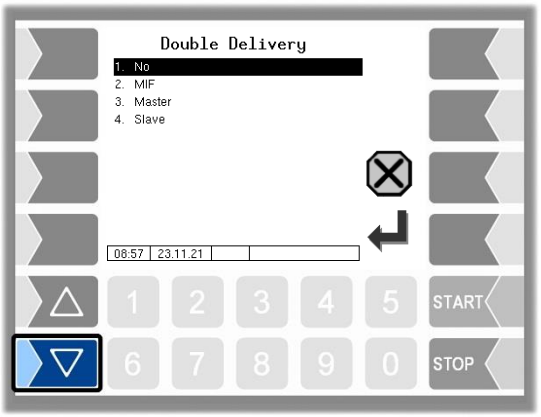
If special characters need to be entered, you can use the [#;<] key to switch the key assignment to the special character level. You can switch back to letters using the same key, which is now labelled [abc] .

Once you have finished making your entry, touch the “Confirm” softkey.

Selection lists

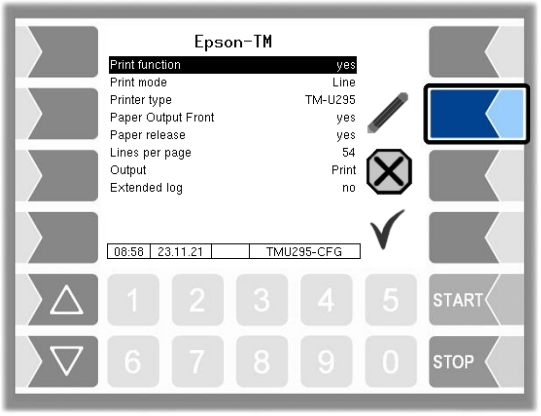
Selection lists are available for certain parameter settings.
Select the required setting using the selection keys [▽] and [△] .
The selected setting is highlighted with a black bar.
Confirm your selection using the “Confirm” softkey.

You can also select the desired setting directly using the corresponding numerical key.

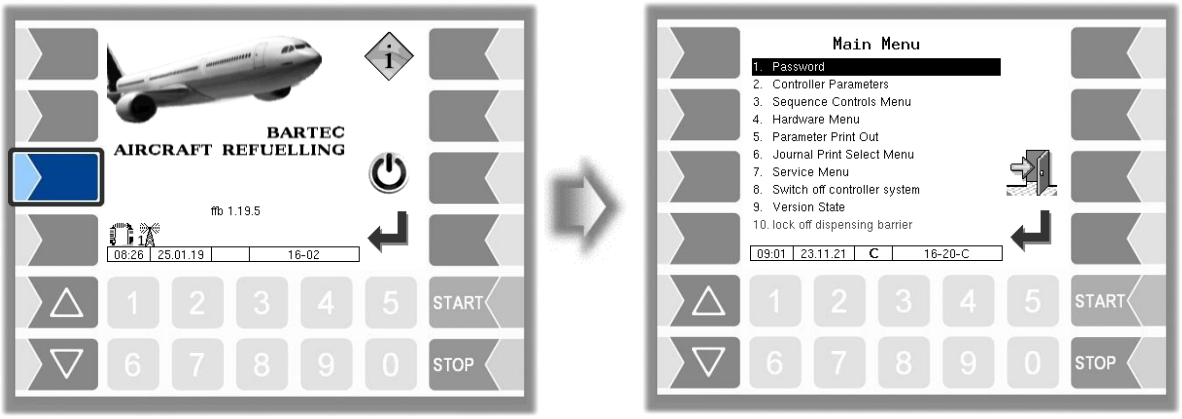


Alternatives

In the case of parameters for which only two alternative settings are possible, e.g. yes/no or on/off, the settings are switched when you touch the “Edit” softkey or a numerical key [0] or [1] .



4 Description of the menus



4.1 Password

The software configuration is protected by passwords which allow access to various configuration options.
The password level currently accessible is indicated by a flashing letter in the info line of the display. Each password level includes all lower password levels.

Password level	Indicator	Access
0 :No password		Read only
1 :Driver password	D	time, language
2 :User password	U	Operating parameters
3 :Service password	S	Software parameters subject to statutory calibration
4 :Open seal switch	C	All parameters

4.1.1 Password levels

No password

If you don't enter a password, you can only open the configuration menus without making any changes.

Driver password

The driver password is the sum of the day, month and hour (as shown on the display).

Driver password = day + month + hour

Example:

*Date: **21**. **03**. 2017, **07**:28 h*

Fahrerpasswort = 21 + 3 + 7 = 31

User-Passwort

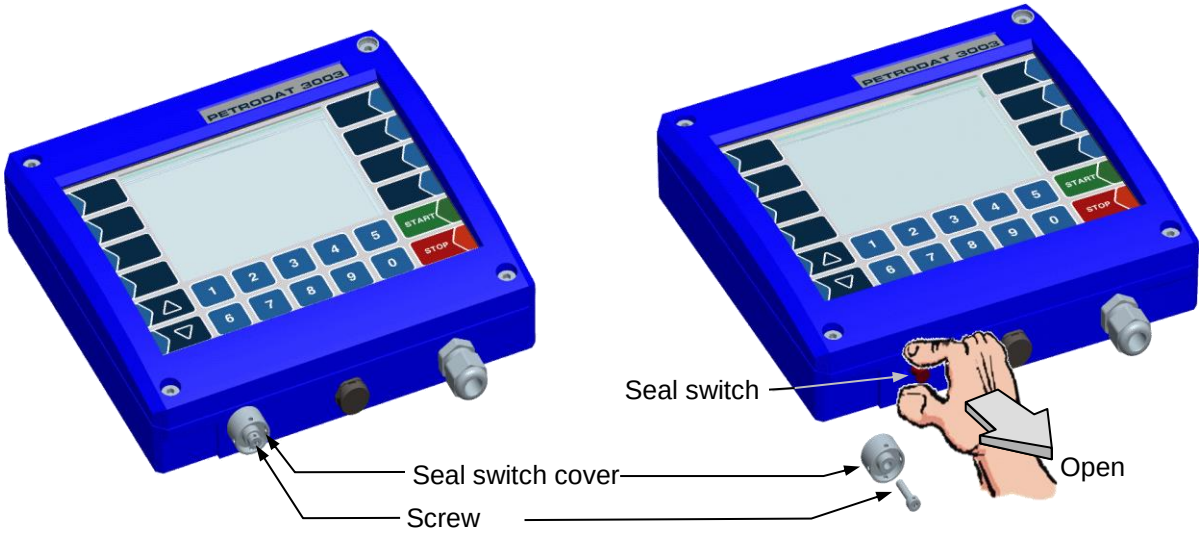
The user password is the vehicle fleet manager's password. You can define the user password yourself (see page 18). Once you have entered the user password, you can change configuration data that is not subject to statutory calibration, such as activating or deactivating various options and hardware modules.
Upon delivery, the user password is "bartec".

Service-Passwort

The service password allows you to access software parameter settings that are not subject to statutory calibration.
The service password is created and changed periodically in accordance with a special mode. The service password is only revealed to authorised service personnel.

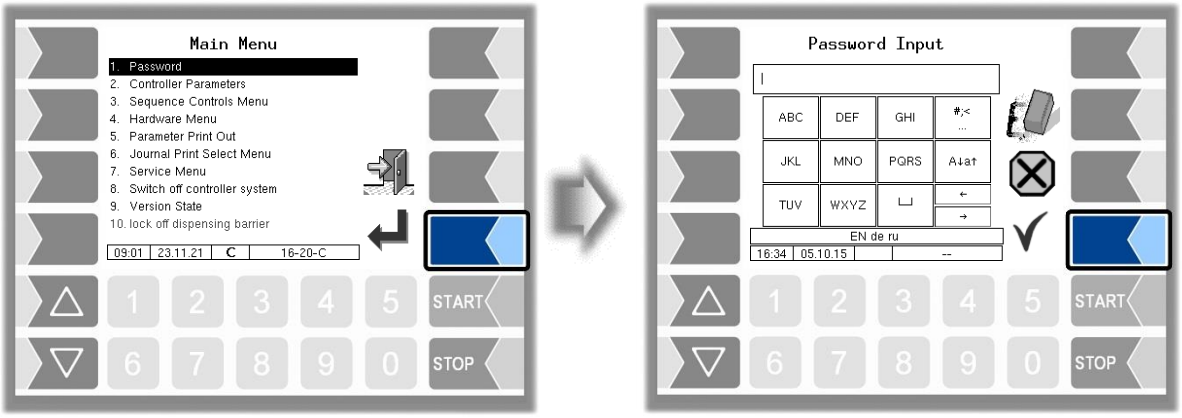
Seal switch

Opening the seal switch allows you to access all parameters, including those subject to statutory calibration.
The seal switch is located at the bottom of the operating unit, below the seal switch cover.
To open the seal switch, you must remove the lead seal, unscrew the screw and remove the seal switch cover. You can then open the seal switch by pulling it downwards.



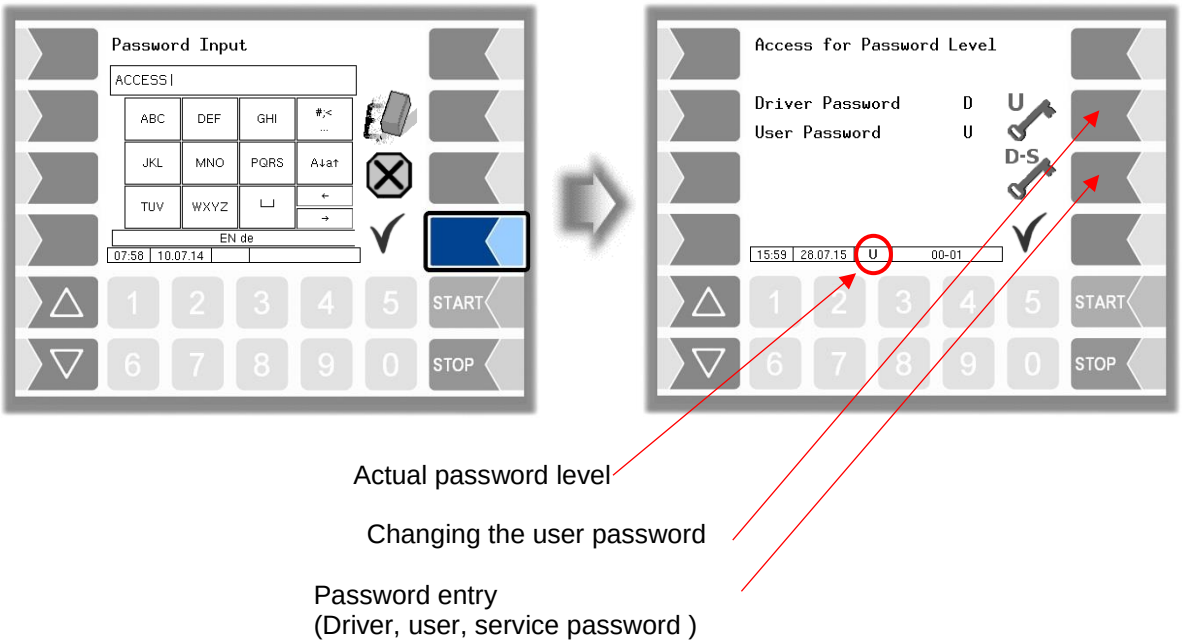
If you want to change data subject to statutory calibration, the seal switch must be opened.
Whenever the seal switch is opened, re-calibration by an official office, for which a charge will be made, is compulsory!

4.1.2 Entering the password



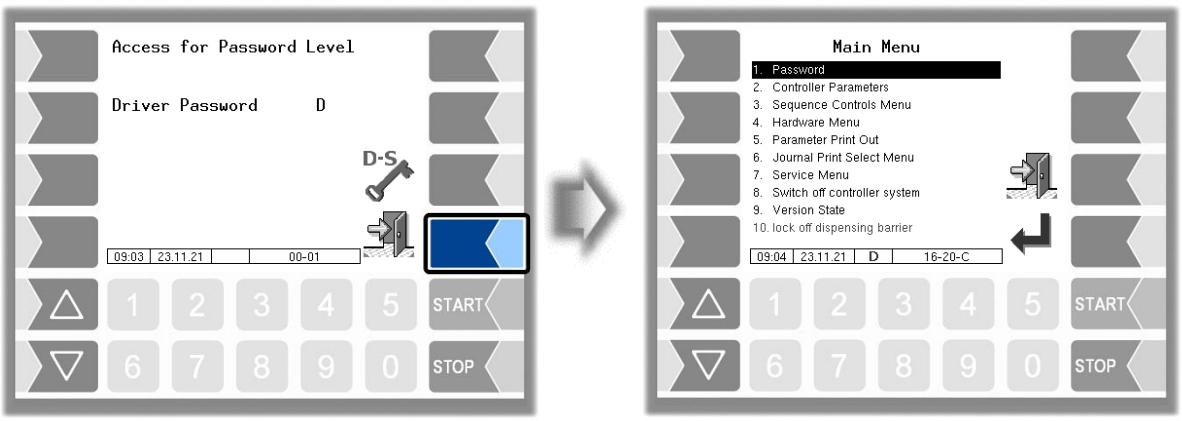
Enter the password using the alphanummeric input field. Once you have entered the full password, touch the “Confirm” softkey.

The system then shows the password levels that you can access. All higher password levels include access to the password levels below them.
The highest password level at any time is shown in the info line:
D: Driver password level
U: User password level (D)
S: Service password level (U, D)
C: Open seal switch (S, U, D)

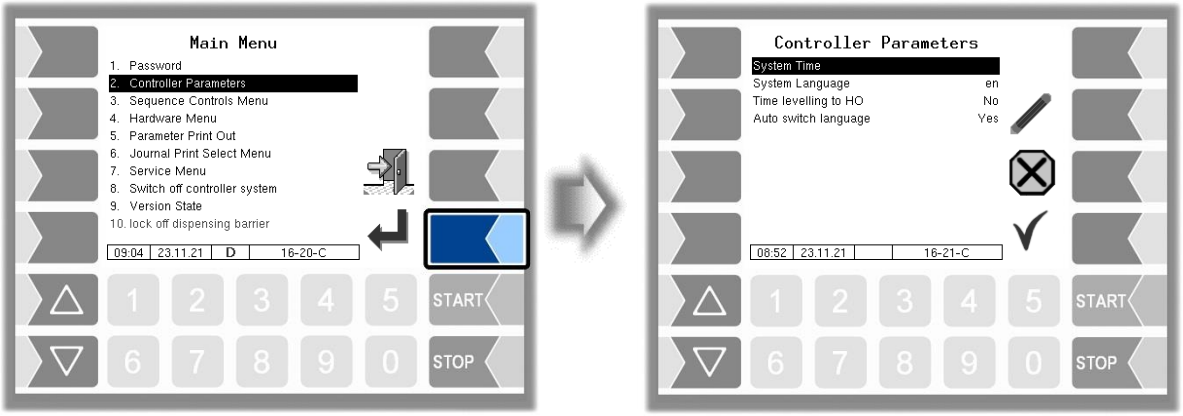


After you have entered the user password or a higher level, the softkey for changing the user password is activated. You can enter a new user password after touching this softkey.The user password can contain letters and numbers.

Touch the softkey „ ✓ “,to return to the menu selection.



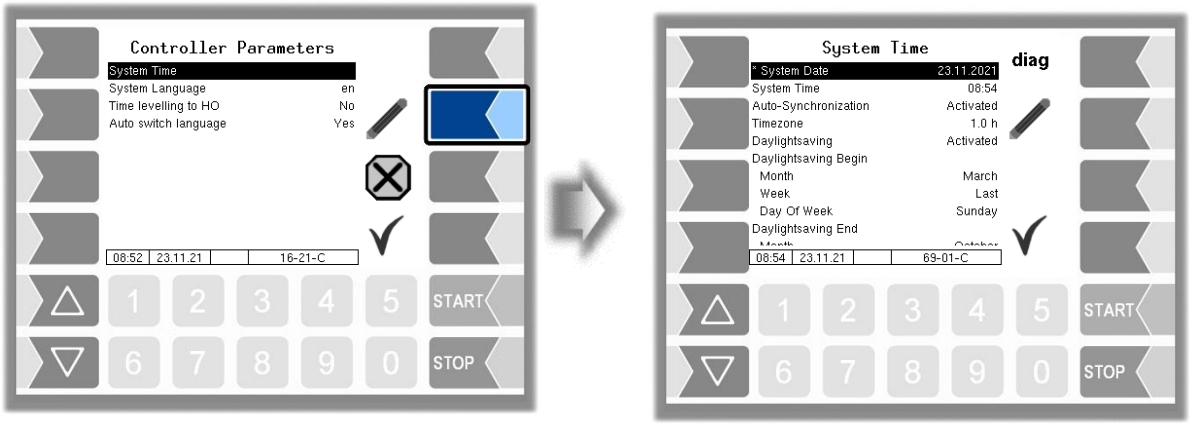
4.2 Controller Parameters



Controller Parameters			
		System Time	Change the date and time settings
	D	Language	Select the display language de German en English fr French tr Turkish cs Czech pl Polish ru Russian it Italian
	U	Time levelling to HO	Switching time synchronisation with office on/off Yes: If a time discrepancy is detected between office (host) and system time, 5 times in succession when a telegram is received, the system time is adjusted to office time after the device has been properly switched off. No: System time is used
	U	Auto switch language	Automatic language change activated/deactivated Yes: If the device language differs from the driver language determined during driver registration, a dialog box will appear for changing the language. No: The device language is not checked with the driver language.

If you change the display language setting, will the system automatic be rebooted.

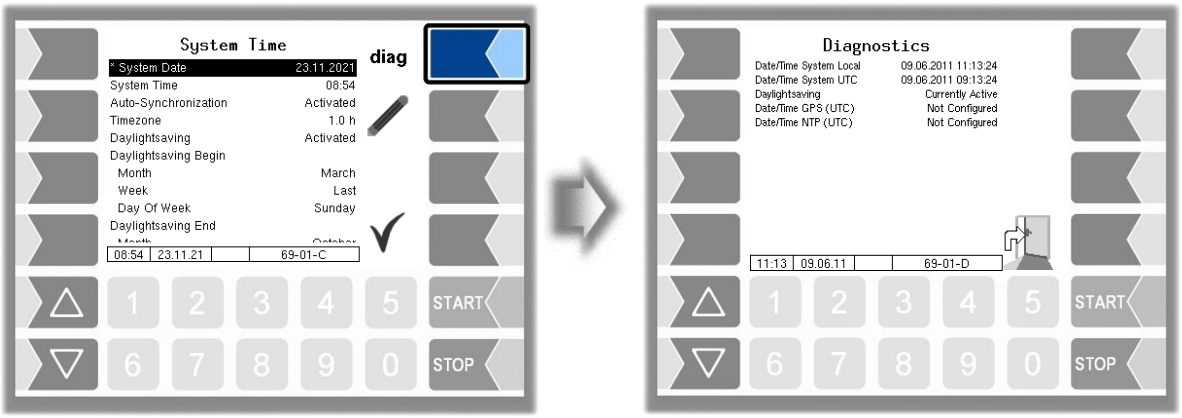
4.2.1 System Time



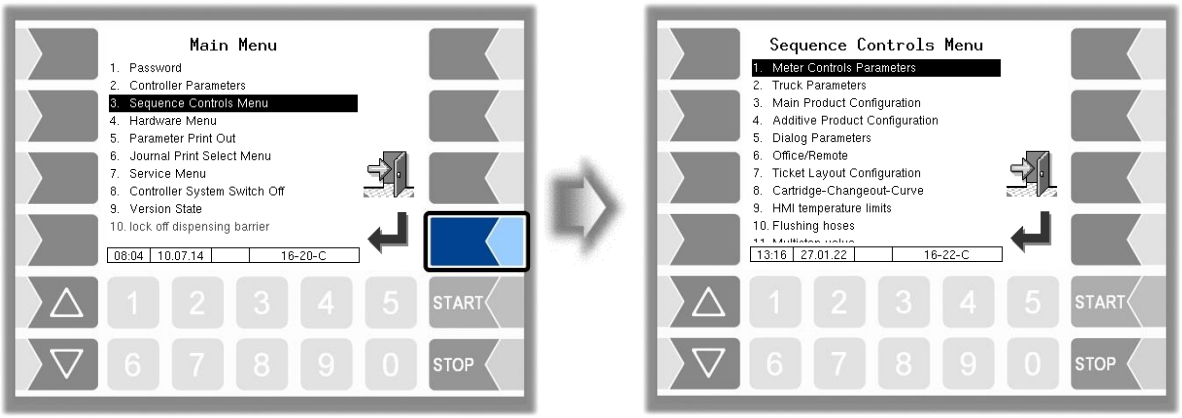
System Time			
	C	*System Date	Change the date setting
	D	System Time	Change the time setting
	U	Auto-Synchronisation	Activate/deactivate the automatic clock synchronisation via GPS or GPRS. → commend
		Timezone	Set the time zone by entering the deviation from UTC
		Daylightsaving	Activate/deactivate the summertime settings
		Daylightsaving Begin	
		Month	Month when summertime begins
		Week	Week when summertime begins
		Day Of Week	Weekday when summertime begins
		Daylightsaving End	
		Month	Month when summertime ends
		Week	Week when summertime ends
		Day Of Week	Weekday when summertime ends

If the date or time setting is changed, the system restarts automatically.

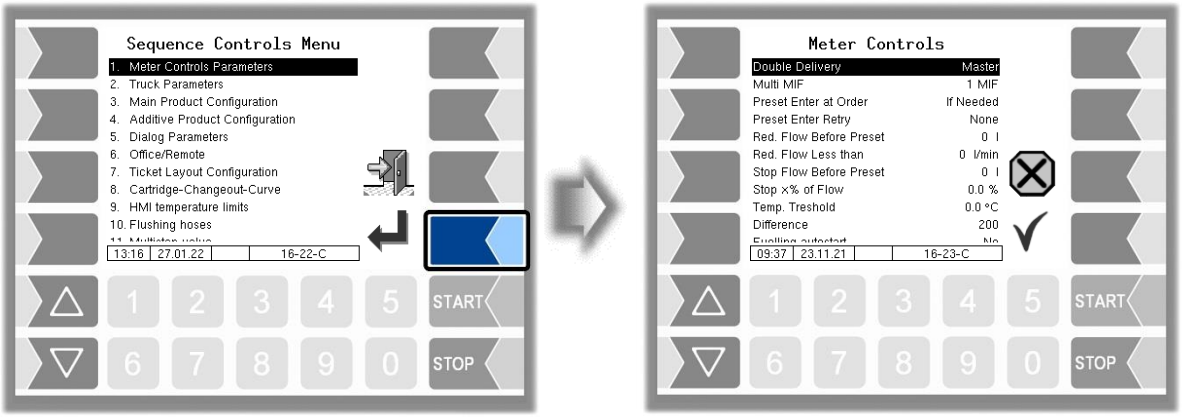
Diagnostics



4.3 Sequence Controls Menu



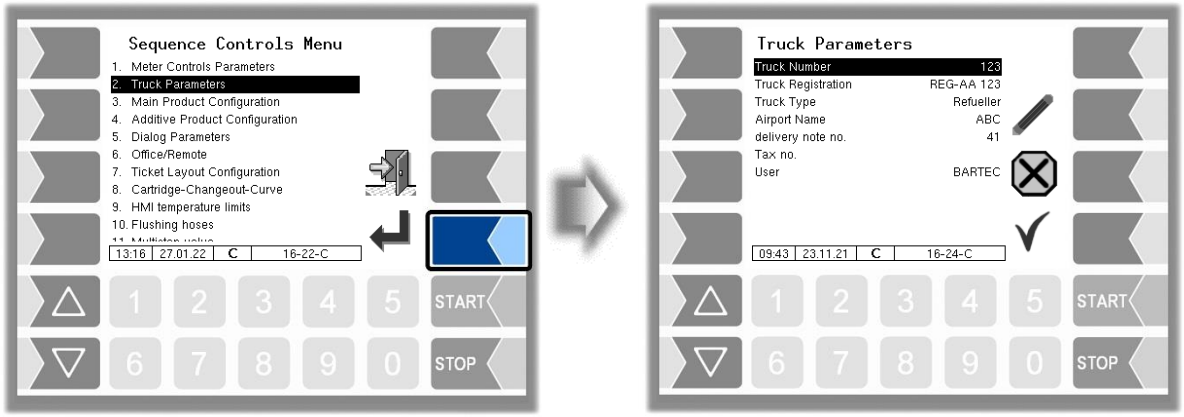
4.3.1 Meter Controls Parameters



Meter Controls			
	U	Double Delivery	Switching double delivery on/off. **No**: Double delivery is deactivated and only one meter per delivery is permitted. **MIF**: Double delivery is active and the second meter is also started when "meter 1 and 2" (logical 1 and 2) is selected. After the delivery has been interrupted, both meters must be started individually when delivery is resumed. **Master**: Double delivery is active and the base module acts as the master. For example, the water sensor and differential pressure sensor are connected to the master. **Slave**: Double delivery is active and the base module acts as the slave. *(Default: No)*
		Multi MIF	2 MIF: A second plug in card for the measurement interface is activated (up to 4 counters can be operated with this)
		Preset Enter at Order	None: No preset quantity can be entered. If needed: In the order window <u>can</u> be set a preset quantity. Obligation: In the order window <u>must</u> be set a preset quantity.
		Preset Enter Retry	None: Entering a preset quantity cannot be repeated. If needed: If an entered preset quantity is reached, a dialog for entering an additional quantity will appear.

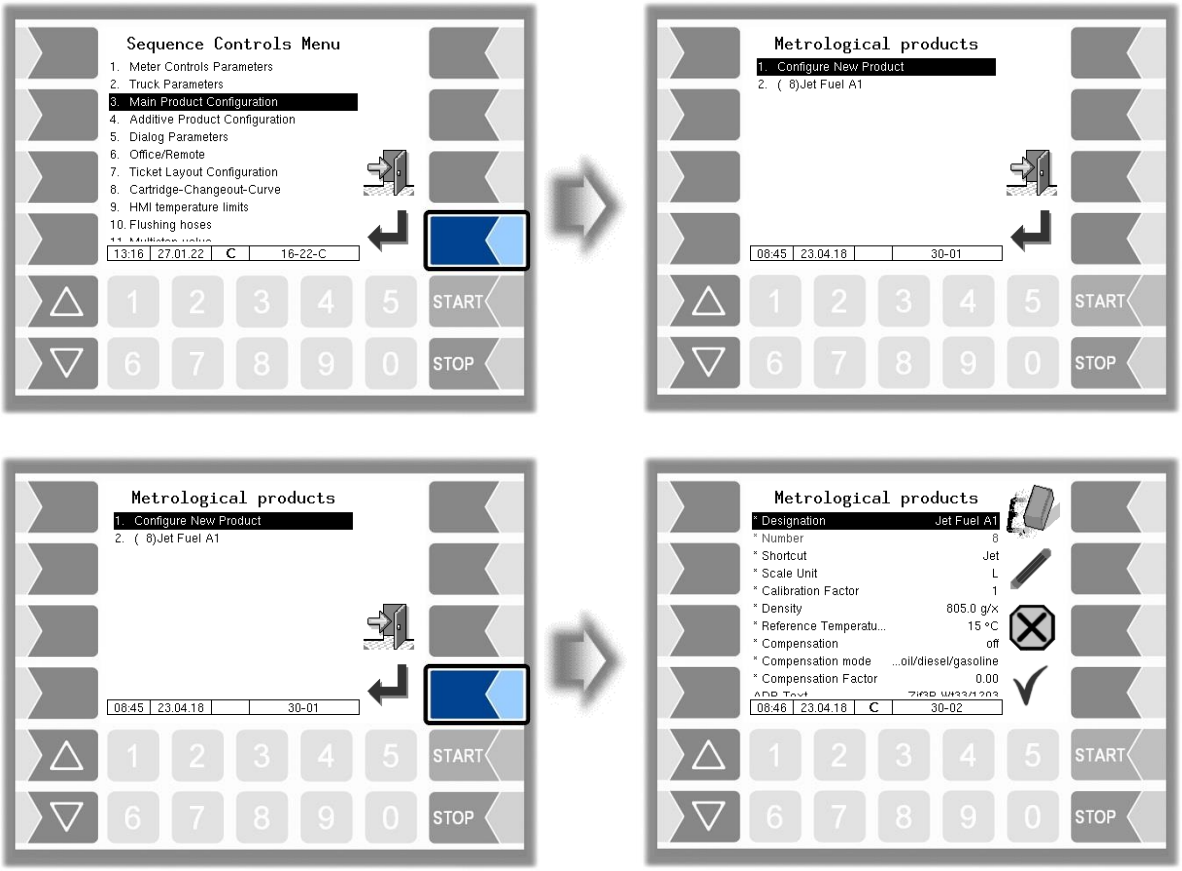
			The new preset quantity is added to the current quantity.
		Red. Flow Before Preset	The output for flow slow down (logical output 5 to 8) will be activated before reaching the preset quantity corresponding to this input in litres. Therefore are the current delivered quantities of all enabled counters added.
		Red. Flow less than	The output for flow slow down (logical output 5 to 8) will be activated, when the flow falls less this value in litres per minute. It will be deactivated again when the flow rises higher than this value. This happens separately for each enabled counter.
		Stop Flow Before Preset	The counters will be disabled when the current sum of the delivered quantity of all enabled counters is higher than the preset quantity minus the value of this parameter.
		Stop x% of Flow	The delivery stops at x% of the output flow before reaching the preset quantity.
		Temp. Treshold	The logical output 22 will be activated if the measured temperature exceeds this upper limit at one of the enabled counters. The output will be deactivated either when all measured temperatures are lower than this limit or if the order is finished.
		Difference *Only for service purposes*	max. difference between the old and new measured value in Liters (*Default setting: 200*) *With open calibration switch the amount is given in 1/100 L, which means that for example, for 42 liters is not given 42 but 4200; and the tolerance amount between old and new is only 2 liters. Thus continuously exceeds the difference quantity and is also logged*
		Fuelling autostart	Yes: pump enabling occurs automatically when starting the order. The START key must not be pressed.
		tolerance quantity	If in a measuring system one of two counters is used to monitor the return flow during refuelling, a message is issued as soon as the tolerance is exceeded.

4.3.2 Truck Parameter



Truck Parameters			
	U	Truck Number	Vehicle number
		Truck Registration	Vehicle registration
		Truck Type	Dispenser Refueller
		Airport name	Name of the airport
		Delivery note no	Last printed ongoing delivery note number. New instead of controller parameters (Page 26)
		Tax no.	Format ccnnnnnn (2 alphan. / 6 numm.) If the delivery note is printed out, the numerical part increases similarly to the delivery note number
	S	User	Selection of the operator. An individual operator logo appears on the start screen

4.3.3 Main Product Configuration

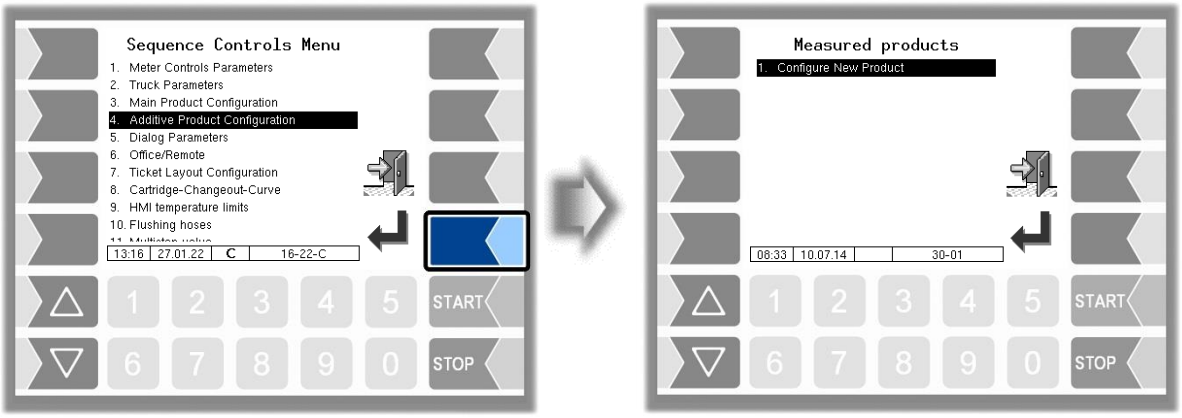


You must first enter the product number. Values have already been defined in accordance with the TDL standard for product numbers 1 to 10. If one of these numbers is typed in, a data record consisting of the product name and short product name is entered automatically. This data can be replaced with other data if required.

Metrological products		
	Designation	Product name
	Number	Product number (1 to 10 preset acc. to TDL)
	Shortcut	Short product name (1 to 10 automatic)
	Scale unit	Unit for the measured quantity
	Calibration factor	Pulses per litre (or configured unit)
	Density	Average product density at 15 °C
	Reference temperature	Temperature to which the quantity refers
	Compensation	Activates/deactivates temperature compensation
C	Compensation mode	Specification of the computational mode used for the conversion heating oil/diesel/gasoline conversion according to DIN 51 757, procedure B lub oil conversion according to DIN 51 757, procedure D liquid gas conversion according to DIN 51 757, procedure X linear conversion procedure with constant compensation factor
	Compensation factor	Compensation factor for product that is not compensated based on density (compensation mode linear)
	ADR text	*Not used in software versions 1.23.x.*
	Product group	*Not used in software versions 1.23.x.*
	Meter	*Not used in software versions 1.23.x.*

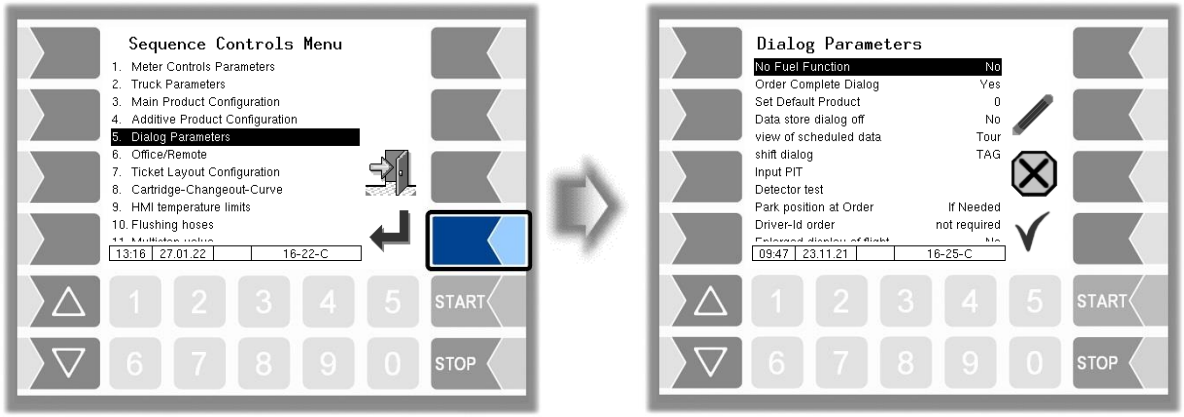
4.3.4 Additive Product Configuration

You can use measured products that have already been configured as a basis for configuring further products. In this way, for instance, products to which different additives are added can be configured under different product names.

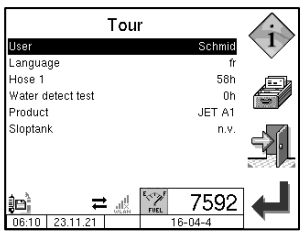


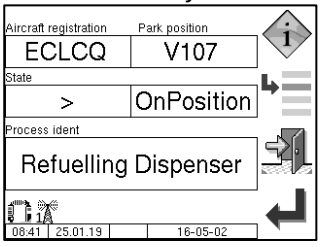
Measured products		
	Designation	Product name
	Number	Product number
	Shortcut	Short product name
	Metrol. product	Base product
C	Add. mixing ratio. 1/x	Mixing ratio, X=quantity of the main product to which 1 litre of additive is added. *An additive is only added if a mixing ratio is configured here!*
	All the following parameters are not used in software versions 1.23.x.	

4.3.5 Dialog Parameters



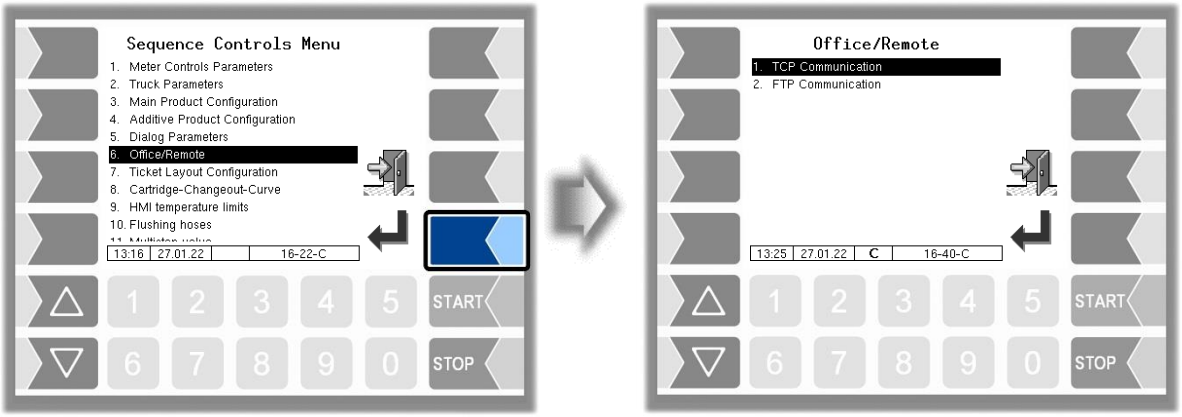
Dialog Parameters			
		No Fuel-Function	If this function is activated, the order can be deleted as long as no product has been delivered.
		Order Complete Dialog	Display of dialogue „Order Complete Dialog“. **Ja:** The driver must confirm the end of delivery in the Order Complete Dialog. The message “OC” (order complete) is sent. **Nein:** The message „OC“ (Order Complete) is sent immediately after the end of the order
		Set Default Product *(Parameter is not supported)*	When starting an order is the product to be delivered always the product with this product number. Selecting another product within an order is possible.
		Data store dialog off	Message „date backup“ activate or deactivate. **Yes** Information during the backup of order data is not displayed **No** Information during the backup of order data is displayed
	U	View of sheduled data	Definition of the "Order details" dialog/window **Standard** The order data fields are displayed according to the default arrangement. ID | Pos | Reg | FlightNo | Depart | Arrival | St | F. The content can be edited. **SKT no edit PO.** The arrangement of the order data fields is changed. ID | St | Pos | Reg-Nr | AL | Dep | F | Vg. The content cannot be edited. **SKT edit PO** The content of the order data fields can be edited. **Stat-Pos-Reg** 3 order data fields in large font: Scheduled data — State | Position | Registration — A K20 D-ADAJ **Tour** The Tour window appears instead of the Order details window.



shift dialog	Definition of Shift-/Driver registration Yes: The dialog for entering the driver data appears at shift start. No: The dialog for entering the driver data is skipped. Fuel-filling can be carried out without driver registration TAG: The dialog box for entering the driver data is skipped. Driver identification/registration is carried out via the Ex TAG Reader using the Mobile Ex RFID TAG.
Input PIT	Entering the names of the refuelling positions (PIT) If the names are entered, a dialog box for selecting the refuelling position according to this entry appears before delivery start.
Detektor-Test message	Parameter to show or hide the softkey for the detector test/water sample in the Delivery window. When you press the softkey: - The message "Water test carried out" will be sent, depending on the configured communication interface. - The timer used to monitor the water sampling period is reset to the configured time interval.
Intervall	The period [h] during which a detector test must be carried out or a water sample must be taken. 0h: Periodical monitoring of the detector test is deactivated. >0h: The system monitors the period between detector tests. The remaining time is recorded at the end of each order and displayed in the "Tour" dialog box/window.
Park position at order	Switching Park Position dialog box/window on/off Mandatory: Enter the parking position required if not already present in the default data.. If required: entry not required
Driver-id order	Enter the driver number after the order has started. Not required: no entry required Always: every time the order is started, the entryis required Not with TU/RB: with these transaction types the entry is omitted Not for unplanned: Entry only necessary for Planned operations.
Enlarged display of flight	After the order has been accepted, the order details will be displayed for review or modification (window 16-04). Alternatively, the parameters aircraft registration, parking position status and a freely selectable parameter (here transaction type) are displayed in an enlarged view for better readability 

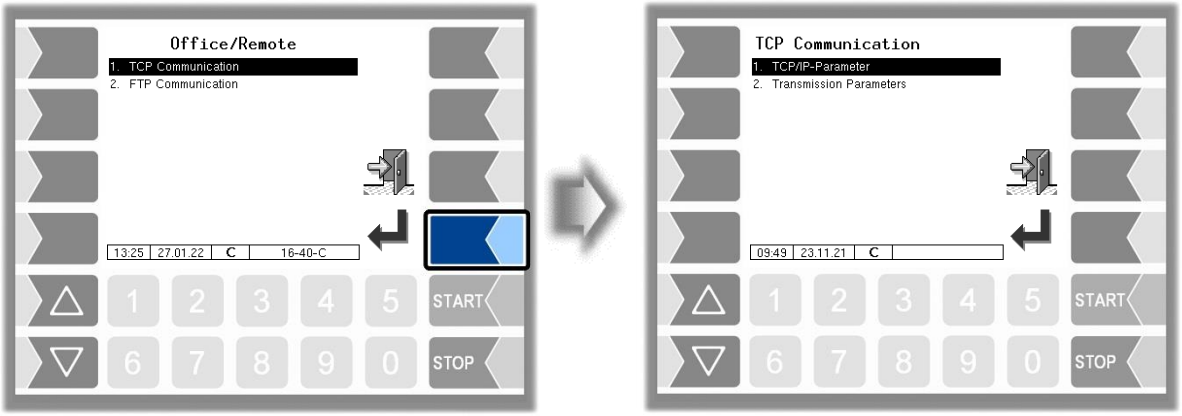
		Change planned order date	Yes: Flight details can be changed by the driver No: No changes can be made by the driver, the softkey pen does not appear.

4.3.6 Office/Remote

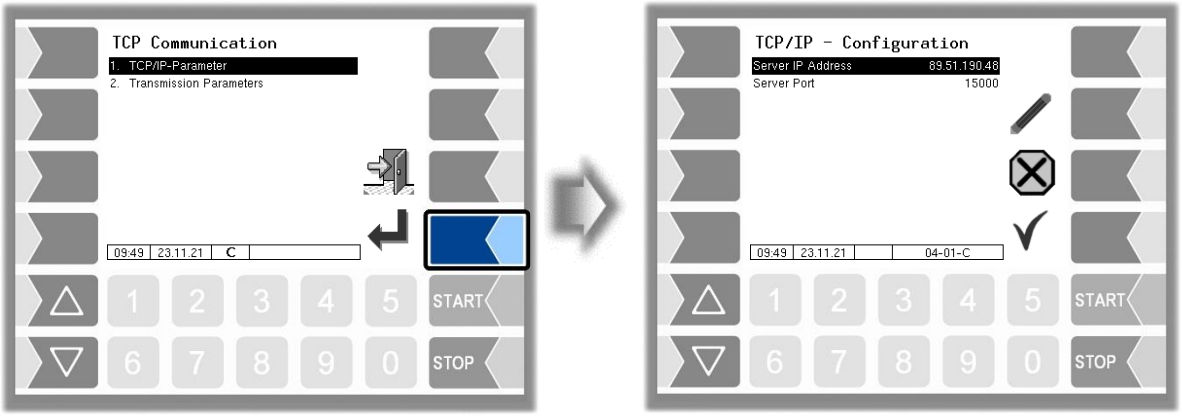


Data are exchanged between the office and the vehicle either via TCP or FTP. Both types of communication must not be used simultaneously.

4.3.6.1 TCP-Communication



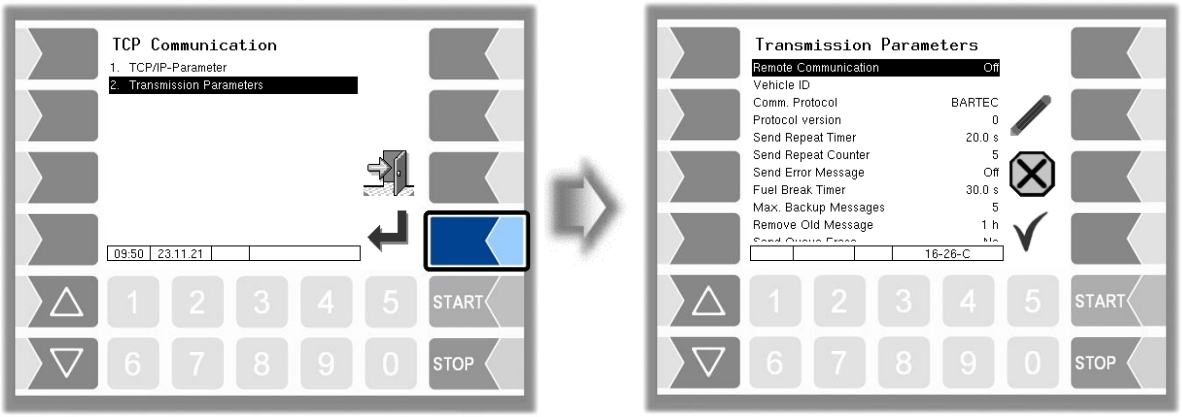
TCP/IP Parameter



TCP/IP-Parameter			
	U	Server IP Address	Address for registering the controller (vehicle) on the server(office)
		Server Port	Port no. on the dial-in server

Data must be provided by airport IT

Transmission Parameters



Transmission Parameters			
	Remote Communication	On: enabling the features for communication Off: disabling the features for communication	
	Vehicle-ID	ID-No. of the vehicle for office communication	
	Comm. Protocol	BARTEC: Standard-Protocol FOSI: **F**light **O**rder **S**erver **I**nterface FOI: **F**light **O**rder **I**nterface	
U	Protocoll version	Which version of the communication protocol should be used?	
		BARTEC	
		0	Protocol status before 25.11.2020
		1	Additional telegrams RQV and ANV to query the current tank volume (RQV) or to transmit it to the office (ANV). Automatic sending of ANV after logon or return of the fuel-filling data with ABA
		FOI	
		0	Data Interface FOI V1-5.pdf Protocol status 16.09.2020
		1	Data Interface FOI V1-6.pdf Add "comp. totalizers 1 and 2" fields to message 13 and 30
		FOSI	
		0	Protocol status 06.12.2018
	Send Repeat Timer	If no answer is received when a message is sent, this message is repeated after the time entered here.	
	Send Repeat Counter	If the specified number of repeat transmission attempts are unsuccessful, an error message is sent.	
	Send Error Message	Errors reported by the controller are sent to the office.	
	Fuel-Break-Timer	If delivery was interrupted, a message (delivery interrupted) is sent after the time specified here.	
	Max. Backup Messages	Number of messages that are stored in the send queue when a connection is lost. After reaching the maximum number, further messages to be transmitted are discarded. After a renewed connection, the stored messages are sent one after the other. Parameter value: 10	

Remove Old Message	Validity period of not sent messages. As long as the system is not switched off, the messages in the send queue are retained. After restarting the system, the messages are checked for their expiry time. All messages that are older than the expiry time set here are deleted. Parameter value: 1h
Send Queue Erase	The return data is deleted from the send queue.
Scheduled Data Erase	The scheduled data is deleted from the memory.
Transmit IPs ∗	For communication with VeComm set to "ON". (The message is a header prepended, consisting of a unique message ID and the source and destination address)
Order with msg2 ∗	By default order data is transmitted to the vehicle with the message 3. When communicating with FHS -DispoWin the order data however are sent with the message 2. ON: In this case, the message 3 is used to update the record transmitted with message 2, i.e. it must already exist an order with the corresponding FHS-ID before it is updated with Message 3. OFF: The Message 2 is generally rejected with NAK. New orders can only be transferred with Message 3. Updates can be made only with the corresponding messages 4 and 5.
No. of specific messages	Number of stored messages texts about reasons for not carried out deliveries. The texts can be edited (see page 32).
Send Login ∗	Yes: After setting up a connection and when exiting the configuration menu, a "LogOn" is sent to the office. When opening the configuration menu a "LogOff" is sent.
Show softkey ping ∗	OFF: In the main menu, the softkey Ping is hidden. ON: Display of the softkey. By pressing the softkey, a PNG command can be sent to the remote site to test the office connection
Order request/ return ∗	Under Special functions (order data), the menu item "Request order list" is displayed. Thus scheduled jobs to choose from on the vehicle can already be obtained in the office. For this, the vehicle sends the message 9.29 to the office, whereupon the current configuration is transferred with Msg20 and subsequently an order list is transferred to the vehicle with Msg 26. From this list, the driver can then select an order and then gets from the office the complete order record of the selected order. Alternatively, he can delete the complete list with the soft key Recycle Bin.
Simmulate e-mail receipt	By pressing the key ❶ the function of the output 20 can be tested.. This output will be activated as soon as a message is received from the office. By acknowledging the message by the driver, the output is deactivated again. An existing office connection is not necessary here. Parameter only appears if output 20 is configured.
Airline data msg60 ∗	**Yes:** The additional airline information transmitted with the Message 60 is stored in the database. These can then be printed out via the N fields on the delivery note. After receiving the message 3 (complete order), the data of the customer record specified in the

			specific-ticket-number data field (2nd and 3rd digits) is also read from the customer master. This information can also be printed on the delivery note. The customer base is transferred to the vehicle with the service tool (b3i). The data must be in SDC format (without SHC). **No:** The message is acknowledged with ACK, but the information contained is rejected. No customer data is read from the master file.
		Append with FHS-ID	Add the FHS ID to certain telegrams

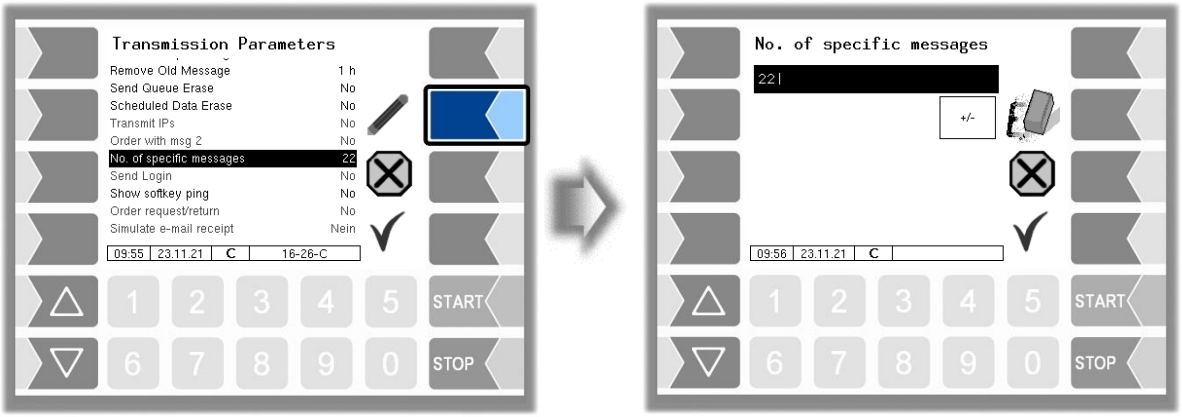
∗ when „Comm. Protocol“ at FOI.

Editing message texts

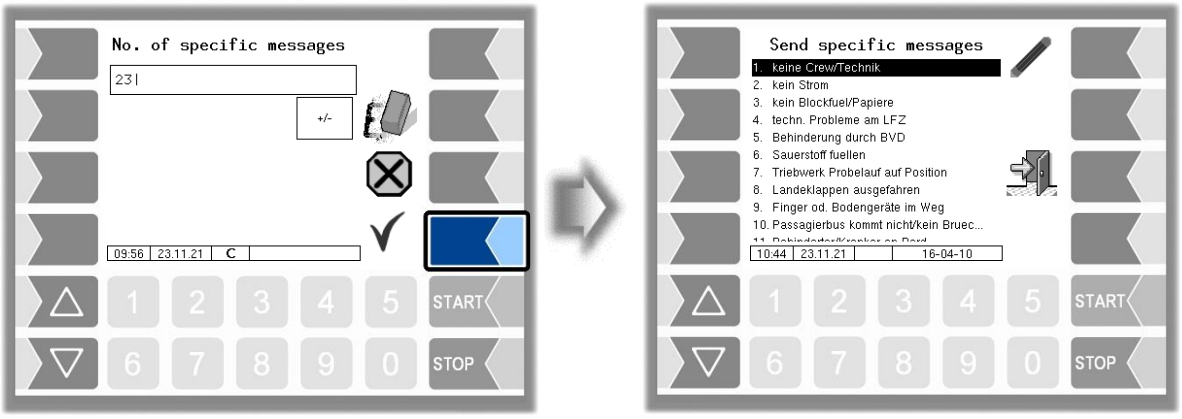
22 German messages texts about reasons for not carried out deliveries are stored. Messages can be added and changed

You can edit the text only after you have changed the number of specific messages or you open the menu “No. of specific messages” in the main menu with the fourth softkey from the top of the display (s. chapter 3.2.1)

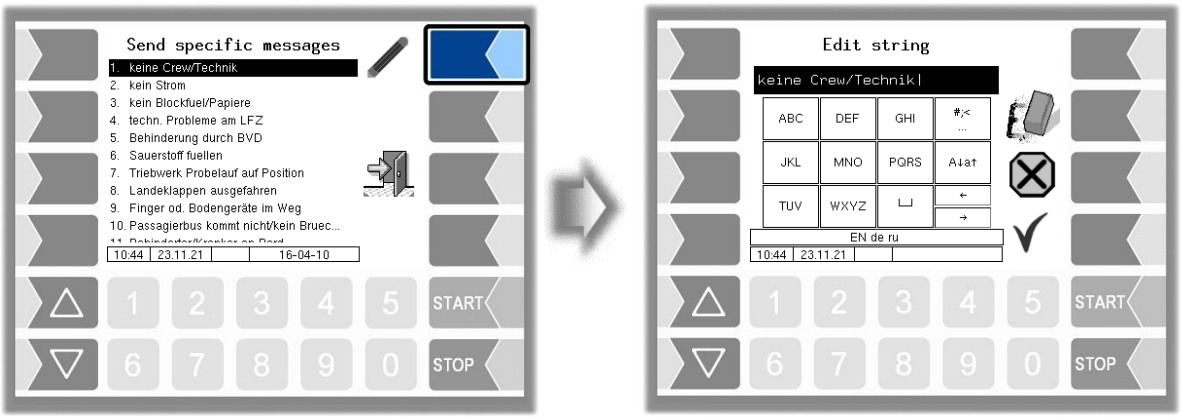
- Select parameter “No. of specific messages“ and touch the “edit“-softkey. The dialog for entering the Number of messages will be opened.



- Enter a number which differs from the current number.
- Confirm the changed number.
  The list of the stored german messages is opened.



- Select the message which you want to edit and and touch the “edit“-softkey. The dialog for entering text is opened.



- Change the text into English or create your own new message.

If you have increased the number of texts, for editing existing messages, you can afterwards delete the additional empty messages by entering the previous number.

If you reduce the number of texts will the last messages be deleted.

Text change:

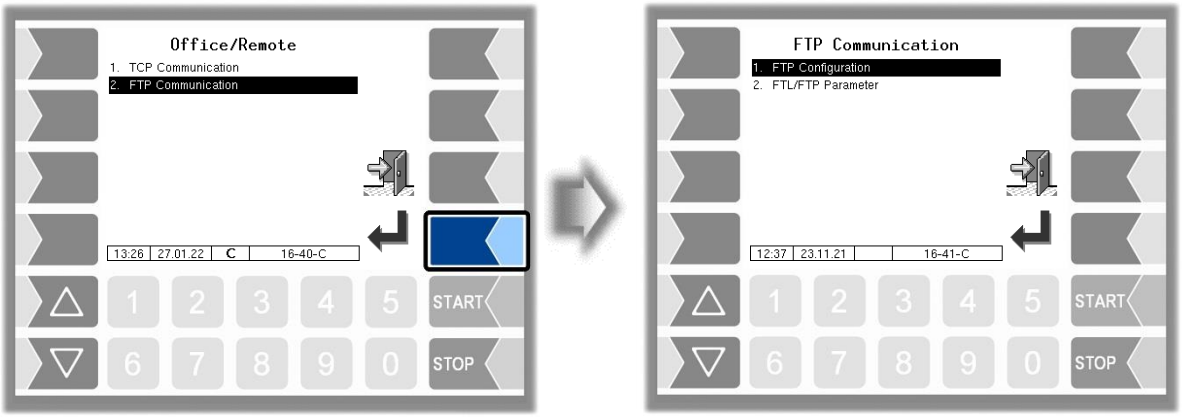
In order to be able to transfer the changes made to the PC to the vehicle, the XML file with the message texts must be transferred to the vehicle as a complete list in a b3i package with the service tool.
The name of the XML file must be Def_SpecMessages_txt.c.xml.
A custom message file must have the following structure:

<page id=“parameter>
<parameter id=“MSG_1” value=”a custom Delay-Code“></parameter>

….

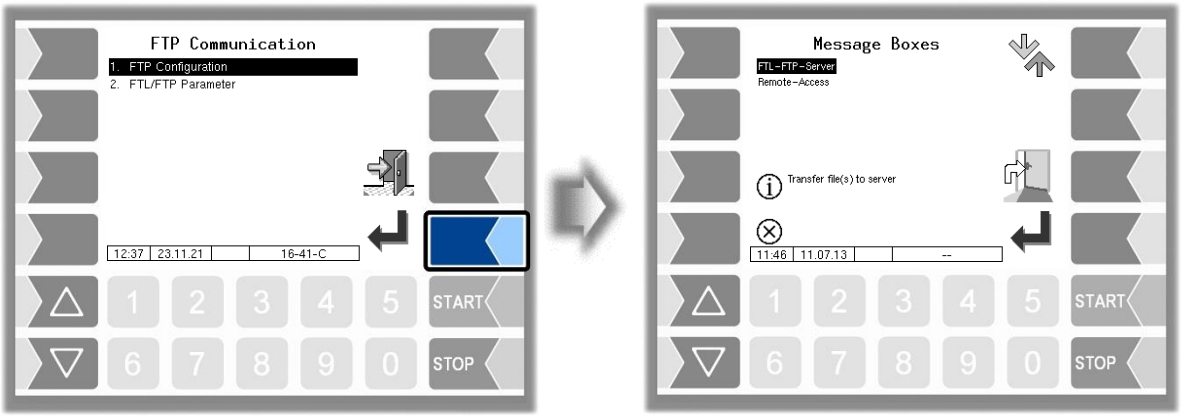
<parameter id=“MSG_26“value=“ Failure hydrant plant“></parameter>
</page>
To update the list on the vehicle, after installing the b3i package, either reboot the system or go to the main menu.

4.3.6.2 FTP Communication



FTP Configuration

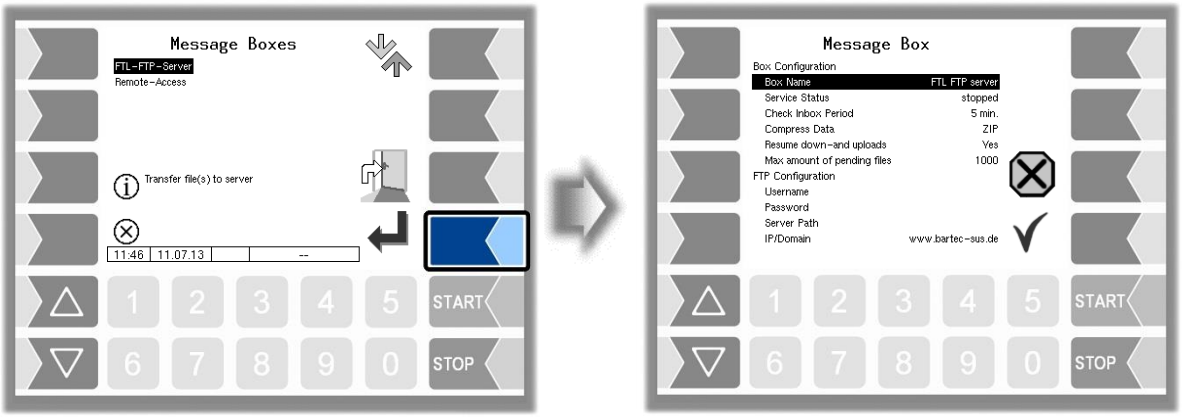
FTL default and return data between the office (Host) and vehicle (Client) is transmitted via FTP server. One or more message boxes can be configured for this purpose.



If several message boxes are available for selection, you can use the selection buttons ▽ and △ to select the desired message box.

FTL-FTP-Server

To use the office connection, the message box must be configured for access via the FTL FTP server.

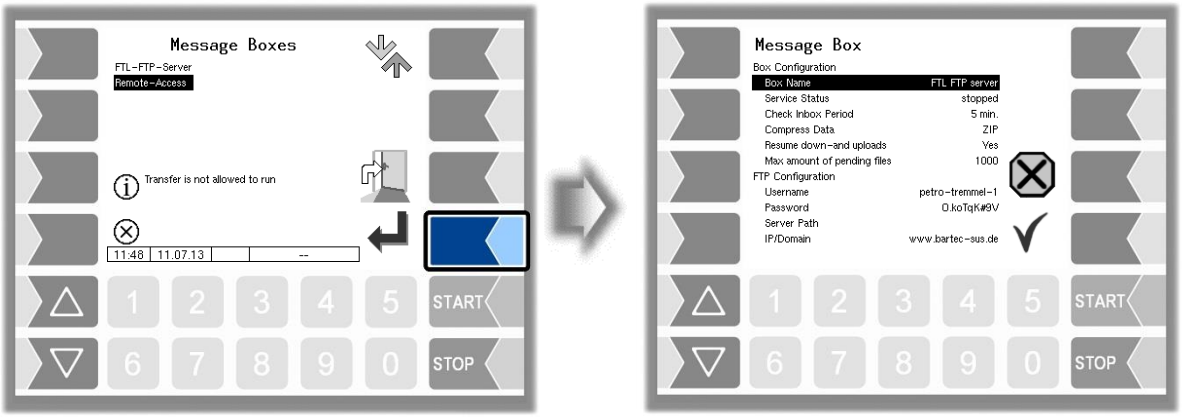


Message Box				
		Box Configuration		
			Box Name	Displays the name of the message box
			Service Status	run: Data transfer option ON stopped: Data transfer option OFF
			Check Inbox Period	Time, which is checked by whether data are available for transmission to the vehicle. Every time you send data, this check also happens *default 180 min*.
			Compress Data	ZIP: data to be sent is compressed in ZIP format GZIP: data to be sent is compressed in GZIP format No: data to be sent is not compressed *(default)*
			Resume down- and uploads	Yes: the server supports the resume function (continued with incomplete transmission) *default* No: the server does not support the resume function
			Max. amount of pending files	Maximum number of files that have not been transferred. *default 1000*
	S	FTP Configuration		
			Username	name assigned to FTP-Server
			Password	password assigned to FTP-Server
			Server Path	Directory path for the data access of the vehicle *By default, no entry is required*
			IP/Domain	Address of the data server
			Port	Number of the port the server serves *default: 21*
		Security		
			Enable TLS/SSL	Yes data encryption *default* No no data encryption
			Accept any Certificate	Yes every certificate is accepted No only the registered certificate is accepted
			Certificate	Selection of the certificate *(default: bartec_cacert)*
			TLS/SSL Version	Selection of TLS / SSL version (TLSv1 or SSLv3) (*default: TLSv1*)

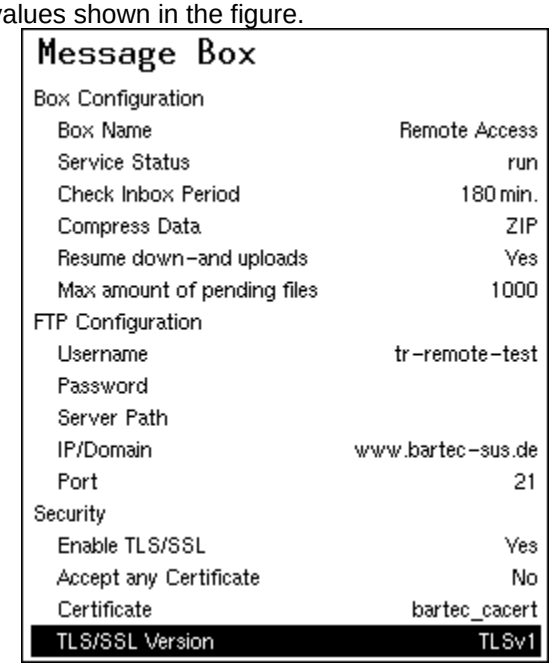
The data transmission option is deactivated for the "Slave" base module.

Remote-Access/Online-Service-Function

To use the online service function, access must be configured here.



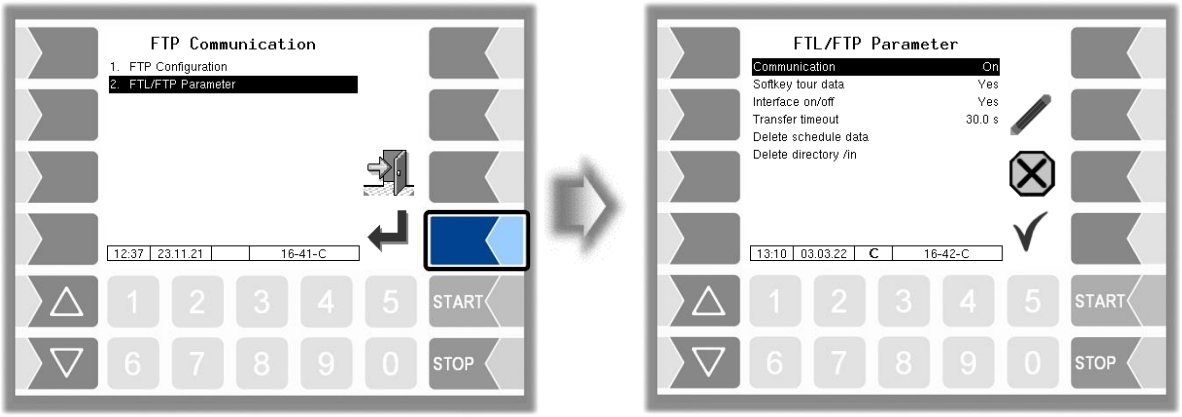
Set the parameters to the values shown in the figure.



The "Username" and "Password" parameters are assigned by Bartec Service.

The TLS/SSL version in connection with the IP/domain "www.bartec-sus.de" must be set to "TLSv1".

FTL/FTP Parameter



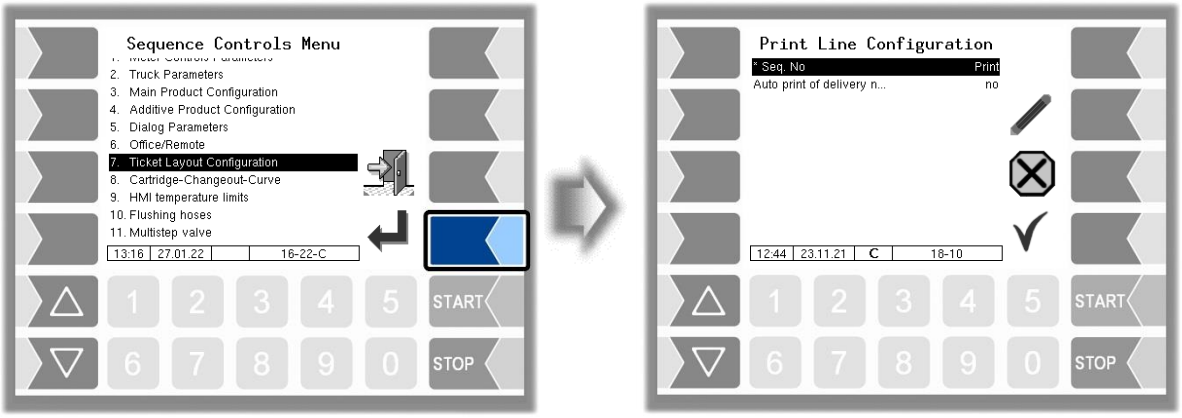
FTL/FTP-Parameter			
	U	Communication	Switching FTL/FTP communication on and off. *(Default: Off)*
		Softkey tour date	The "FTL/FTP data transfer" softkey is displayed on the start screen. *(Default: No)*
		Interface on/off	The interface for the FTL/FTP data transfer, e.g. WLAN, is deactivated after the transfer is complete. *(Default: No)*
		Transfer timeout	If no more data transfer is detected after this time, the transfer process is terminated and a new data transfer can be initiated. *(Default: 30 s)*

		Delete schedule data	Master data are deleted from the database.
		Delete directory /in	Delete the content of the “/in” directory on the truck.

Only one type of communication may be activated, either FTL/FTP communication or TCP/IP communication. Both are not permitted.

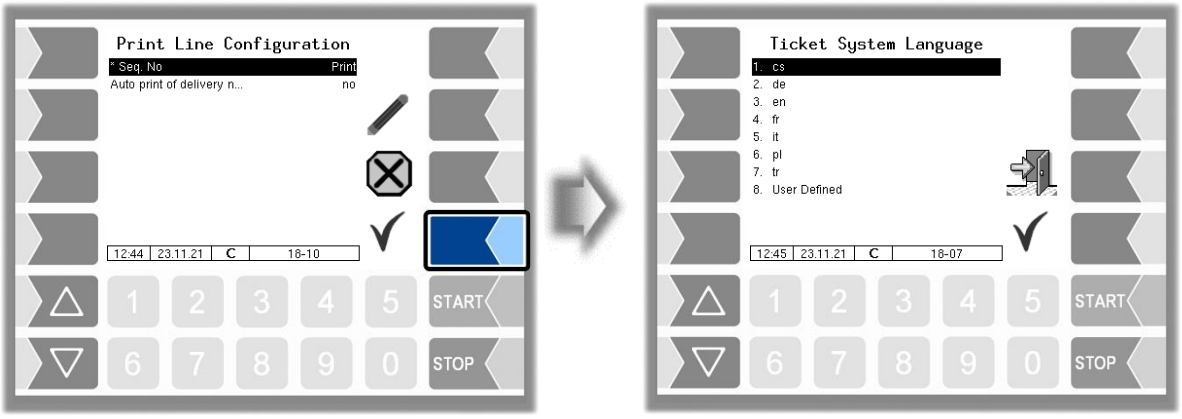
If FTL/FTP communication is used for data transfer, the message box FTL-FTP server must also be configured and its data transfer option switched on.

4.3.7 Ticket Layout Configuration



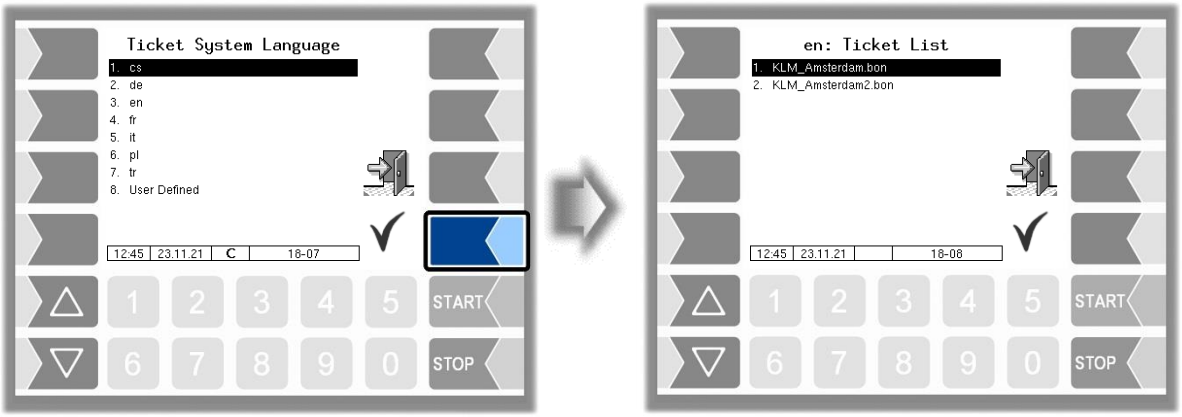
First you can specify whether a *sequential number* is to be printed on the tickets.

The parameter "*automatic LS-Print*” can be used to configure whether to automatically print the delivery note after leaving the delivery area.

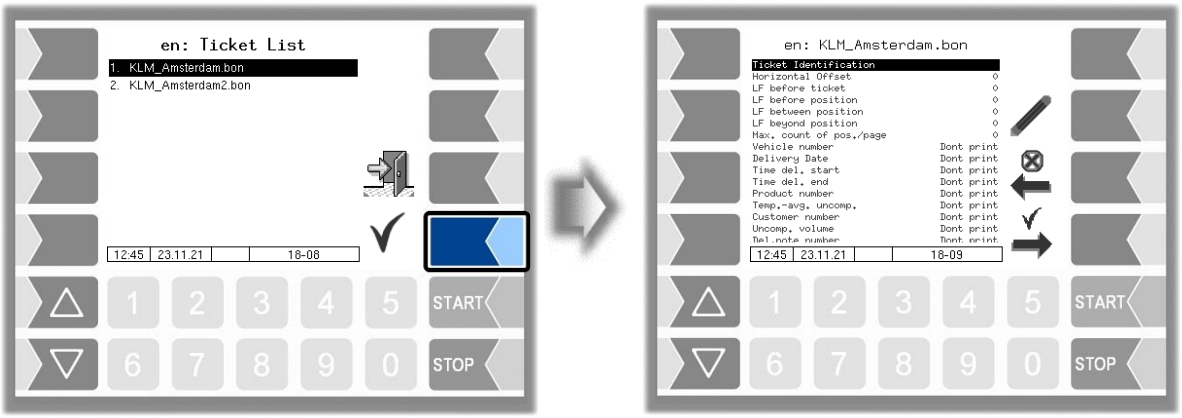


Select the ticket language from the available languages.

When choosing “User Defined”, a company-specific ticket is set.
This ticket will be provided by BARTEC BENKE with a company-specific layout and in the desired language („B3i format“).



The layout for the tickets is preset in the default forms.
You can configure the content of the ticket and save it under a name of your choice.



Using the softkey, you can configure another ticket based on the default form and save it under another name (ticket identification).

Select a parameter and touch the softkey to make changes.

If you do not enter a ticket identification, the entry is ended when you press the softkey.

The softkey aborts the ticket configuration.

If several tickets have already been configured, you can scroll through them using the and softkeys.

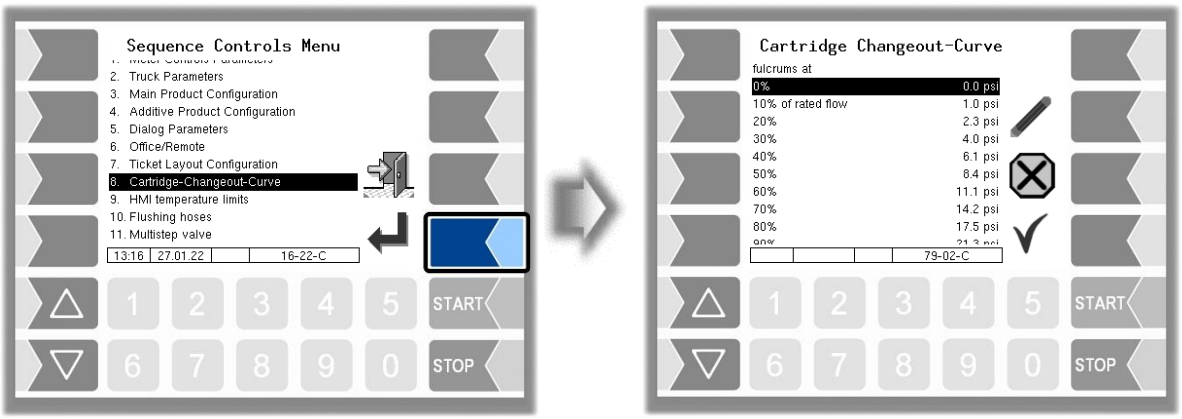
Ticket Configuration			
	Ticket Identification		Name of the ticket selection
	Horizontal Offset		Number of blanks, calculated from the left-hand margin
	LF before ticket		Number of blank lines at the beginning of the ticket
	LF before position		Number of lines above the items, calculated from the top of the page
	LF between position		Number of blank lines between the items
	LF beyond position		Number of lines below the items
	Max. count of pos./page		Number of items until a page break is inserted
	Vehicle number	2	Internal fuel tank truck number
	Delivery Date	3	Date of delivery
	Time del. start	4	Time at the start of delivery
	Time del. end	5	Time at the end of delivery
	Product number	6	Number of the delivered product
U	Temp.-avg. uncomp.	7	Temperature average for uncompensated delivery
	Customer number	8	Number of the customer
	Uncomp. volume	9	Delivered volume based on the current temperature
	Del. note number	10	Type of the ticket („Delivery Note“) and number
	ADR text	11	Product-specific reference to the relevant item of the Dangerous Goods Directive (ADR)
	Time meter reading s.	12	Time and meter reading at the start of delivery
	Driver number	13	Internal driver number
	Preset quantity	14	Preset quantity (or the sum of the preset quantities if a delivery is resumed)
	Vehicle registration	15	Configured vehicle registration
	Ticket allocation	16	The internal tour number and the internal order number are printed as the ticket number.
	Delivery hose	17	Hose selected for delivery
S	Seal information	18	The following line is printed for all measured products: “Data from calibrated equipment is marked with asterisks ✳”
	Uncomp. volume within ( )	19	The uncompensated volume is printed in brackets in the case of compensated delivery.
	Summarize products	20	All items with the same product are summarised as one item.
	Dipstick level	21	Dipstick level before delivery
U	GPS position data	22	GPS coordinates at the start of delivery
	Product group	23	The uncompensated volume of configured group 1-products is not printed.
	sealed	24	The state of the sealing is printed.
	+Product summation		*not supported in FFB*
	Oil company		*not supported in FFB*

The configuration of lines 2 to 24 is not supported in FFB.

4.3.8 Cartridge Changeout Curve

This menu item appears only when a differential pressure sensor is configured (see section 4.4.10).

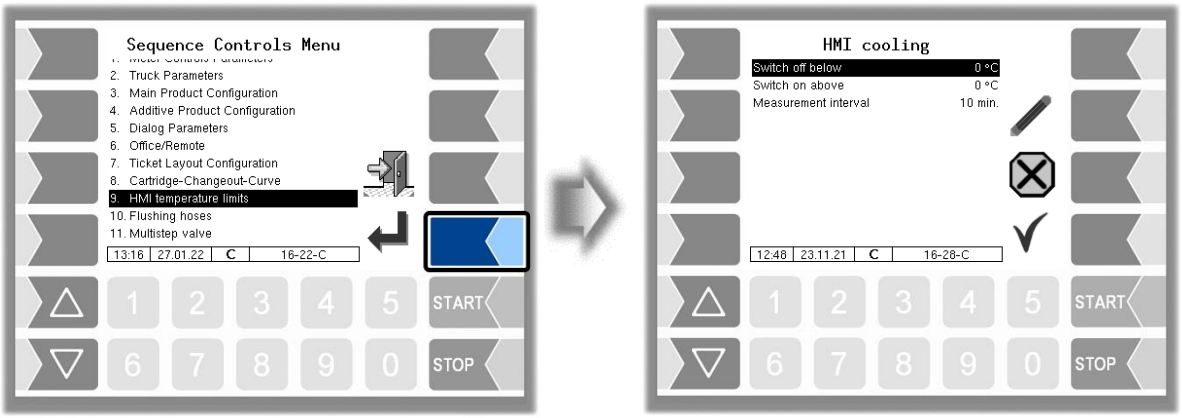
The filter cartridge replacement curve (cartridge changeout curve) supplied by the filter manufacturer is stored here. For this purpose, the differential pressures for the specified interpolation points must be determined from the curve and entered here.



For more information, please contact the BARTEC BENKE service

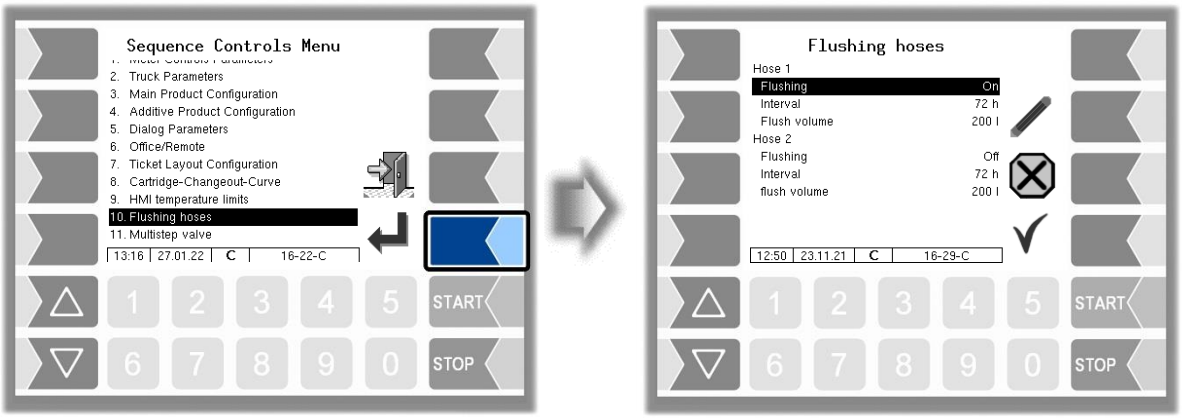
4.3.9 HMI Temperature limits

For systems that are equipped with an HMI-cooling, you can here configure the cooling parameters.
(Only available when output 10 is configured.)



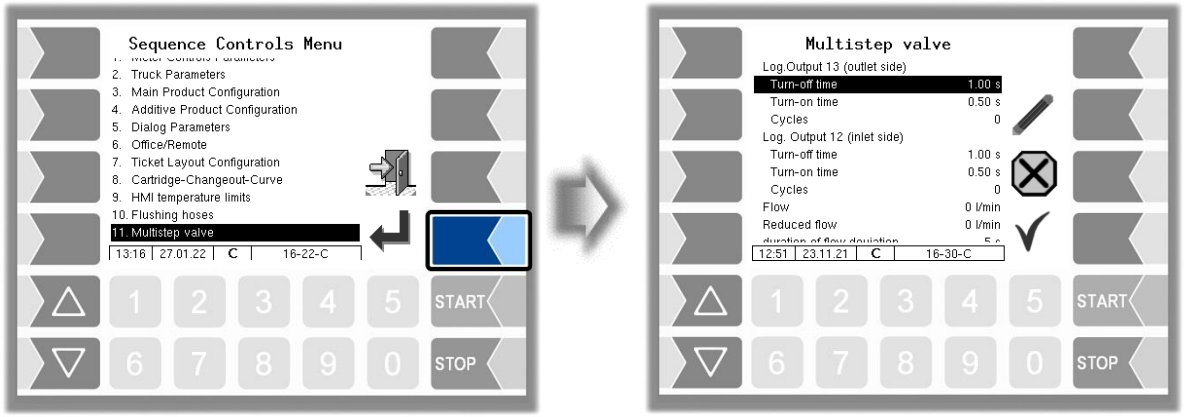
HMI cooling			
	U	Switch off below	Switch-Off temperature of the HMI-cooling
		Switch on above	Switch-On temperature of the HMI-cooling
		Measurement interval	Temperature polling interval (minutes)

4.3.10 Flushing hoses



Flushing hoses		
S	Hose 1	
	Flushing	Switching flushing functions on and off. The system monitors the flushing interval for the hoses/measuring points and blocks order processing after the time interval has expired. You can flush the hoses using the special functions. The flushing order is preassigned the transaction type TU and the default quantity and cannot be changed. The configured flushing volume of the hose is used as the default volume. The flushing order is stored in the tour journal. You must always implement a flushing procedure during first commissioning, after a software update and after deleting the PermRAM. *(Default: Off)*
	Intervall	The period of time [h] during which the hose must be flushed. *(Default: 72 h)*
	Flush volume	The flushing quantity for hose 1 must be set according to the pipework and hose length. *(Default: 200 l)*
	Hose 2	
	Flushing	Switching flushing functions on and off. *(Default: Off)*
	Intervall	The period of time [h] during which the hose must be flushed. *(Default: 72 h)*
	Flush volume	The flushing quantity for hose 2 must be set according to the pipework and hose length *(Default: 200 l)*

4.3.11 Multistep valve

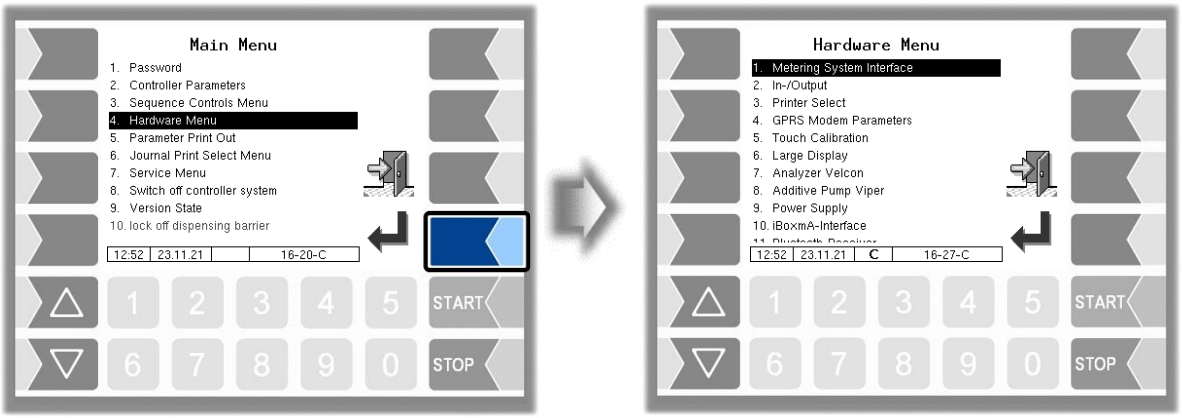


	U	Multistep valvel	
		Log.Out 13 (outlet side)	
		Turn-off time	Duration of the deactivation of the output within a cycle
		Turn-on time	Duration of the activation of the output within a cycle
		Cycles	Number of cycles at the logical output 13 for stepwise increase of the flow.
		Log.Out 12 (intlet side)	
		Turn-off time	Duration of the deactivation of the output within a cycle
		Turn-on time	Duration of the activation of the output within a cycle
		Cycles ✱	Number of cycles at the logical output 12 for stepwise reduction of the flow to the reduced flow (parameter “Reduced flow”).
		Flow ✱	maximum flow The output 13 is as long pulsed (cycles) until this flow is achieved.
		Reduced flow ✱	Reduced flow for ending the charge on the preset quantity. The output 12 is as long pulsed (cycles) until this flow is achieved.
		duration of flow deviation	The time defines how long may deviate the set flow, until a correction is made by cycle switching. At normal flow a correction is made only when the set flow rate is underranged, at reduced flow, when the set flow is overshot. *When stopping the delivery without a preset quantity or stopping before reaching the quantity of flow reduction, will be no control for flow reduction*

✱ The stepwise increasing of flow for reaching the configured maximum flow (parameter "flow") or the stepwise reduction for reaching the reduced flow (parameter “Reduced flow”) can made in two ways:

- The number of cycles is chosen so that the configured flow or reduced flow will be are achieved.
- You configure values for "Flow" and "Reduced flow". In this case the outputs 12 and 13 are pulsed until the configured values are reached.
  The parameter "Cycles" is ignored in this case!

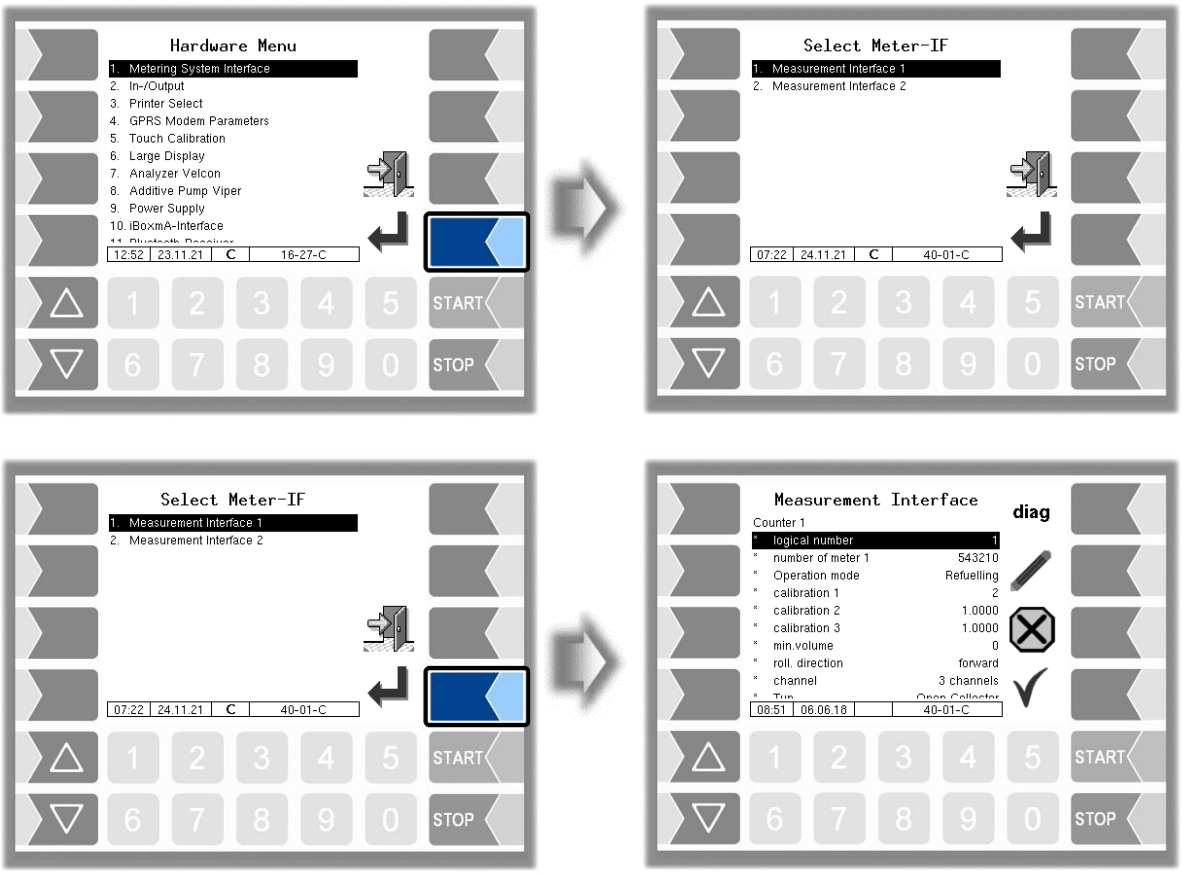
4.4 Hardware Menu



Open the submenu in which you wish to make changes. In this submenu, select the menu entry that you wish to edit and touch the “Edit” key. The window for editing the menu entry appears. Edit the selected parameter (see section 3.3.2).

4.4.1 Metering System Interface

If the meter control parameters are configured for a double meter interface you can configure two measurement interfaces for 4 pulse counters in all.



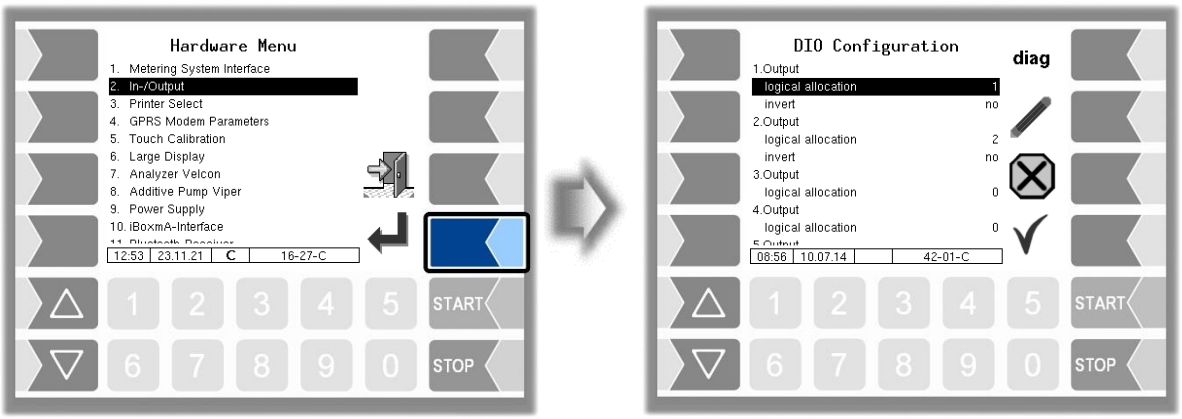
It is recommended to number the counters and the temperature sensor modules consecutive from 1 to 4.

Measurement Interface 1					
	C	**Counter 1 (2)**			
		logical number	Logical assignment of the meter within the system		
		number of meter 1 (2)	Manufacturer no. of the measuring chamber		
		Operation mode	This parameter is used to set the operation type for which this counter is used. Re- Defuelling: The counter is used for both refuelling and defuelling operations. *(Default setting)* Refuelling The counter is used for refuelling operations. Defuelling The counter is used for defuelling operations. *As of version 1.16.5, it is possible to assign a separate counter for the two main types of operation. In this case, the counter selection is automatically carried out on the basis of the selected transaction type when a process is started. Only for the two special functions TU (technical pumping) and RB (filling the tanker) a manual counter selection must be carried out.* ***Monitoring the non-active counter:*** *In the case of a counter configuration which is separate according to the type of operation, the non-active counter is checked for an impermissible product flow during refuelling or defuelling. The maximum permissible quantity is specified in the menu "Meter Controls Parameters (see section 4.3.1) under "tolerance quantity". The check is performed for both transaction types.* *If a quantity above the tolerance quantity (for example, 5 liters) is measured at the counter which is not active, a message appears on the display to check the valve positions.* *If the tolerance quantity is exceeded repeatedly, the process is stopped.*		
		calibration 1	The calibration factor specifies the number of pulses for one litre (or the configured unit) of the product. The calibration factor is specified when the system is calibrated.		
		calibration 2 calibration 3	Three calibration factors can be configured for different product groups.		
		min. volume	Minimum delivery volume; the delivery is not calibrated below this volume.		
		roll. direction	forward If no changes have been made to the pulse generator, forward corresponds to the ex-works setting for the direction of rotation, i.e. clockwise rotation = positive counting. backward: The rotation direction is counted in the opposite direction		
	C	Kanäle	2-Kanal 3-Kanal	Kanaltyp	
		Type	Open-collector Current without monitoring Current with monitoring Namur Promass 64	Type of the counter	
		dyn. calibration	no The calibration factor is used. yes 5 correction factors for are		
	C	1. (… 5.) flow 1. (… 5.) correction	In the case of dynamic calibration, the correction factors can be entered for 5 flow rates.	*refer to the test report*	
		ref.-temperature	Temperature of medium during calibration		
		K1 K2	Calibration factors for the viscosity change related to the reference temperature.		
		Temperature sensor 1 (2)			
		logical number	Assignement for the temperature sensor		
		calibration 0/-195°C	Resistance at 0°C or -195°C		(2)
		calibration 50/-80°C	Resistance at 50°C or -80°C		
		(2) Depending on the sensor used (0...50 °C or -195...-80 °C)			
		circulation delay	Interval for sensor query (default: 5)		

		firmware version	Displays the firmware version
		driver version	Displays the driver version
The diag softkey can be used to access a service function for reading the measuring system interface data.			

Configure the counters 3 and 4 (Measurement interface 2) in the same way.

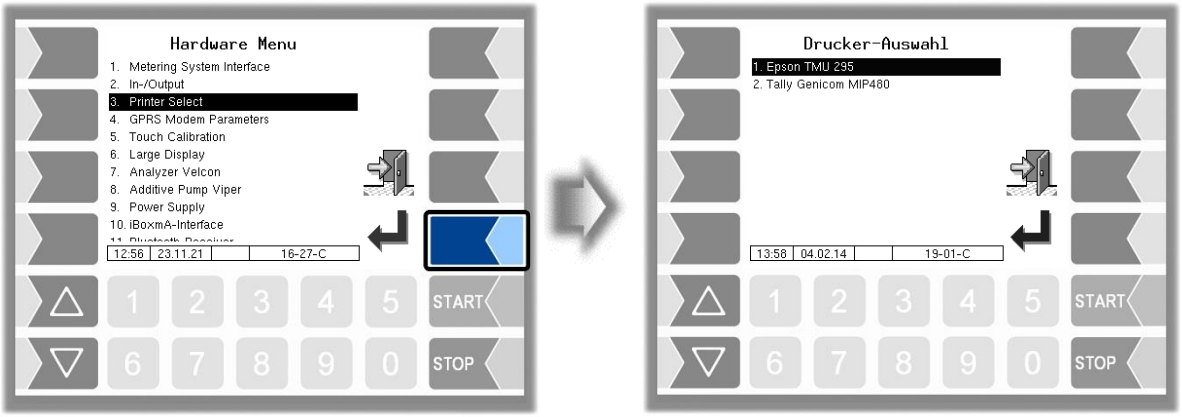
4.4.2 Inputs/outputs



DIO Configuration			
	U	1. (...16.) Output	
		logical allocation	logical allocation of the outputs e.g.: In the software, output 2 is the output for enabling measuring point 2. It is connected to physical input 5. In the configuration of input 5, the logical assignment is then 2.
		invert	yes: (The switching behaviour is inverted) no: (The switching behaviour is not inverted)
		1. (...16.) Input	
		logical allocation	logical allocation of the outputs
		invert	Yes: The switching behaviour is inverted No: The switching behaviour is not inverted
		resting state	low: positive switching high: negative switching
		LOG-Level	Specifies the scope of the entries in the log file (by entering the bit significance) 0: No entries 2: Entries for outputs 1: Entries for inputs 4: Other accesses
		firmware version	Displays the firmware version
		driver version	Displays the driver version
The diag softkey can be used to access a service function for testing the functionality of the I/O box inputs/outputs.			

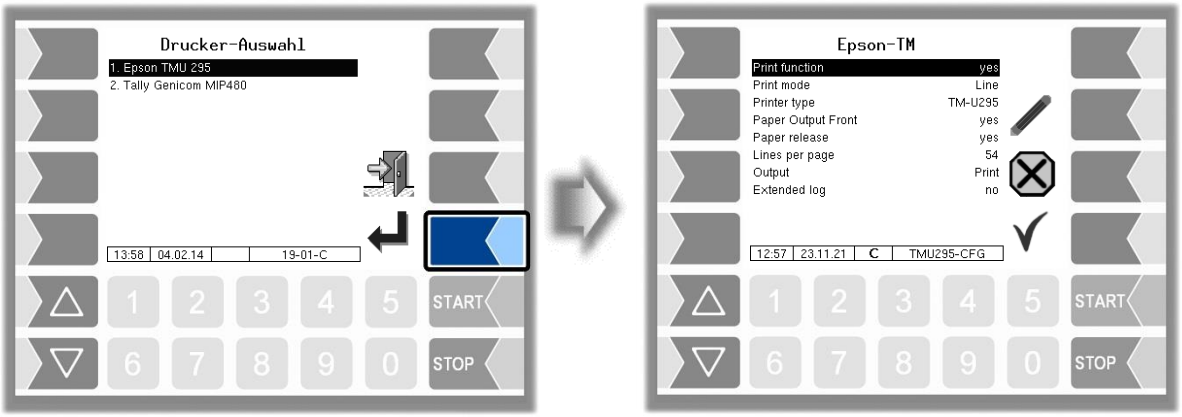
4.4.3 Printer Select

First select the type of printer that shall be used as the standard printer.



Following you can configure the parameters for the selected printer.

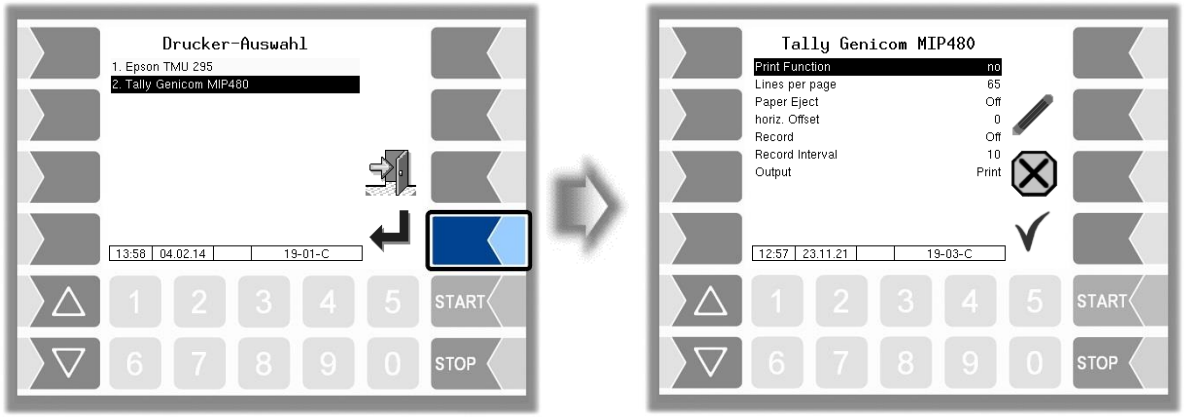
Epson TMU 295



EPSON TM				
	U	Print Function	yes Printer activated no Printer deactivated	
		Print mode	dynamic (TM-U295) **lines ∗**	Print mode according to printer type (transfer dynamic or line-wise)
		Printer type	**TM-U295 ∗** TM-U220 TM-T88	Select the printer type used
		Paper Output Front	yes The paper is output at the front. no The paper is output at the back.	***Only TM-U295***
		Paper release	yes The paper is released after printing. no The paper is not released after printing.	
		Lines per page	Number of lines (including the footer) to the end of a page when parameters are printed. If 0 is entered here, there are no page breaks (default: 54).	
		Output	Prrint: Print job is sent to the printer. File: Print is saved in a file and is ready for processing (truck).	
		Extended log	yes: Communication between the printer and the system 3003 is stored.	

∗ Default values

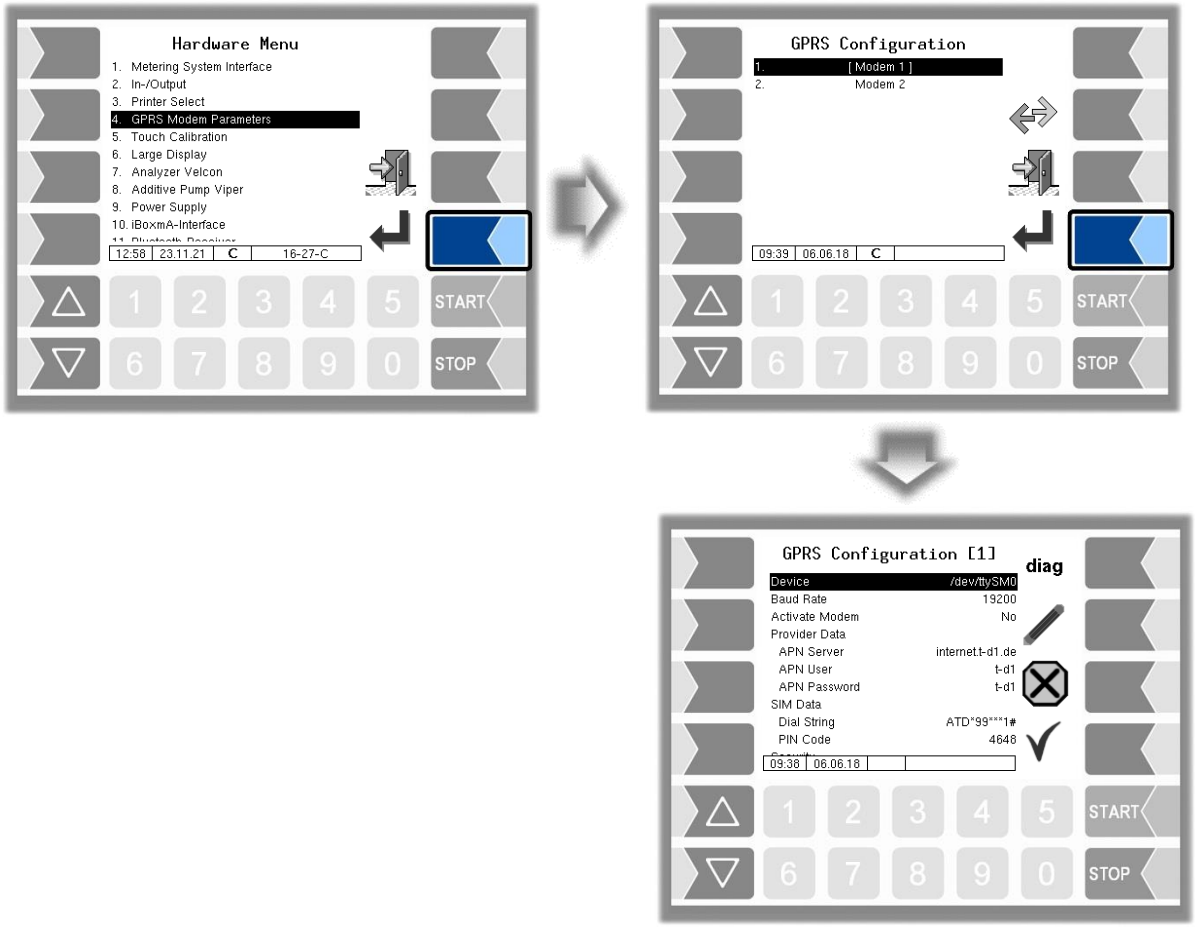
Tally Genicom MIP 480



Tally Genicom MIP 480			
	U	Print Function	yes: Printer activated no: Printer deactivated
		Lines per page	Number of lines (including the footer) to the end of a page when single pages are printed (journal and parameter printing). If 0 is entered here, there are no page breaks *(default value: 65)*.
		Paper Eject	on: The paper is ejected off: The paper remains in the printer and can be printed on
		horiz. Offset	horizontal offset for perforated paper (*default setting: 12 characters*)
		Record	On: Communication between the printer and the system 3003 is stored. ✱
		Record Interval	Storage duration of the recordings ✱ (*default setting 10 days*)
		Output	Prrint: Print job is sent to the printer. File: Print is saved in a file and is ready for processing (truck).

✱ These parameters are not available in the FFB software.

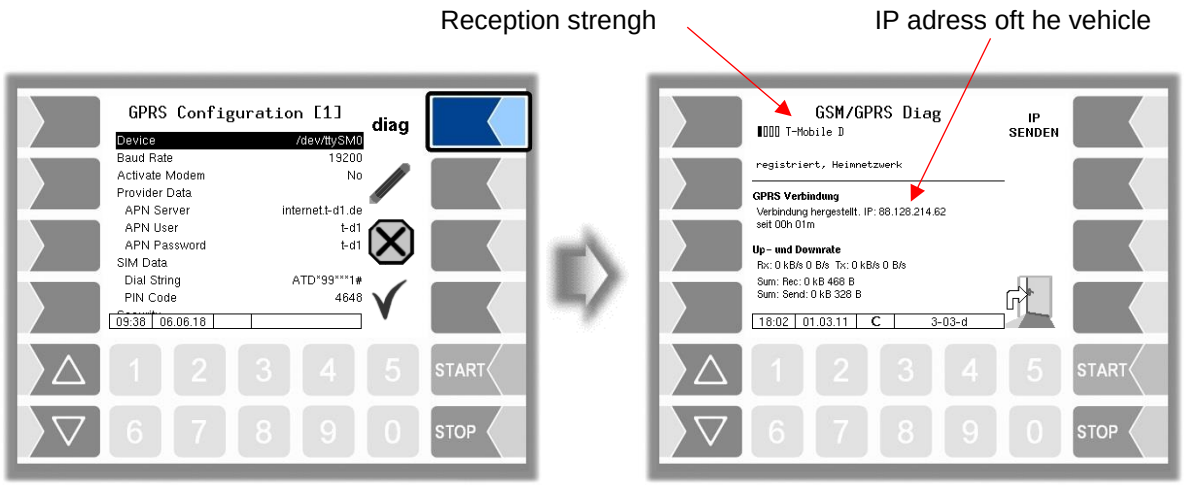
4.4.4 GPRS Modem Parameters

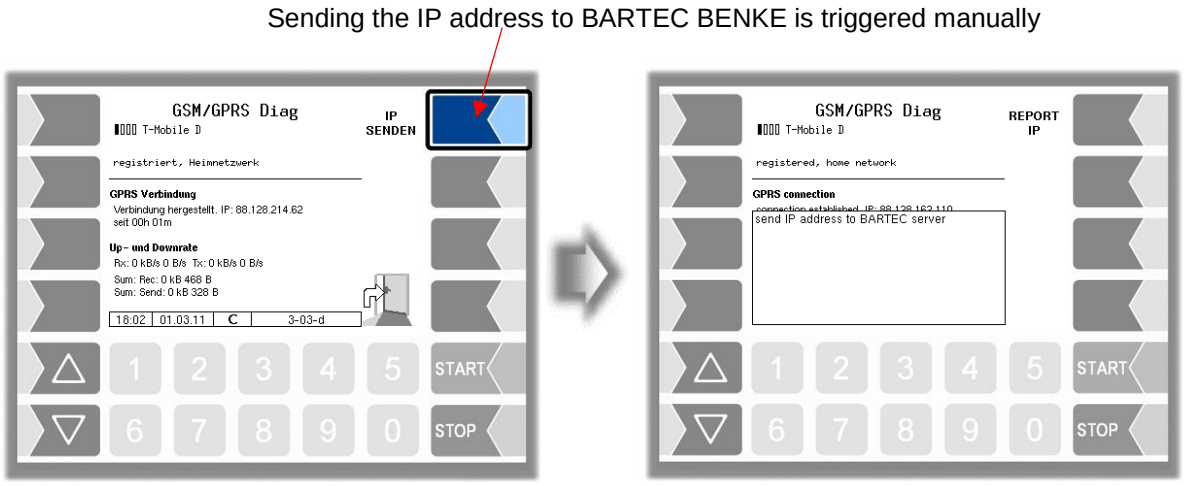


GPRS Configuration			
	U	Device	Interface (default: /dev/ttySM0)
		Baud Rate	57600 (default)
		Activate Modem	Yes: Modem activated No: Modem not activated
		Provider Data	
		APN-Server	Provider's dial-in server
		APN User	Provider
		APN Password	Password for accessing the selected server
		SIM data	
		Dial String	Entry of the dial string When the system starts dialling, the configured number is dialled.
		PIN-Code	PIN for SIM card ⚠ The PIN must be entered here before the SIM card is inserted. **Turn off the system before inserting the SIM card!**
		Security	
		Report IP To BARTEC	Yes: IP address is sent to BARTEC BENKE with each dial up connection. No: IP address will not be sent.

After changing GPRS configuration parameters (e.g. the PIN Code) you must save the changes by leaving the configuration menu. Only when you open the configuration again you can check whether the system is on-line by using the diag softkey (see page 49).

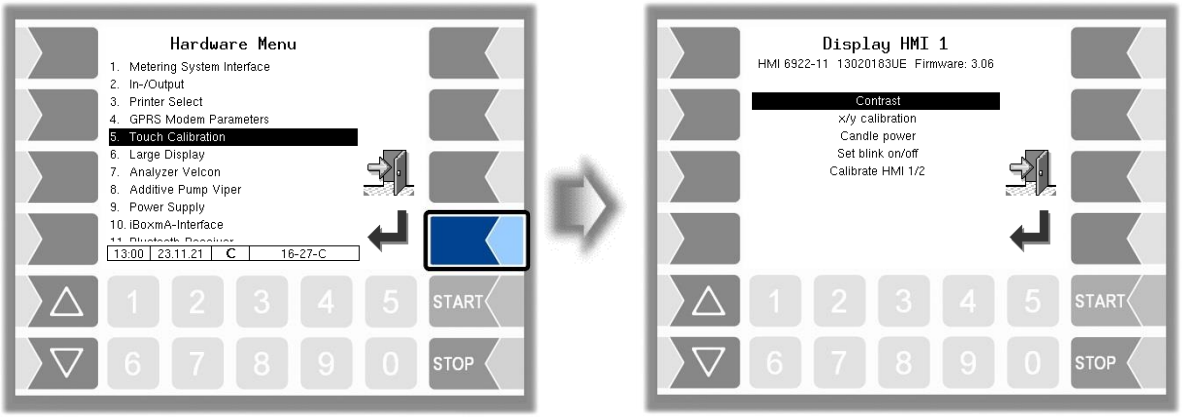
The diag softkey can be used to access a service function for diagnosing the GRPS unit.



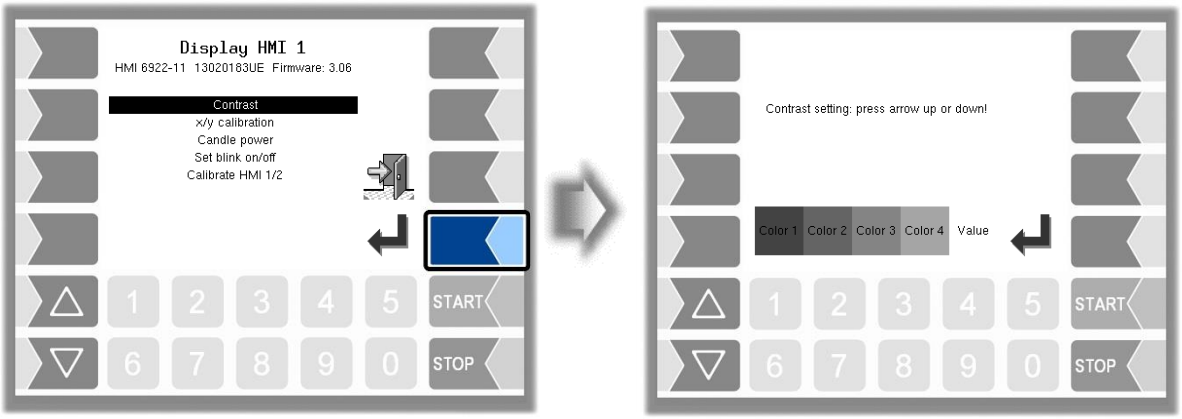


4.4.5 Touch Calibration

The touch screen is already calibrated when the system is delivered. It is only necessary to calibrate the touch screen if the display is difficult to read or if the system does not respond correctly to touch.



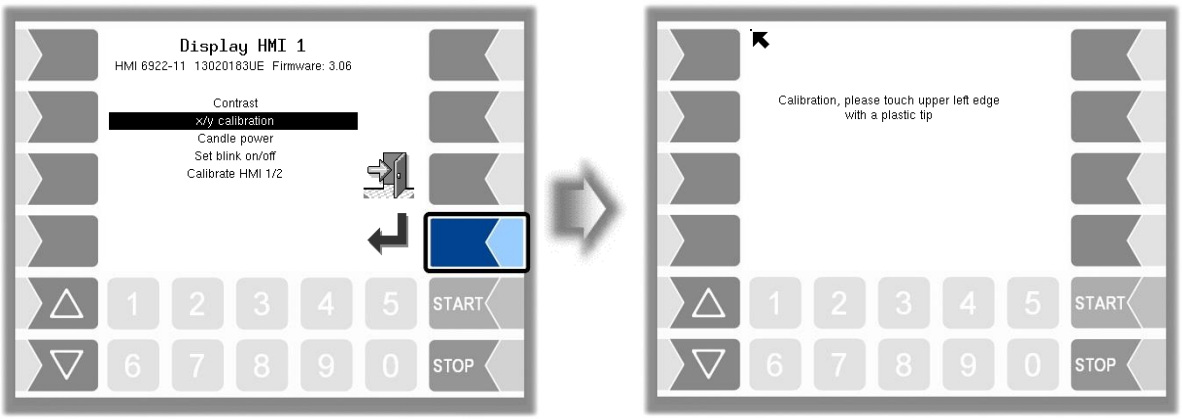
4.4.5.1 Contrast



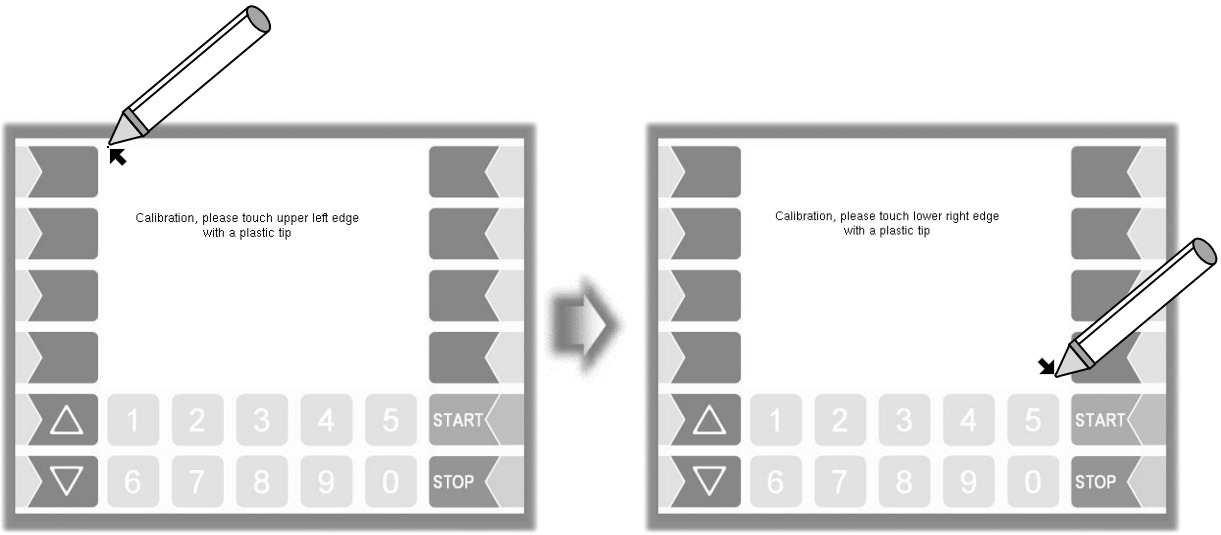
- Use the selection keys ▽ and △ to set the contrast to the required value and touch the “Confirm” softkey.
  (Default: 50)

4.4.5.2 x/y calibration

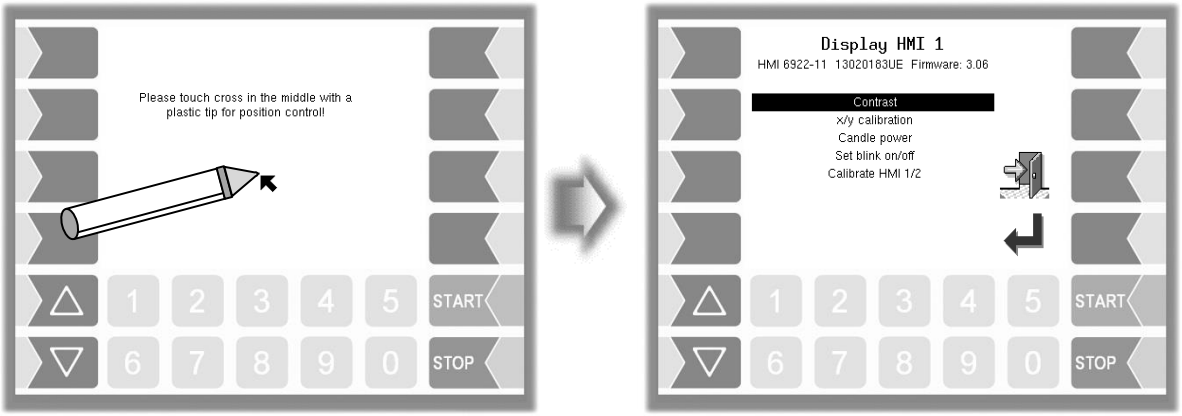
The x/y calibration function is used to redefine the display coordinates. These determine the position of the keys on the touch screen.
Follow the instructions on the display.



- Touch the top left-hand corner of the display. You should preferably do this using a pointed plastic object that cannot scratch the display.
- Then touch the bottom right-hand corner of the display



- Next, touch the point that appears on the display.

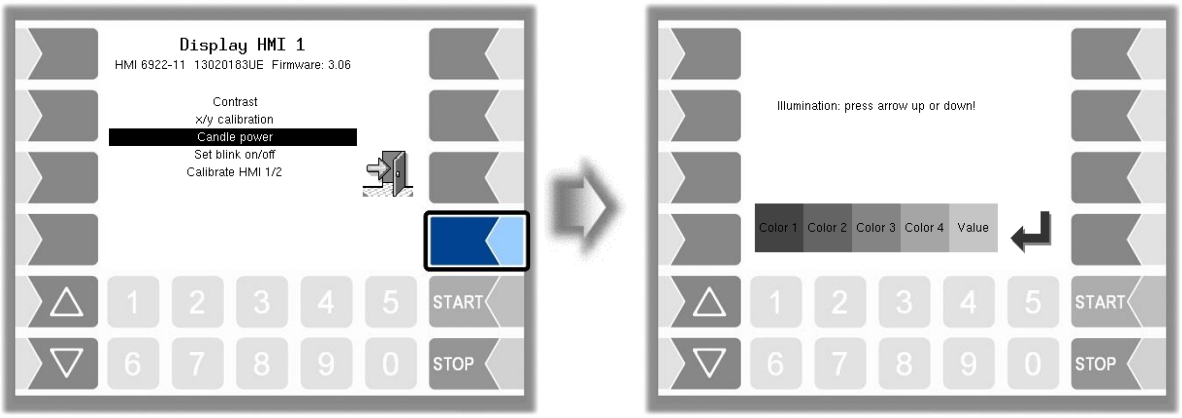


The coordinates of the touch screen have now been defined.

If the touch screen is not calibrated satisfactorily, you may have to repeat the procedure several times.

Attention:
The system must not be switched off during the calibration!

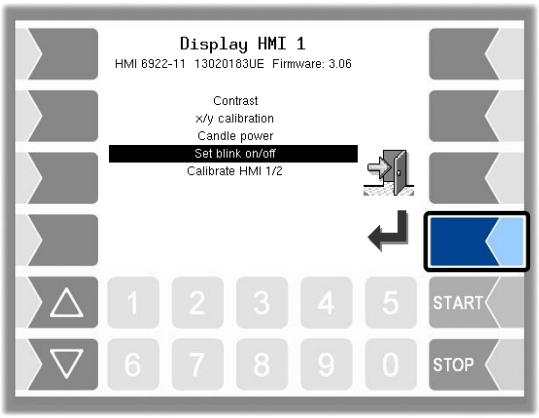
4.4.5.3 Setting the brightness



- Use the selection keys ▽ and △ to set the brightness of the display to the required value and touch the “Confirm” softkey.
  (Default: 25)

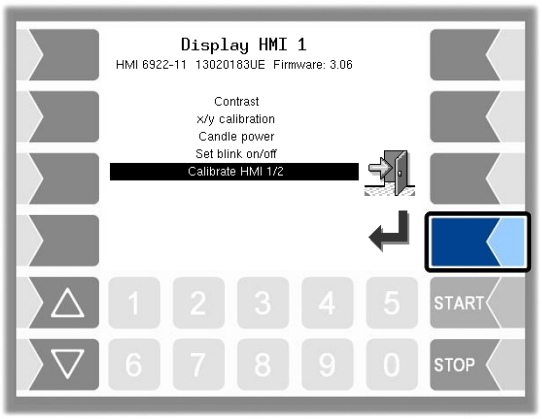
4.4.5.4 Blink on/off

This is where you define whether the display should blink once each time you touch it or change without blinking.
The setting takes effect as soon as you confirm the menu option!

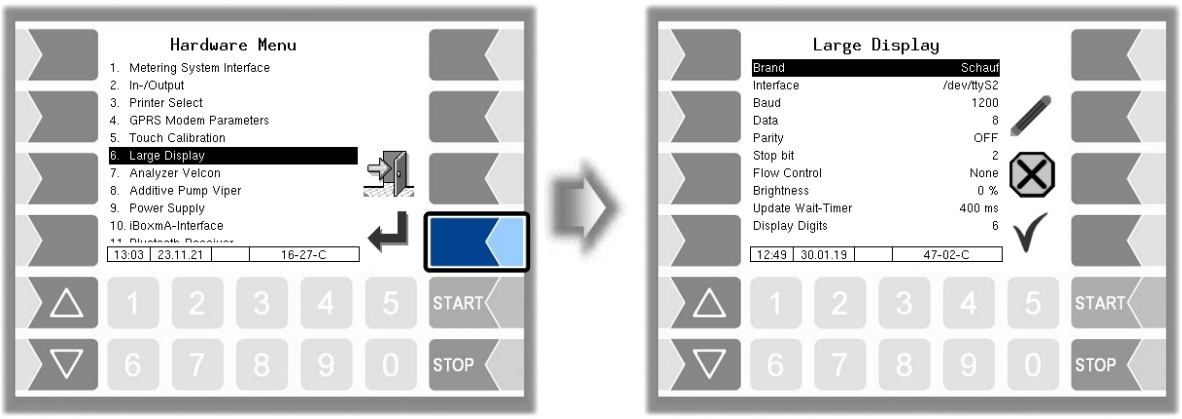


4.4.5.5 Calibrate HMI 1/2

Two HMI display units can be installed for displaying information.
When you select this menu option, you switch from display 1 to display 2 or vice versa.
The following then appears in the title:
Display HMI 1 or
Display HMI 2.

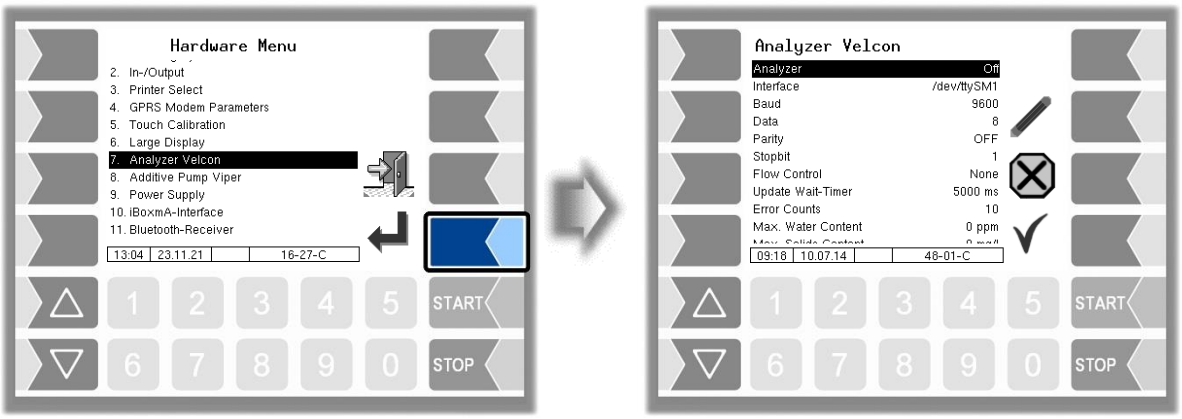


4.4.6 Large Display



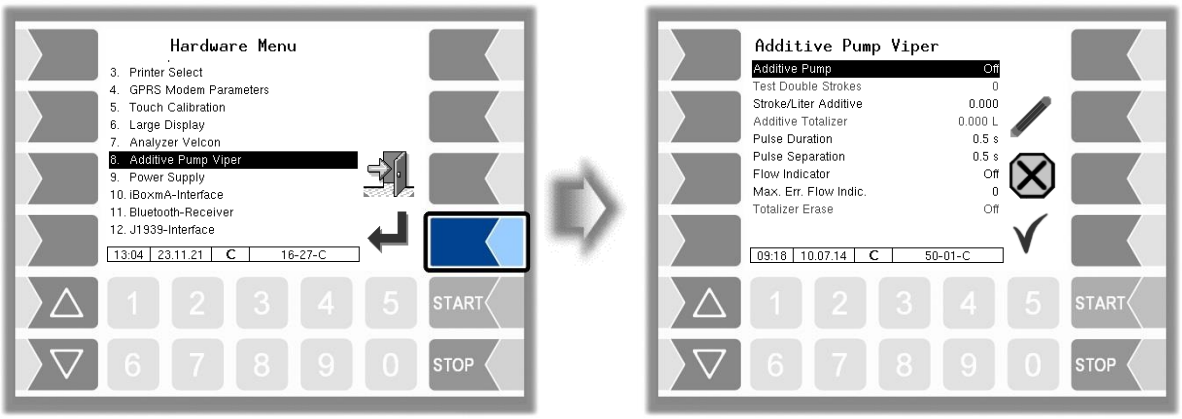
Large Display				
Configuration of the large display for the quantity				
	S	Brand	Selection of the large display type (no, Schauf or Isoil)	
		Interface	Interface name (/dev/ttyS2)	
		Baud	Transmission rate *(default: 1200; isoil:19200)*	
		Data	Number of data bits (7 or **8**)	
		Parity	ON (even), **OFF** (odd)	
		Stop bit	Number of stop bits (**1** or 2)	
		Flow Control	Data flow control (**keine**, Xon/Xoff, Hardware)	Schauf only
		Brightness	Display brightness (100%, 60%, 7%)	
		Update Wait-Timer	Delay for triggering the display unit. to protect from data overflow (0...9999 ms). *(Default settings: Schauf 5000 ms, Isoil: 400 ms).*	
		Display Digits	Number of available digits of the display *(Default: 7)*	Isoil only
		Time out	Time interval for response of the display when there is no measurement. *(Default: 1400)*	

4.4.7 Analyzer Velcon



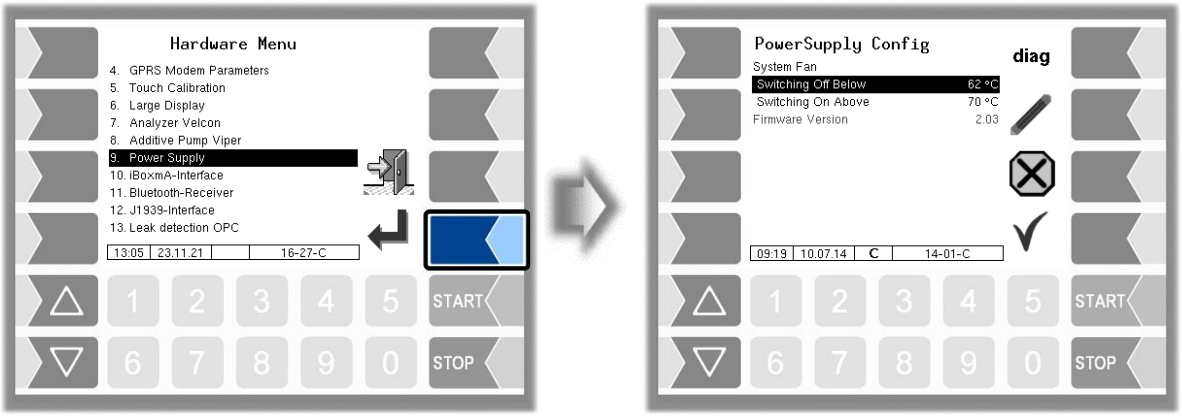
Analyzer Velcon			
Configuration of the analyzer unit			
	S	Analyzer	Activates/deactivates the analyzer
		Interface	Interface name
		Baud	Transmission rate (default: 1200)
		Data	Number of data bits (7 or **8**)
		Parity	ON (even), **OFF** (odd)
		Stopbit	Number of stop bits (**1** or 2)
		Flow Control	Data flow control (none, Xon/Xoff, hardware)
		Update Wait-Timer	Delay for triggering the analyzer unit. to protect from data overflow (0...9999 ms) *(Default: 5000 ms)*.
		Error Counts	Number of repeat errors until a message is output.
		Max. Water Content	Maximum permissible water content (a message is output if this content is exceeded)
		Max. Solids Content	Maximum permissible solids content (a message is output if this content is exceeded)
		Hysteresis	Hysteresis for deactivating the message as a percentage of the threshold value
		Measure Value Dialog	Activates/deactivates the display of measured values for water and solids content

4.4.8 Additive Pump Viper



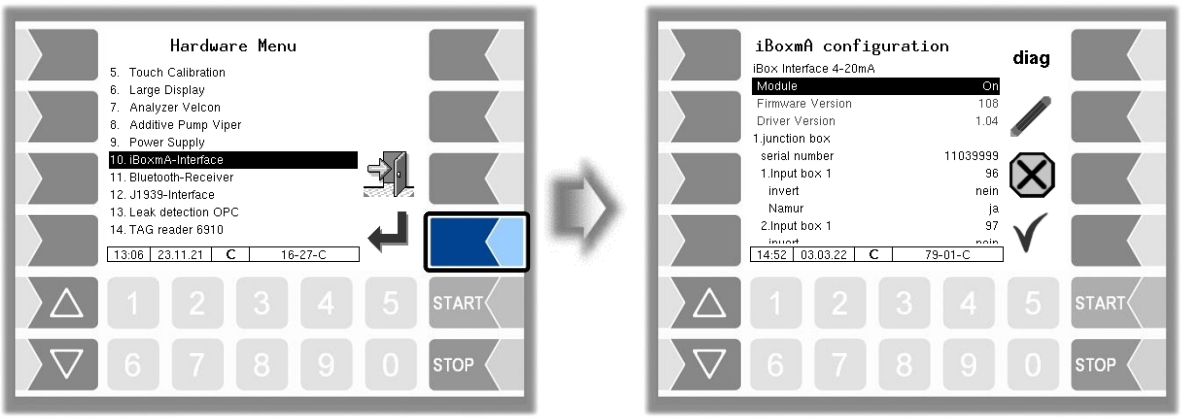
Additive Pump Viper			
Configuration of the additive pump			
	S	Additive pump	Switching the additivation unit ON or OFF
		Test Double Strokes	Test parameters for commissioning, number of strokes needed to vent.
		Stroke/Liter Additive	Number of pump strokes per litre of additive
		Additive Totalizer	Displays the additive totalizer
		Pulse Duration	Pulse duration for which output 21 is active.
		Pulse Separation	Idle time until next pulse
		Flow Indicator	Activates/deactivates the flow indicator for additive addition (input 21)
		Max. Err. Flow Indic.	Number of repeat errors reported by the flow indicator until delivery is stopped.
		Totalizer Erase	Der Additivsummierzähler wird gelöscht.

4.4.9 Power Supply



Power Supply Config			
	S	System Fan (no function when using a power supply without fan))	
		Switching Off Below	Temperature at which the fan is switched off
		Switching On Above	Temperature at which the fan is switched on
		Firmware Version	Displays the firmware version

4.4.10 iBoxmA-Interface



i-Box configuration			
		iBox Interface 4-20mA	
		Module	activate / deactivate the iBoxmA-Interface
		Firmware Version	displays the firmware version of the Interface board
		Driver Version	displays the driver version of the Interface board
		1./2. . junction box	
		serial number	Serial no. of the clamp box
		1. (...18.) Input Box 1	No. of the assigned Interlock-input
		invert	yes: The switching behaviour is inverted no: The switching behaviour is not inverted
		Namur	yes: A Namur sensor is connected to the input. no: An open / close contact is connected to the input
		free water sensor	
		Sensor terminal	Clamping position on the interface board (1…4)
		measurement rang	Measuring range of the sensor (0…50 ppm or 0…100 ppm) *Default:0...50 ppm*
		50ppm max. duration	Length of time in seconds for which the actual sensor value may be greater than or equal to 50 ppm. If the time is exceeded, logical output 32 is switched and a dialog message is output. Fuel-filling is locked. *(Default: 5 s)*
	S	min. flow	Start the water sensor evaluation only from this flow [l/min] *Default: 100 l/min*
		min. quantity	The water sensor evaluation only starts after a minimum amount has been delivered. *(Default: 1000 l)*
		max. water content	Maximum allowed water conten [ppm] If the average value exceeds the limit configured here by at least the seconds set in "*time of exceeding*", the output 32 is switched and a corresponding message appears. Also the refuelling is blocked. *This event, including switching output 32 and message to the office, can be simulated with key 9 (see H2O limit simul.).* *With the STA and the ABA telegram the result of the measurement is sent to the office* *(Default: 30ppm)*
		time of exceeding	Time limit in seconds, that the average ppm value may overceed the parameter "max. water content ". *(Default: 10s)*
		Warning at	Time for the on- and off-pulse when logical output 49 is triggered during the Alert Level. *(Default: 1000 ms)*

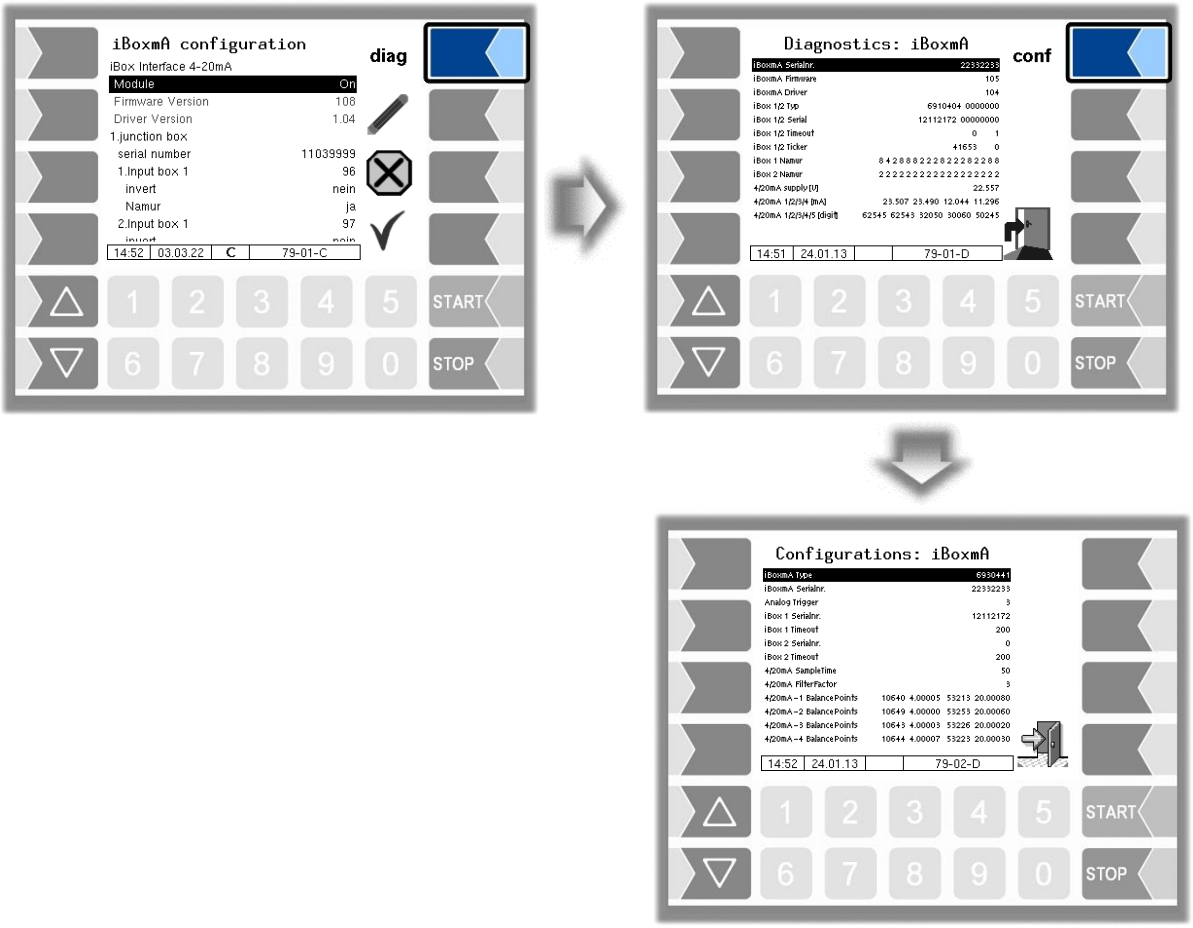
Time of exceeding warning	Time limit in seconds, that the average ppm value may overceed the parameter "max. water content ". *Default: 10s*
Next warning after	After the warning has been confirmed and the refuelling continues (see also "Shutdown after warning"), the next warning will be displayed not bevor this time has espired after the warning value has been exceeded again (in seconds).Entering 0 deactivates further messages. *(Default: 0s)*
Stop at warning	no — Only a message is displayed. yes+continue — A message is displayed and output 32 will be activated. After acknowledging the message the output 32 is deactivated and the refuelling can be continued. Yes — Output 32 will be activated. The output is deactivated only after the softkey for printing the delivery note has been pressed. It is not possible to continue the process. Fuel-filling lock is not set *(Default*: no)
during TU and Defuelling	Not active — The water sensor is deactivated for the operation type TU and all defuelling operations. The sensor remains active for all other operations. The simulation buttons 8 and 9 are also deactivated. active — The water sensor is monitored during all operations. *(Default*: not activ)
Blinking at warnung	Time for the on- and off-pulse when logical output 49 is triggered when the warning value is exceeded. *(Default: 1000 ms)*
Blinking at alarm	Time for the on- and off-pulse when logical output 49 is triggered when the max. water content has been exceeded. *(Default: 500 ms)*
ppm-value	Which value should be evaluated? Measurement value: The currently measured ppm value is used to monitor the warning and alarm limits. The measured value is displayed in the delivery window. Average value: The average ppm value over the duration of the fuel-filling is used to monitor the warning and alarm limits. The average value is displayed in the delivery window. (Default: Measurement value)
differential pressure sensor	
Sensor terminal	Clamping position on the interface board (1…4)
max. flow	Maximum allowed flow of the filter monitor according to data sheet. Parameter is needed to extrapolate the differential pressure. The same unit of measurement as the calibration have to be used, e.g. l / min. or US gal./min.

	S	min. flow	Minimum flow rate is a percentage of the max. input flow. Value range: 10%...100%. The min. flow rate to be set depends on the desired minimum flow that should be monitored. After a longer operating time of the filter elements values less than 40% more often are causing a false detection. A low value generally increases the likelihood of an early closure or a false detection by a max. deviation. *Default value: 40%*.
		max. diff. pressure	Maximum allowed differential pressure [mbar] at max. flow. When exceeding during the delivery of a warning is issued and the logic output 31 is set. The parameter is a measure for evaluating the filter condition. The value to be set is shown in the respective filter exchange curve. This is the pressure at 100% flow. *Default value: 1500 mbar*
		max. deviation	Maximum pressure drop [mbar] of the currently extrapolated differential pressure to the previous measurement point. The parameter is a measure for evaluating the filter condition. When exceeding the logic output 31 is set. Delivering will be blocked. *(Lock off dispensing barrier see section 4.10)* *Default value: 350 mbar*
		current beginning CB	Current initial value [mA] of the differential pressure sensor according to the calibration sheet
		current final CF	Current final value [mA] of the differential pressure sensor according to the calibration sheet
		pressure at CB	Pressure [bar] at current initial value, according to a calibration data sheet
		pressure at CF	Pressure [bar] at current final value, according to a calibration data sheet
		Period of flow	Time span [s], in which the flow may not change by the flow deviation so that the current differential pressure is used for the filter evaluation. At the end of a fuelling, the flow is usually throttled and passed on for a further time. The stabilization of the medium or the resulting differential pressure after the throttling takes some time. In order to avoid an error estimation of the differential pressure during this time, the parameters "*Period of flow"* and "*deviation of Flow"* can be adjusted. *Default: 30s*
		deviation of Flow	If the flow does not increase or decrease the flow deviation within the set flow time, the current differential pressure is used for the filter evaluation. The flow deviation and the flow time are used to filter out differential pressure peaks. The value to be entered here must be adjusted according to the unit of measurement used during calibration. *Default:* *70 (*Unit of measurement *[l/min]),* *18 (*Unit of measurement *[US gal./min])*
		pressure warning at	A warning is displayed when the calculated differential pressure exceeds this threshold. With value = 0, this monitoring is switched off.
		JIG-limit *from 1.18.10 and 1.16.15*	Limit in mbar. If the absolute measured pressure exceeds the limit value set here, a corresponding message window is displayed, the output 31 is set and a refueling disable is activated for the next job. See also DPS-GW simulation. This limit was previously a fixed value of 1.5 bar.

		dipstick	
		Sensor terminal	Clamping position on the interface board (1…4)
		Install. bottom up	Yes: Bottom-up installation of the dipstick
		Nominal length	Nominal length of the dipstick (in mm) according to the rating plate
		Offset	Installation from above: Distance between the contact part of the dipstick and the tank top (inside) Bottom-up installation: Distance between the contact part of the dipstick and the tank bottom (inside)
		Tank height	Distance between tank bottom and tank top at the dipstick position (mm)
		Damping	Number of measurements over which a mean value is formed (prevents large measurement jumps caused by intrinsic movement of the medium). *(Default: 10)*
		Tank serial no.	Designation of the tank according to the body manufacturer (is used to set the name of the A-file or S-file)
		min. tank capacity	Minimum permitted tank content. If the value falls below this limit, logical output 47 is set and a dialog message is output. *(Default: 0, deactivated)*
		max. tank capacity	Maximum permitted tank content. If this limit value is exceeded, logical output 48 is set and a dialog message is output. *(Default: 0, deactivated)*
		Big display	If a big display is installed and this parameter is set to „yes“, the current tank content is displayed at the big display (when no delivery is running). During a running delivery is the delivered volume displayed..
		Common	
		Logging	On: The measured values (raw values and calculated values) from the free water sensor and differential pressure sensor are recorded in the emf.log.
		dps limit simul. [0]	On: During a delivery you can simulate with the 0 button a parameter exceeding at the differential pressure sensor, which leads to the blocking of refuelling . *(service function)*
		H2O limit simul. [9]	On: By pressing button 9, during a delivery, you can simulate a water flooding regardless of the min. flow and the time limit. The fuelling lock is also activated. *(Service function)*
		H2O alarm simul. [8]	On: You can use the key 8 k to simulate an overrun of the warning value during a delivery. *(Service function)*

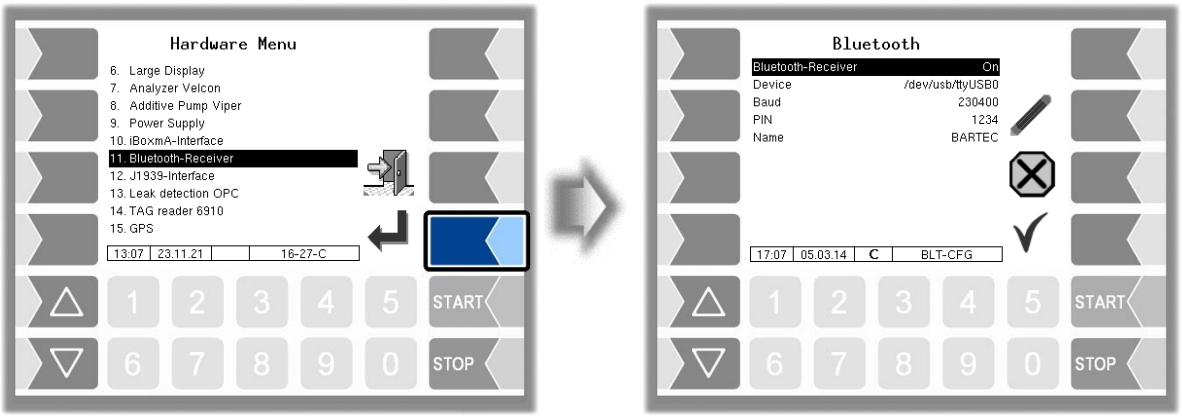
Diagnostics

The diagnostics function is used to check the statuses of the sensors and inputs (service function).



4.4.11 Bluetooth- Receiver

The Bluetooth interface is used to connect the 3003 service tool.

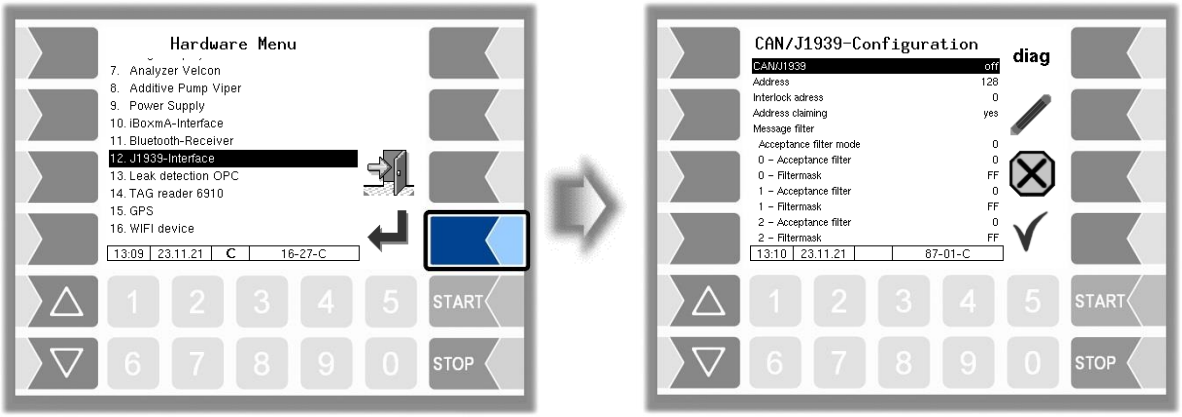


Bluetooth			
	S	Bluetooth-receiver	activate/deactivate the bluetooth-receiver
		Device	Interface designation (/dev/ttyUSB0)
		Baud	Baud Rate Selectione
		Pin	access code
		Name	Name of the application (e.g. Nº of the tank)

Die Bluetooth-Schnittstelle können Sie im Service-Menü aktivieren (s. Abschnitt 4.7.16).

4.4.12 J1939-Interface

The J1939-Interface is used for communication with the vehicle via CAN-Bus.
The several fields of this network protocol are described in detail in the “SAE J1939 Standard”.



J1939- Configuration		
	J1939 aktiv	activate / deactivate the J1939 interface
	Address	Address that is used for J1939-communikation Address range: 0…253 (Default: 128)
	Interlock adresse	The address of the bus participant (e. g. a SPS), the interlockbotschaften sends. 254: No interlock messages are evaluated by the System 3003.
	Address claiming	activate / deactivate Address Claiming Yes: The System will login to the bus with the configured name and will respond to Address Claiming Requests No: The System doesn`t login the bus and will not respond to Address Claiming Requests. The user must ensure that no address conflicts can occur. *(Default: Ja)*
	Message filter	
S	Acceptance filter mode	Choosing the number of filters and the filter range. 0: Use two 32-bit acceptance filters 1: Use four 16-bit acceptance filters 2: Use eight 8-bit acceptance filters 3: Filter closed, no more messages are received. *(Default: 0)*
	0…7 – Acceptance filter	What value must the CAN identifier have *(Default: 0)*
	0…7 – Filtermask	Which bits should be used by acceptance filter 0 for filtering? Bits with the value 1 are ignored. *(Default: 0xFF)*
	Priorities of transmit messages	
	Interlock 22-33	Every message sent via the CAN/J1939 bus has a priority. This priority determines which message has priority on the bus. You can configure the priority of the transmission messages here. 0 corresponds to the highest and 7 to the lowest priority.
	Interlock 34-45	
	Interlock 46-57	
	Interlock 60-62/70-76	
	Interlock 77-88	
	Interlock 89-98	
	Free Input 200-211	

		Free Input 212-223	*(Default: 6)*
		Free Input 224-235	
		Application Status	
		Firmware Version	Displays the firmware version J1939 interface
		Driver Version	Displays the driver version of the J1939 interface

Message filter

The message filter can be used to reduce the number of received messages if the number of messages on the CAN/J1939 bus is too large for the system. For example, with the filter, the only messages which are received are those with a specific source address.

Acceptance filter mode

The acceptance filter mode determines the CAN identifier bits which the filters are to act on. This also determines the number of possible filters.

Two 32-Bit-Acdeptance filter

Priority			R	DP	PDU Format								PDU Format		PDU Specific								Source Adress								RTR
28	27	26	25	24	23	22	21	20	19	18	SRR	IDE	17	16	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00	RTR

0 - Acceptance filter	1 - Acceptance filter	2 - Acceptance filter	3 - Acceptance filter
0 - Filtermask	1 - Filtermask	2 - Filtermask	3 - Filtermask

4 - Acceptance filter	Acceptance filter	6 - Acceptance filter	7 - Acceptance filter
4 - Filtermask	5 - Filtermask	6 - Filtermask	7 - Filtermask

Four 16-Bit- Acdeptance filter

Priority			R	DP	PDU Format								PDU Format		PDU Specific								Source Adress								RTR
28	27	26	25	24	23	22	21	20	19	18	SRR	IDE	17	16	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00	RTR

0 - Acceptance filter	1 - Acceptance filter
0 - Filtermask	1 - Filtermask

2 - Acceptance filter	3 - Acceptance filter
2 - Filtermask	3 - Filtermask

4 - Acceptance filter	5 - Acceptance filter
4 - Filtermask	5 - Filtermask

6 - Acceptance filter	7 - Acceptance filter
6 - Filtermask	7 - Filtermask

Eight 8-Bit- Acdeptance filter

Priority			R	DP	PDU Format								PDU Format		PDU Specific								Source Adress								RTR
28	27	26	25	24	23	22	21	20	19	18	SRR	IDE	17	16	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00	RTR

0 - Acceptance filter
0 - Filtermask
1 - Acceptance filter
1 - Filtermask
2 - Acceptance filter
2 - Filtermask
3 - Acceptance filter
3 - Filtermask
4 - Acceptance filter
4 - Filtermask
5 - Acceptance filter
5 - Filtermask
6 - Acceptance filter
6 - Filtermask
7 - Acceptance filter
7 - Filtermask

Example of source address filtering

32-Bit Acceptance filter																															
Priority			**R**	**DP**	**PDU Format**						**SRR**	**IDE**	**PDU Format**		**PDU Specific**								**Source Address**								**RTR**
28	27	26	25	24	23	22	21	20	19	18	SRR	IDE	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0	RTR
0/4 - Acceptance filter								1/5 - Acceptance filter							2/6 - Acceptance filter								3/7 - Acceptance filter								
0/4 - Filtermask								1/5 - Filtermask							2/6 - Filtermask								3/7 - Filtermask								

The source address is in position 0 – 7 on the CAN identifier. The 32-bit acceptance filter must therefore be used as the acceptance filter mode (acceptance filter mode = 0). Two message filters are therefore available which can be parameterised with the acceptance filters 2/3/6/7 and the filter masks 2/3/6/7. With the filter mask, the bits of interest are marked with 0 and the acceptance filter contains the expected bit values.

For example, if the only messages which are to be received are those from source addresses 5 and 133, then the acceptance filters and filter masks can be configured as follows.

Filter 1 für Source Adresse 5:
2 – Acceptance filter: 0x00 2 – Filtermask: 0xFE
3 – Acceptance filter: 0x0A 3 – Filtermask: 0x01

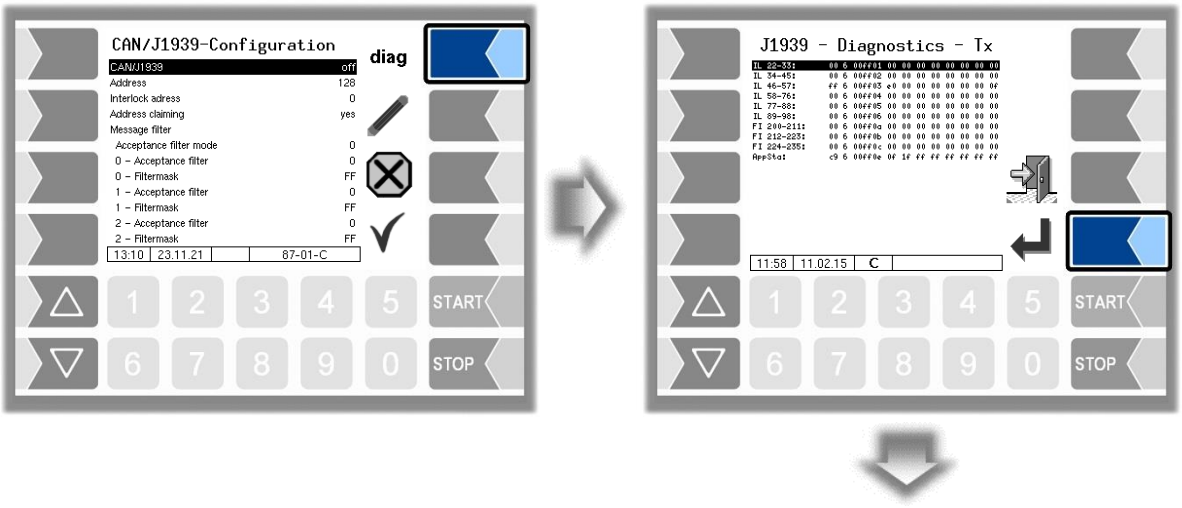
Beispiel: Source-Address-Filterung: Source Address = 5																													
Priority			R	DP	PDU Format						SRR	IDE	PDU Format		PDU Specific								Source Address							RTR
28	27	26	25	24	23	22	21	20	19	18	SRR	IDE	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0	RTR
x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	0	0	0	0	0	1	0	1	x
0 - Acceptance filter								1 - Acceptance filter								2 - Acceptance filter								3 - Acceptance filter							
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0
0x00								0x00								0x00								0x0A							
0 - Filtermask								1 - Filtermask								2 - Filtermask								3 - Filtermask							
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	1	
0xFF								0xFF								0xFE								0x01							

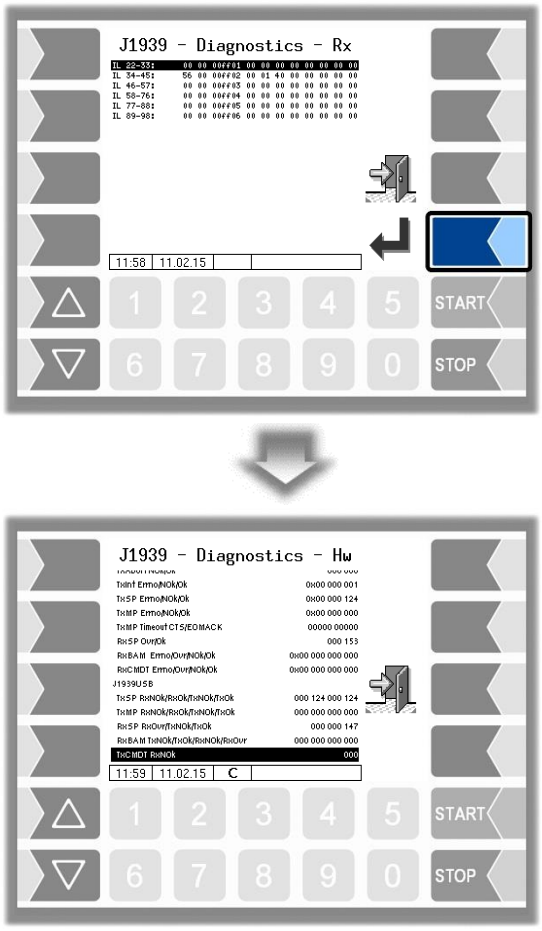
Filter 2 für Source Adresse 133:
6 – Acceptance filter: 0x01 6 – Filtermask: 0xFE
7 – Acceptance filter: 0x0A 7 – Filtermask: 0x01

Beispiel: Source-Address-Filterung: Source Address = 133																													
Priority			R	DP	PDU Format						SRR	IDE	PDU Format		PDU Specific								Source Address							RTR
28	27	26	25	24	23	22	21	20	19	18	SRR	IDE	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0	RTR
x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	1	0	0	0	0	1	0	1	x
4 - Acceptance filter								5 - Acceptance filter								6 - Acceptance filter								7 - Acceptance filter							
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	1	0	
0x00								0x00								0x01								0x0A							
4 - Filtermask								5 - Filtermask								6 - Filtermask								7 - Filtermask							
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	1	
0xFF								0xFF								0xFE								0x01							

Diagnostics

The diagnostics function is used to check the transmitted messages (Tx), the received messages (Rx) and the hardware of the J1939 interface (Hw) (service function).

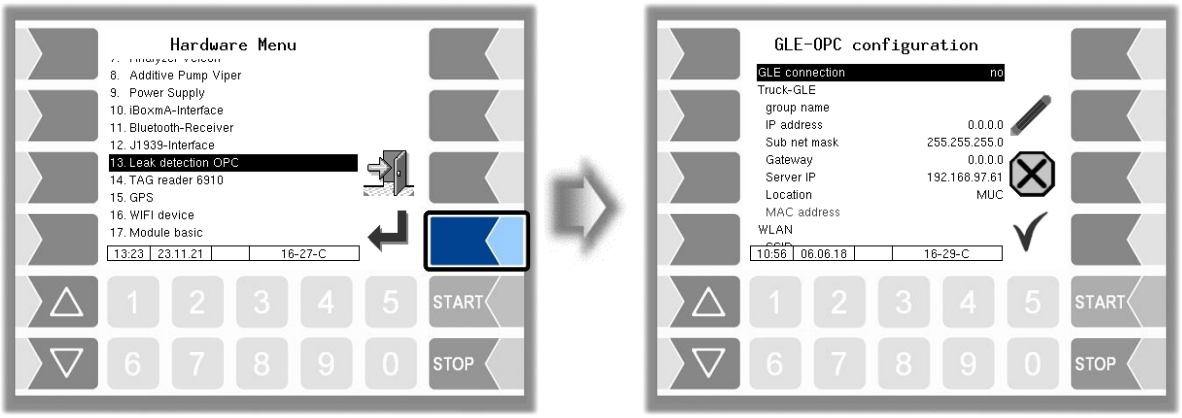



J1939 - Diagnostics - Rx
IL 22-33: 00 00 00ff01 00 00 00 00 00 00 00 00
IL 34-45: 56 00 00ff02 00 01 40 00 00 00 00 00
IL 46-57: 00 00 00ff03 00 00 00 00 00 00 00 00
IL 58-76: 00 00 00ff04 00 00 00 00 00 00 00 00
IL 77-88: 00 00 00ff05 00 00 00 00 00 00 00 00
IL 89-98: 00 00 00ff06 00 00 00 00 00 00 00 00
11:58 11.02.15
1 2 3 4 5 START
6 7 8 9 0 STOP
J1939 - Diagnostics - Hw
TxInf ErrNo/NOk/Ok 0x00 000 001
TxSP ErrNo/NOk/Ok 0x00 000 124
TxMP ErrNo/NOk/Ok 0x00 000 000
TxMP Timeout CTS/EOMACK 00000 00000
RxSP Ovr/Ok 000 153
RxBAM ErrNo/Ovr/NOk/Ok 0x00 000 000 000
RxCMDT ErrNo/Ovr/NOk/Ok 0x00 000 000 000
J1939USB
TxSP RxNOk/RxOk/TxNOk/TxOk 000 124 000 124
TxMP RxNOk/RxOk/TxNOk/TxOk 000 000 000 000
RxSP RxOvr/TxNOk/TxOk 000 000 147
RxBAM TxNOk/TxOk/RxNOk/RxOvr 000 000 000 000
TxCMDT RxNOk 000
11:59 11.02.15 C
1 2 3 4 5 START
6 7 8 9 0 STOP

4.4.13 Large leak detection

only version 1.15.X and from version 1.18.x.)

The dynamic large leakage detection is a special system used to detect leaks in the hydrant system of an airport. The connection of refueling vehicles to the GLE system is realized via a WLAN network. The data exchange between the refueling vehicles and the GLE system takes place via an OPC server (OPC DA Version 2.0).

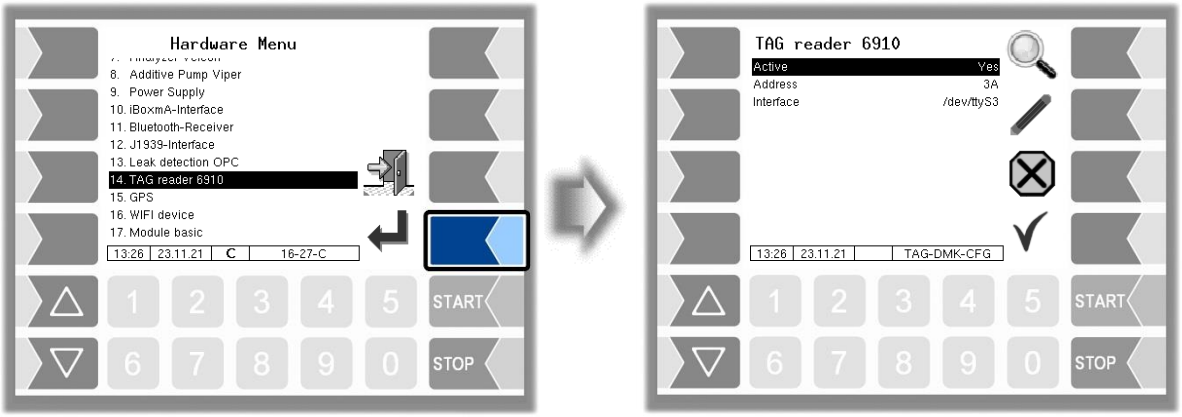


Info must be provided to airport IT

GLE-OPC Configuration		
	GLE-Connection	Yes: Enable GLE functionality *Default: No* If no connection to winPC will error message.
	Vehicle-GLE	
	Group name	Name used to identify the vehicle in the GLE / OPC server.
	IP-Adresse	The IP address of the control computer GLE. With this, the vehicle is represented in the WLAN network. *Default: 0.0.0.0*
	Subnet mask	Network mask of the control compute GLE *Default: 255.255.255.0*
	Gateway	IP-adress of the Gateways *Default: 0.0.0.0*
	Server IP	The IP address of the GLE / OPC server with which the control computer GLE or the vehicle is communicating. *Default: 192.168.97.61*
	Location	Choice of server location Bartec test: Bartec test server MUC: Produktive server in Munich *Default: MUC*
S	MAC-Adresse	The MAC address of the LAN interface with which the vehicle is represented in the WLAN network. This must be enabled on a network with a MAC address filter. *Nur lesebar.*
	WLAN	
	SSID	Network name of the WLAN network
	Encryption	The encryption method used in communication. (None, WEP, WPA, WPA2 or WPA / WPA2) *Default: None*
	WPA Mode	Display depends on the selected encryption method. Key transmission protocol used (Auto, TKIP, AES). When set to Auto, the AES protocol is preferred if supported by the access point. *Default: Auto*
	PSK	Display depends on the selected encryption method.

			Depending on the configured encryption, the WPA or WEP key is entered here.
		WEPIndex	Display depends on the selected encryption method. Specification of the key index used. *Default: WEP-Key 1*
		WEP Auth	Display depends on the selected encryption method. Selection between "Open" and "Shared Key" authentication. *Default: Open*

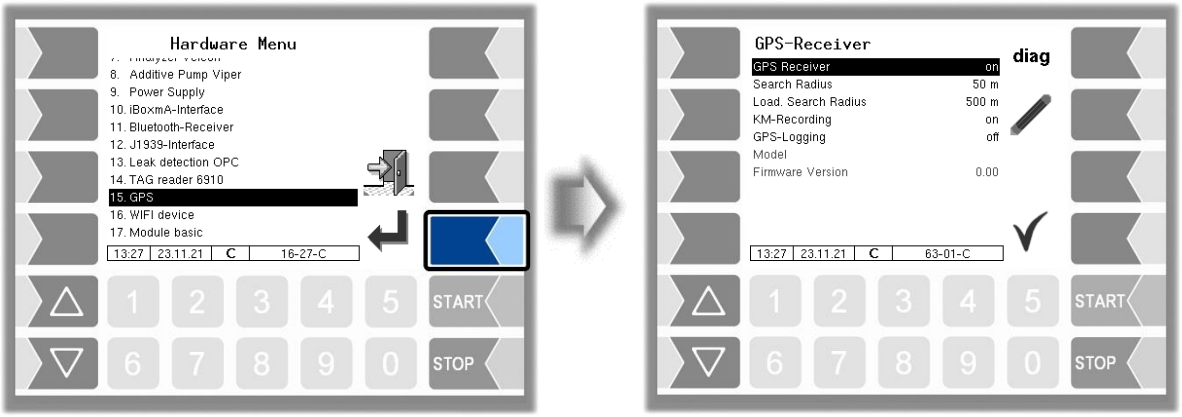
4.4.14 TAG reader 6910



TAG-Leser 6910			
	S	Aktive	Activating or deactivating the reader
		Adress	RS485 bus address of the TAG reader which is connected *(Default: 3 A)*
		Interface	Interface to which the TAG readers is connected. *(Default: /dev/ttyS3)*

Diagnosis
When the TAG reader is switched on, you can read out the TAG ID of a TAG with the softkey . Exit the diagnosis with the softkey .

4.4.15 GPS

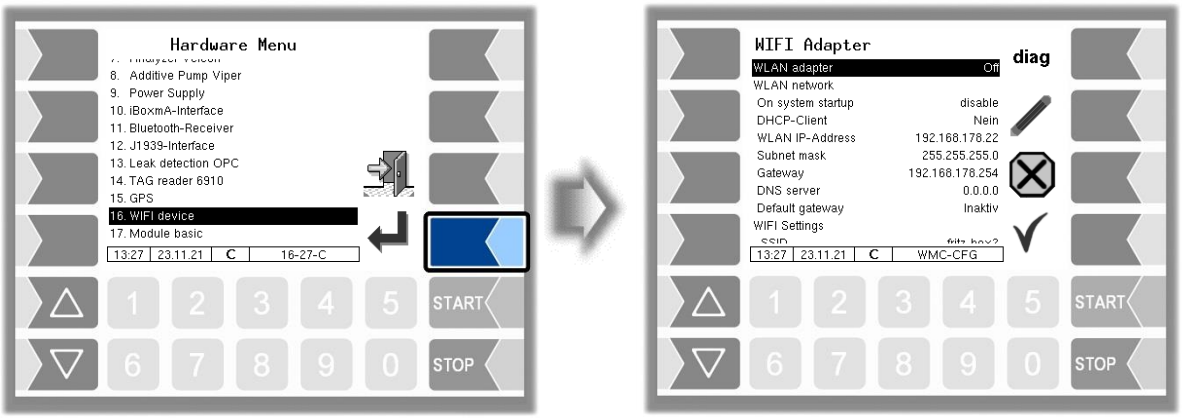


GPS			
	U	GPS Receiver	Activate/deactivate the GPS receiver
		Search Radius	*-without function-*
		Load Search Radius	*-without function-*
		KM-Recording	*-without function-*

		GPS-Logging	When getting GPS data, this will be recorded in EMF log for diagnostic purposes.	*Activate only after consultation with BARTEC service!*
		Model	Model version	
		Firmware Version	Firmware version	

Diagnosis
When the GPS receiver is switched on, the "diag" softkey is available. You can use this to check the GPS connection.

4.4.16 WLAN-Adapter



WIFI Adapter			
		WLAN-adapter	Switching the WLAN adapter on or off. As soon as the WLAN adapter is activated, the IP routing is extended according to the configured IP address and the network mask. For example, if, the IP address 192.168.170.12 and the subnet mask 255.255.255.0 are configured, all requests to the IP addresses 192.168.170.x are sent via the WLAN interface. All requests outside this IP address range go through the default gateway (usually the modem interface). See also the parameters DHCP client and default gateway. The WLAN signal is automatically activated when the adapter is switched on and is correspondingly deactivated when it is switched off. *(Default: Off)*
		WLAN netzwork	
	U	On system startup	WLAN functionality when starting System 3003. Active: The WLAN is activated when the system starts and automatically connects to the network configured below. Inactive: The WLAN is not active when the system starts. In this case, the WLAN function is controlled via the application or can be activated manually by the operator. *(Default: Inactive)*
		DHCP-Client	Switching the DHCP client on and off. ON: The network parameters, such as the IP address and gateway etc. are automatically obtained from the access point. Off: You must enter the network parameters manually. *(Default: Off)*
		WLAN IP-Adresse	The IPv4 address of System 3003 on the WLAN network. (Hidden when DHCP client is active) *(Default: 0.0.0.0)*

Subnet maske	The IPv4 network mask of System 3003 on the WLAN network. (Hidden when DHCP client is active) *(Default: 255.255.255.0)*
Gateway	The IPv4 address of the gateway on the WLAN network. (Hidden when DHCP client is active) *(Default: 0.0.0.0)*
DNS-server	The IPv4 address of a DNS server. (Hidden when DHCP client is active) *(Default: 0.0.0.0)*
Default-gateway	Sets up the WLAN adapter as the default gateway. Active: All network traffic from the vehicle, including the destination addresses, is routed via the WLAN interface outside the configured subnet. It is therefore possible to connect System 3003 to the public Internet via WLAN if the access point permits it, for example. Inactive: Access to network addresses is restricted in the configured subnet. *(Default: Inactive)*
WIFI Settings	
SSID	The network name of the WLAN network to which the vehicle should be connected. *(Default: BBLAN)*
WLAN Key	Key for WPA. Can be 8-63 characters long.
Frequenzy	Frequency band of the access point: 2.4 GHz + 5 GHz 2.4 GHz. 5 GHz. *(Default: 2.4 GHz + 5 GHz)*
Country	Country in which the WLAN adapter is used Germany Switzerland *(Default: Germany)*
Encryption	The encryption method of the access point WPA/WPA2/WPA3 None WPA WPA2 WPA3 *(Default: WPA/WPA2/WPA3)*
Keying-Protocol	WPA keying protocol Auto TKIP CCMP *(Default: Auto)*
Status-Interval	The WLAN adapter sends its status to System 3003 at this interval [s]. *(Default: 5 s)*
Serial Number	Serial number of the WLAN adapter
Firmware	Firmware version

Default gateway
It is not possible to use WLAN and a modem as the default gateway to the Internet simultaneously because there can only ever be one default gateway. The modem always has priority for service reasons, which is why the WLAN default route is automatically deactivated when the connection is established. Access to the local subnet on the WLAN is still available in this case.

Diagnosis

The values displayed in the diagnostics menu contain parameters from different sources of the adapter and because of this, they are updated, displayed or hidden at different times. The source of some parameters appears in square brackets next to it:

- [w]: WLAN information about the current connection
- [s]: Status information on the WLAN adapter
- [c]: Configuration parameters of the WLAN adapter

Parameter		Description
Adapter State		Status of the WLAN adapter DEACTIVATED: Adapter is not activated Responding: Adapter is fully functional, WLAN signal is active Responding (wireless off): Adapter is fully functional, WLAN signal is not active WL stat error: WLAN information is not transmitted Status error: Adapter status is not available No response: No connection to adapter (ping fails) Reconfigure [SS]: The adapter is in the process of being reconfigured and should be ready for use again in [ss] seconds
Wireless		
Enabled	[c]	WLAN function true: WLAN signal active false: WLAN signal not active
Uptime	[s]	Duration since the WLAN adapter was switched on in weeks (W), days (D) and hours (H)
Connection		
Connected	[w]	WLAN connection status 0: Not connected 1: Connected
Duration	[s]	Connection duration in seconds
SSID	[s]	Name of WLAN network connected, blank if not connected
WLAN IP	[w]	Current IP address of the WLAN adapter
AP MAC	[w]	MAC address of the access point connected
Client Mask	[s]	Currently active subnet mask of the WLAN adapter
Client GW	[s]	Currently active gateway of the WLAN adapter
Client DNS	[s]	Currently used DNS server (may differ from config., depending on DHCP configuration)
Subnet Mask	[c]	Internal adapter configuration value for the subnet mask (may differ from client mask, depending on the DHCP configuration)
Gateway	[c]	Internal adapter configuration value for the gateway (may differ from client GW, depending on the DHCP configuration)
BSSID	[s]	BSSID (unique identifier) of the access point connected. Should be identical to the AP MAC.
SNR	[w]	SNR value (signal strength) in dBm for the connected access point
Channel	[w]	Currently used channel in which the WLAN adapter is located
Frequency	[s]	Frequency in MHz of the network connected
RSSI	[s]	Reception strength (Received Signal Strength Indicator). A higher value means better reception.
Noise	[s]	Noise level in dBm
TxRate	[s]	Send bit rate
Adapter Data		
Serial Number		Serial number of the WLAN adapter
Device Name	[w]	Host name of the WLAN adapter
MAC	[w]	MAC address of the WLAN adapter

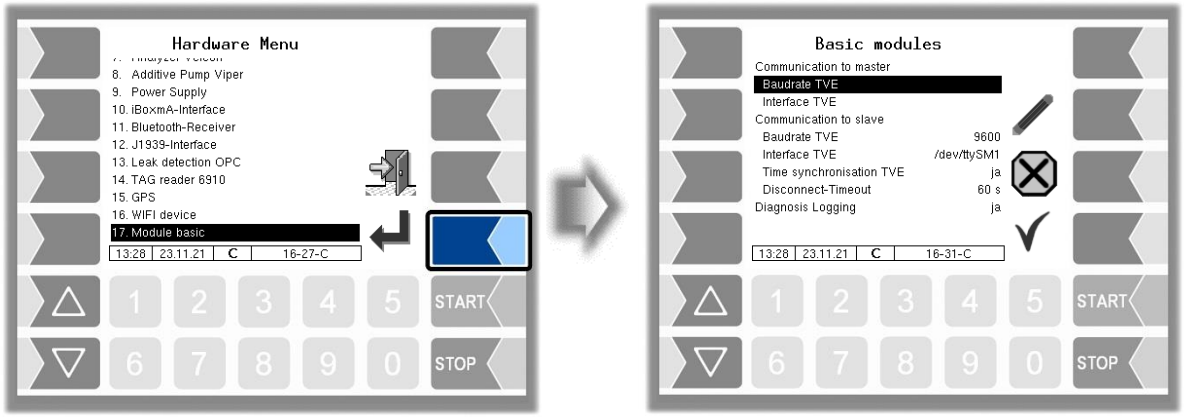
Firware	[w]	Firmware version
DHCP	[c]	Internal adapter configuration value for the DHCP client
CountryCode	[c]	Internal adapter configuration value for the country code 276 Germany 758 Switzerland
PhyMode	[c]	Internal adapter configuration value for the frequency band 1 2.4 GHz + 5 GHz 2 2.4 GHz. 3 5 GHz.
EncMode	[c]	Internal adapter configuration value for the encryption method 1 None 2 WPA 3 WPA2 4 WPA3 8 WPA/WPA2/WPA3
WPAMode	[c]	Internal adapter configuration value for the keying protocol 3 Auto 4 TKIP 5 CCMP
WInfo	[c]	Server for WLAN connection information active (should always be true)
WInfo IP	[c]	IP address to which the server should send the connection information (should always be 192.168.55.3)
WInfo Port	[c]	Port to which the server sends the connection information
Local Route		
Active		Route on the vehicle in the local WLAN network active yes/no
Destination		Destination address of the route
Gateway		Gateway of the route
Subnet Mask		Subnet mask of the route
Interface		Destination interface of the route
Default Route		
Active		Default route for WLAN active yes/no
Destination		Destination address of the default route
Gateway		Gateway of the default route
Subnet Mask		Subnet mask of the default route
Interface		Destination interface of the default route

Scan function
You can start an access point search using the "scan" button on the diagnostics menu. Then a dialog box appears with all the received WLAN networks in the area.

Parameter	Description
SSID / BSSID	The name (SSID) of the network and below it its unique BSSID.
SNR	The signal strength of the network
FRQ	The frequency in GHz which the network is using

Deactivating or activating the WLAN function
You can activate or deactivate the WLAN signal of the adapter using the "on/off" button on the diagnostics menu. In each case, the state is switched from one state to the other

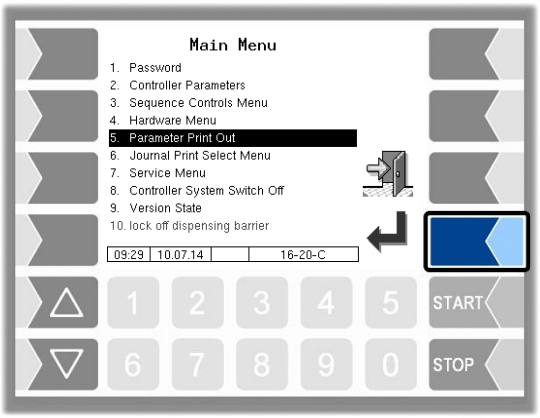
4.4.17 Module basic



Basic modules			
		Communication to master	
		Baudrate TVE	Selecting the baud rate for the interface to the master *(Default: Base module master: 0)* *(Default: Base module slave: 9600)*
		Interface TVE	Choosing the interface for the master *(Default: Base module master: none)* *(Default: Base module slave: /dev/ttySM1)*
		Communication to Slave	
	S	Baudrate TVE	Baud rate for the interface for the slave. *(Default: Base module master: 9600)* *(Default: Base module slave: 0)*
		Schnittstelle TVE	Choosing the interface for the master *(Default: Base module master: /dev/ttySM1)* *(Default: Base module slave: 0)*
		Time synchronisation TVE	Switching the time synchronisation on/off between the base module master and the base module slave. The synchronisation takes place while the system starts up. *(Default: Yes)*
		Disconnect-Timeout	After this time, an interruption is detected in the connection to the slave base module. *(Default: 60 s)*
		Diagnosis-Logging	Switching the log entries on/off for diagnostic purposes. *(Default: no)*

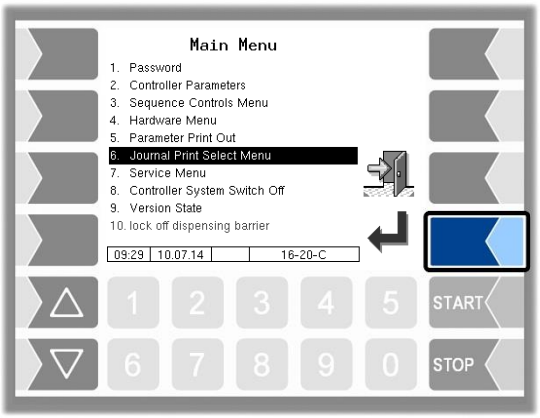
4.5 Parameter Print Out

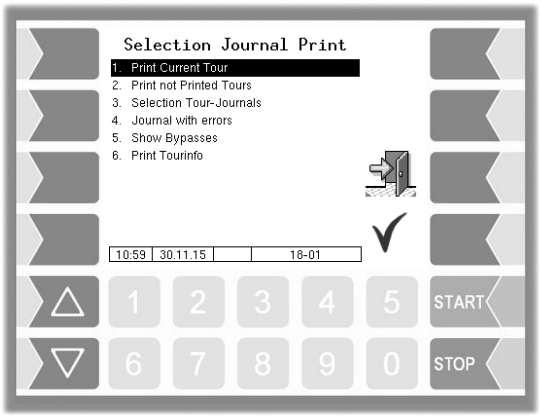
- Select the “Parameter Print Out” menu from the main menu.
  The current parameter settings are output on the printer.



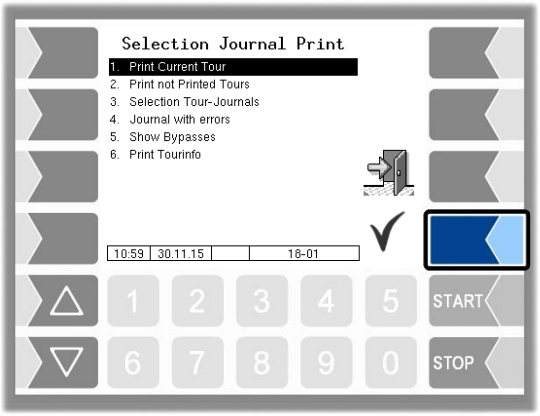
4.6 Journal Print Select Menu

The journal print function allows you to print out the stored tour data.
Further selections are possible in the journal print submenu.



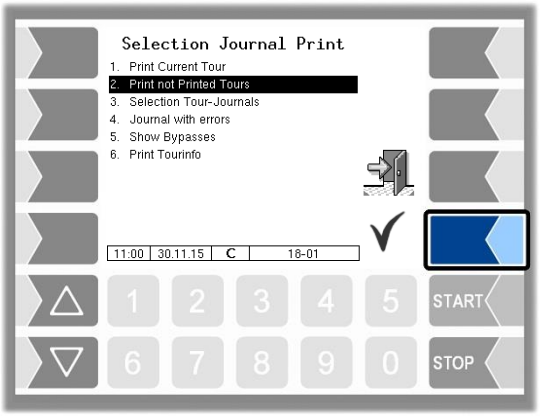


4.6.1 Print Current Tour



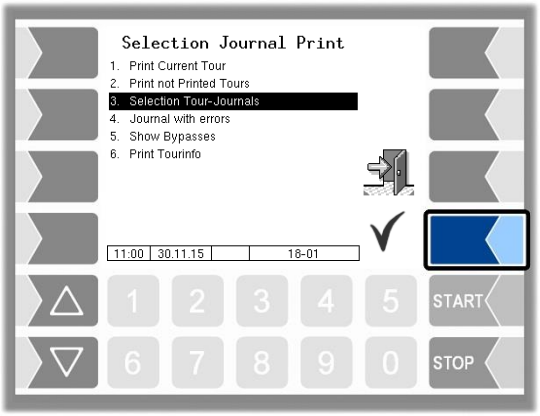
The data for the current (last) tour is printed.

4.6.2 Print not printed tours



The data for all stored tours that have not yet been printed is printed.

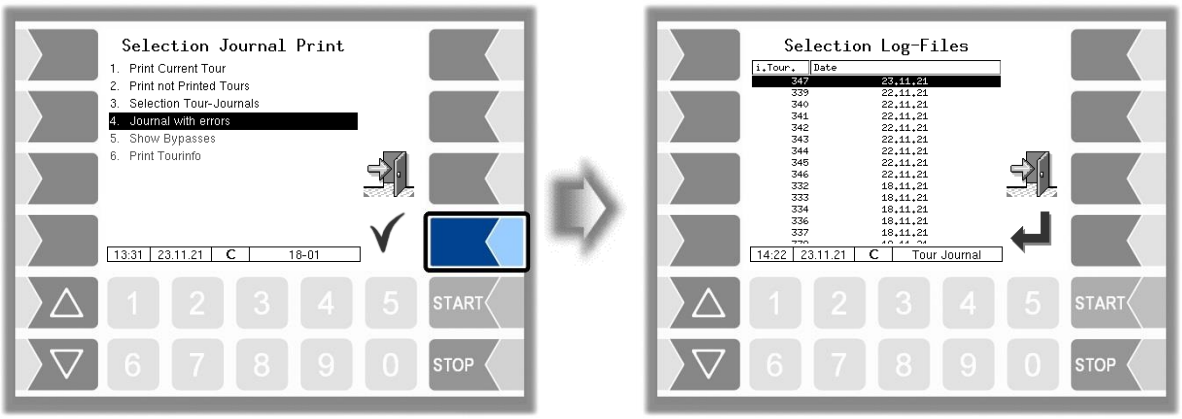
4.6.3 Selection Tour Journals



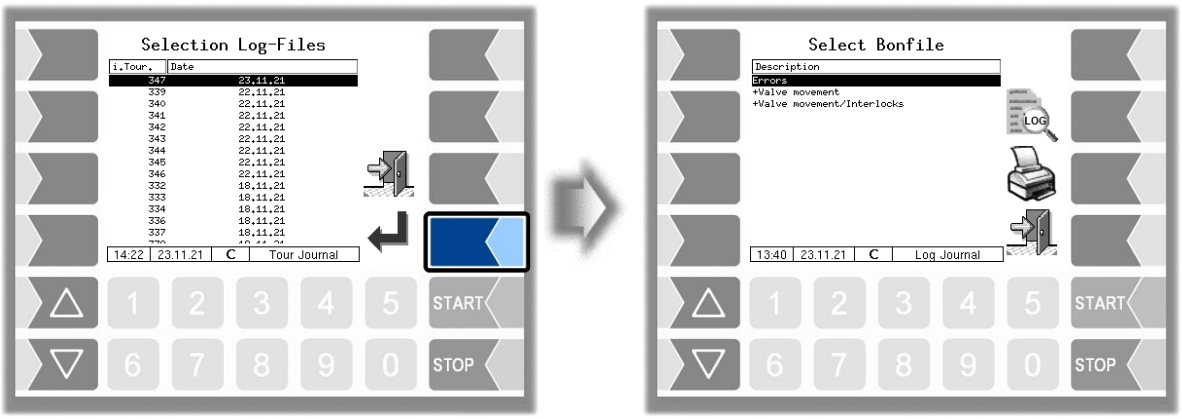
If you opt for manual selection, you can use the date and the tour start time to select the tour for which you want to print data.

4.6.4 Journal with errors

In this menu you can select from the stored log journals. The log-journals also contain all recorded errors. The number of days for which data is stored depends on the parameter **Fehler! Verweisquelle konnte nicht gefunden werden.** in the **Fehler! Verweisquelle konnte nicht gefunden werden.** menu, (Default setting: 20 days).



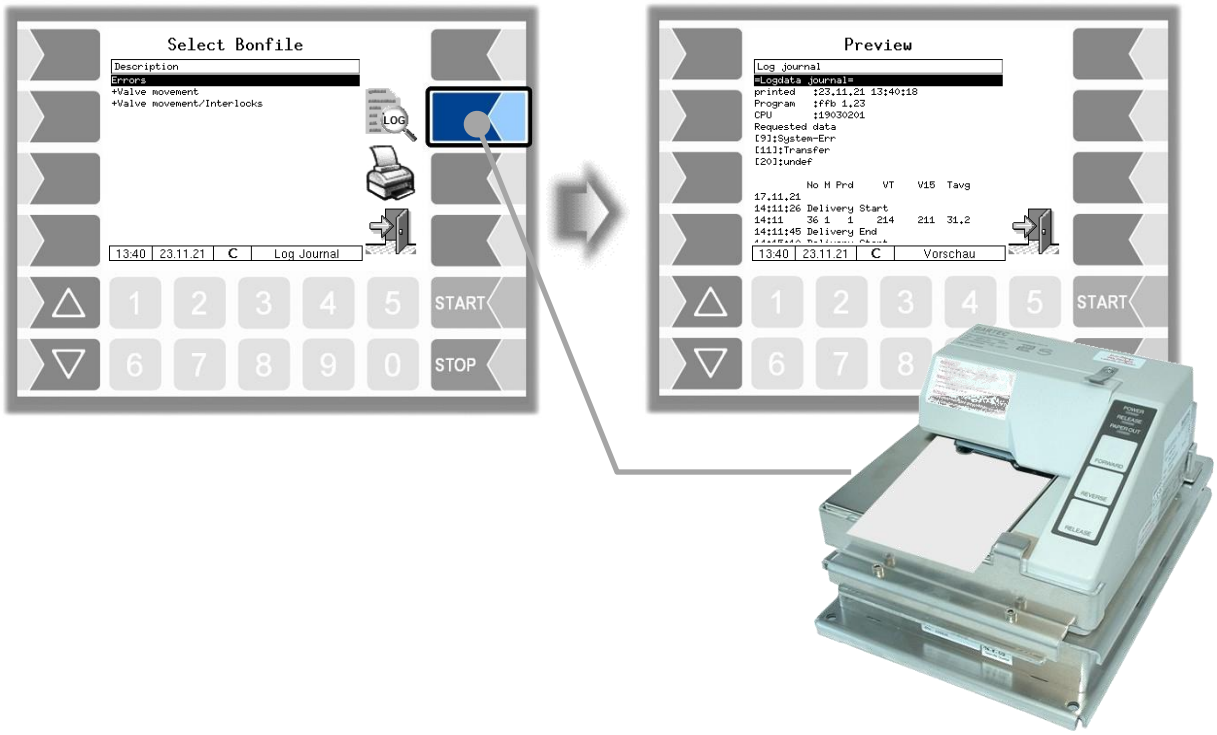
- First select the tour from which a log journal shall be displayed or printed



- Then select the contents of the log journal based on the bonfile.

Druckvorlage	***Inhalt***
Errors	Log journal with recorded errors
+ Valve movements	Log journal with recorded errors + Valve movements
+ Valve movements + Interlocks	Log journal with recorded errors + valve movements + Interlocks

- By touching the "Print Preview" softkey you can view the selected log data on the display. Use the arrow keys to scroll the screen.
- By pressing the "Print" Softkey is the log journal printed on the configured printer.



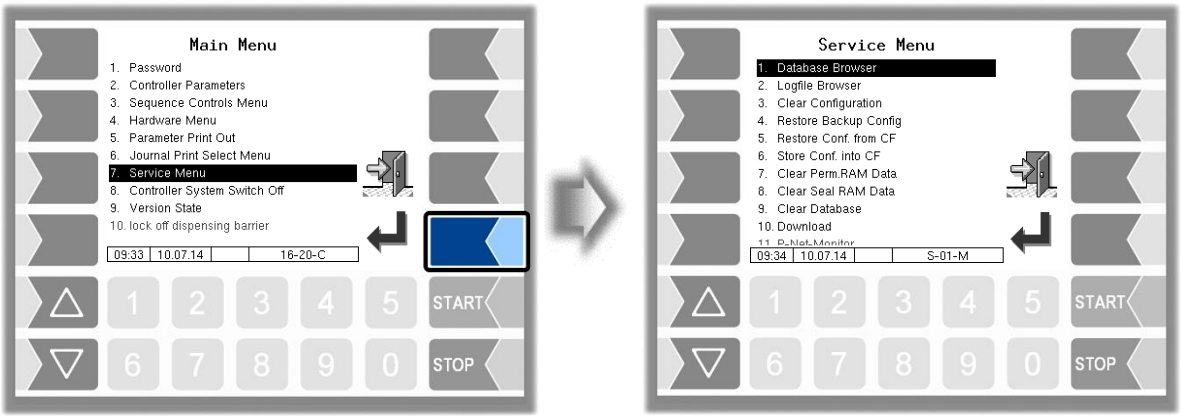
4.6.5 Show Bypasses

The menu is not available in FFB.

4.6.6 Print Tourinfo

The menu is not available in FFB.

4.7 Service Menu



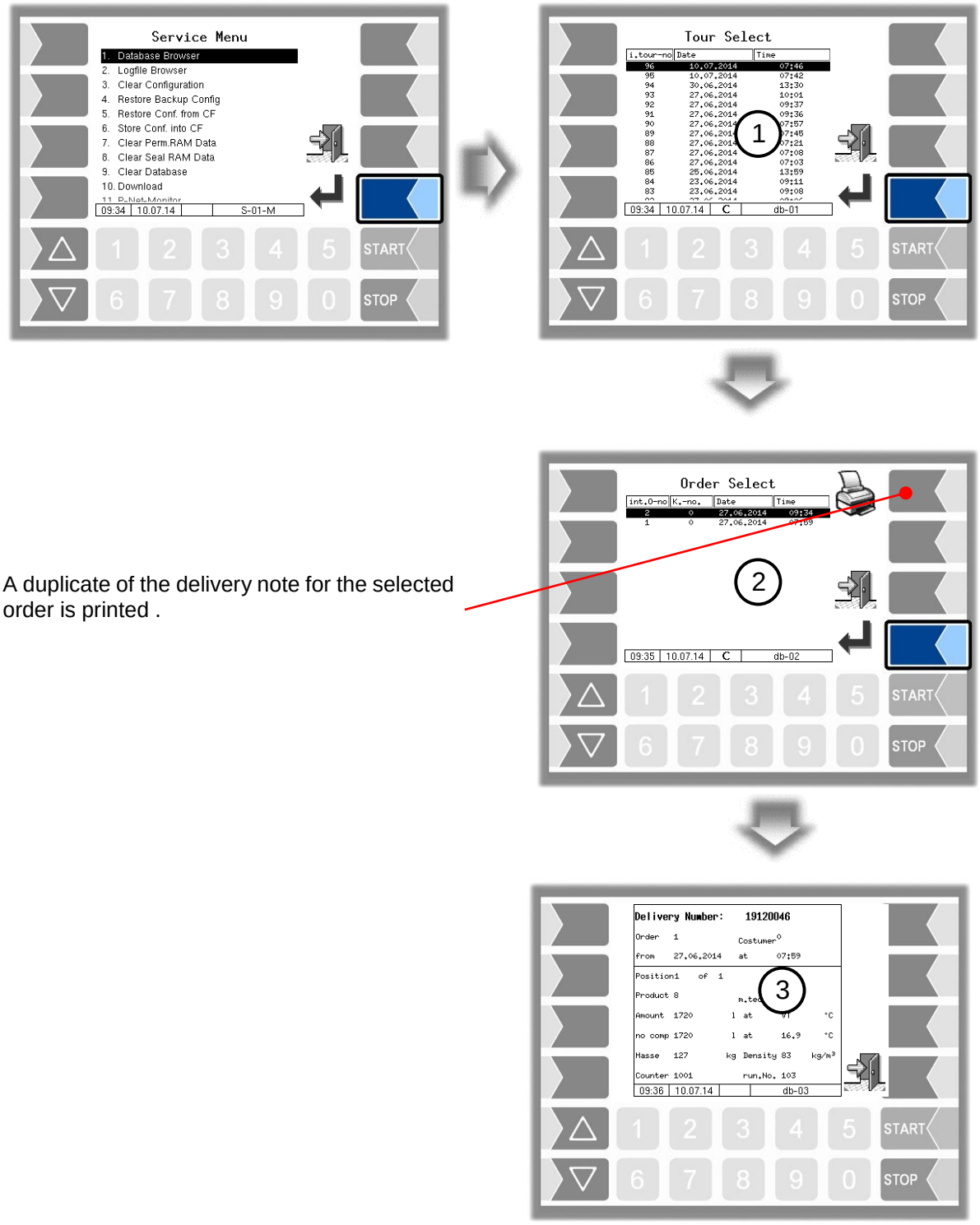
4.7.1 Database Browser

The database browser allows you to view stored tour data.

1
- When you open the database browser, the “Tour Select” window is displayed.
  All tours that have already been stored are listed here. The “i tour-no.” is the internal tour number within the software. It is not identical to the tour number that is displayed for the driver.

2
- In the „Tour Select“ window, use the selection keys ▽ and △ to select a tour.
  The “Order Select” window is displayed.
  This window contains a list of orders belonging to the selected tour.
  The softkey with the printer symbol prints a copy of the delivery note for the selected order.

3
- Select an order belonging to this tour in the “Order Select” window.
  The system displays an overview of the items of the selected order and the associated content.



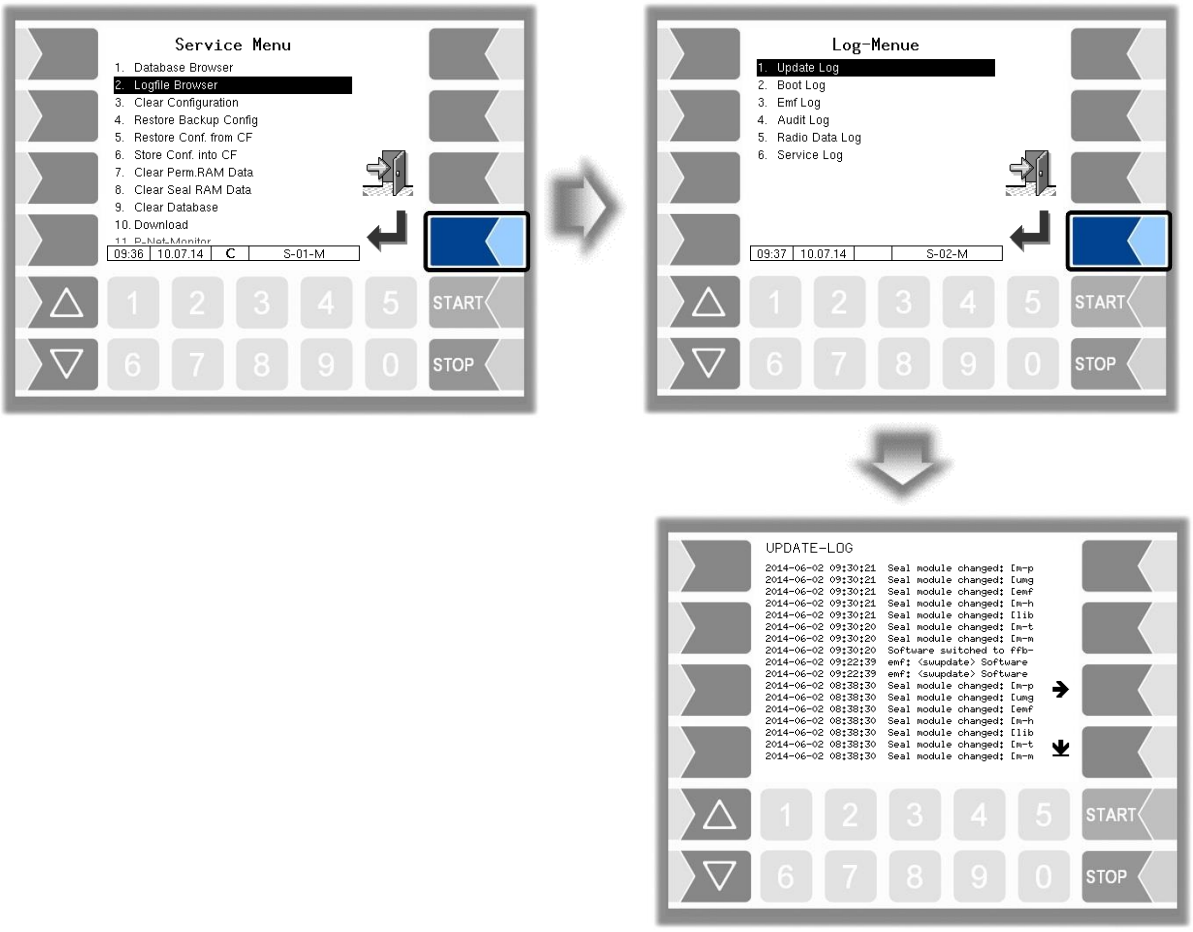
A duplicate of the delivery note for the selected order is printed .

You can scroll through the individual items using the ▽ and △ keys.

4.7.2 Logfile Browser

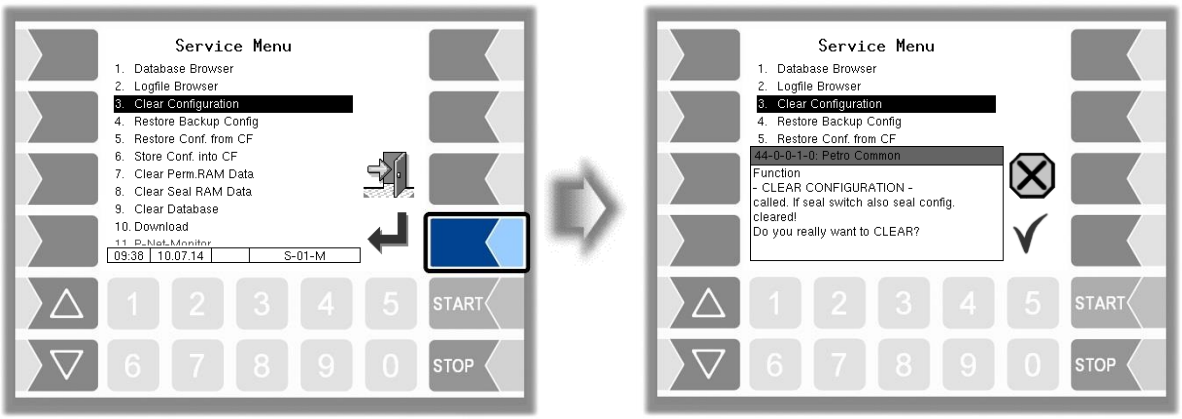
The logfile browser allows you to view all saved log entries. The information about the various operations is displayed in text format and can be read directly on the screen

Update Log:	Log entries about updates and update attempts
Boot Log:	Boot messages, boot scripts
Emf Log:	Log output from the various applications
Audit Log:	Log entries about all parameter changes
Radio Data	Log:Log-entries about radio data
Service Log:	Log entries for analysis by service personnel



Within the log window, you can move the displayed content to the left, right, up or down using the arrow softkeys.
You close the log window with the STOP key.

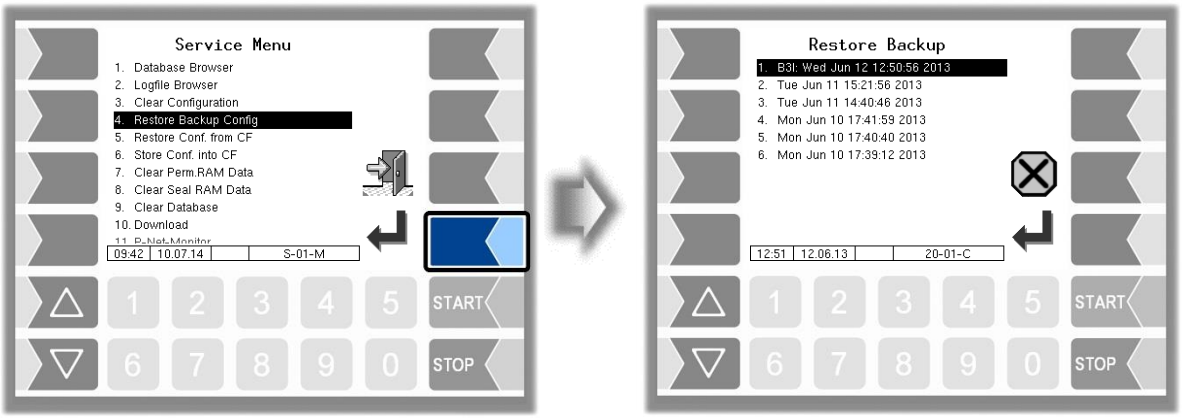
4.7.3 Delete Configuration



When you confirm the prompt, all parameter settings not subject to statutory calibration are cleared.

Attention:
When the seal switch is opened will also the parameter settings subject to statutory be cleared!

4.7.4 Restore Backup Config

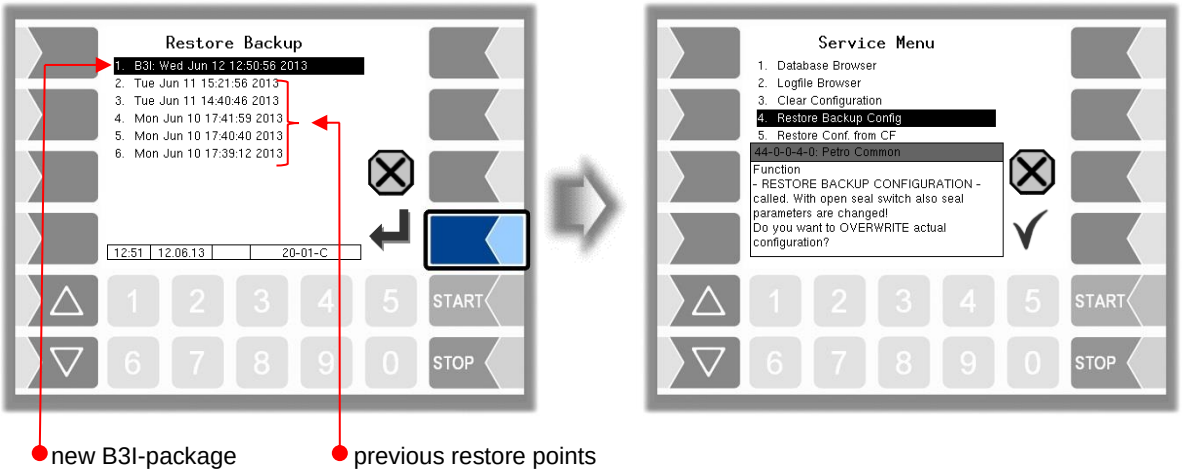


The system can store up to 5 restore points, which can be accessed again in this menu.

The external PC software "3003 Servicetool" generates a compressed file format that is supplied as "B3I package".

When loading a B3i package or before importing data of an existing restore point new restore points are created

Access to the configuration file can be done via GPRS online or via a network cable

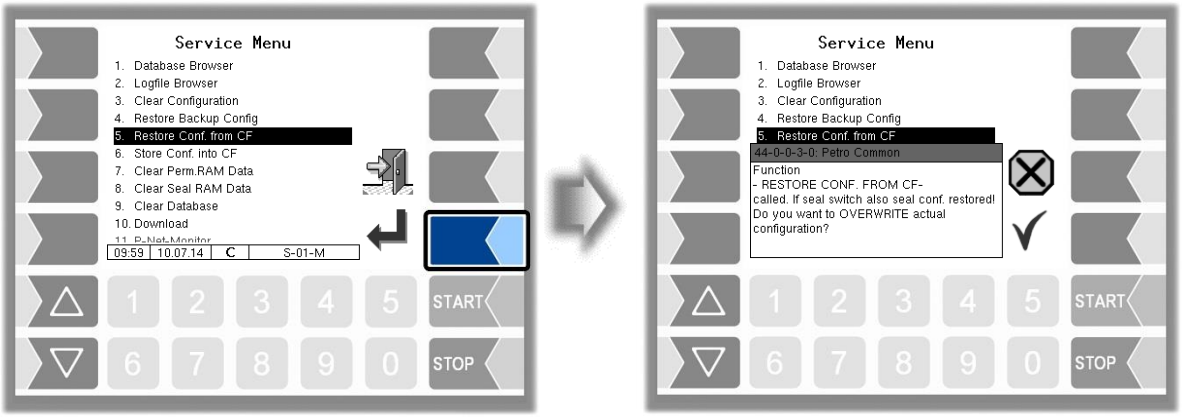


After confirming the B3I package it is downloaded and activated. You can then select a restore point and restore the configuration state for that time..

Important:
If the calibration switch is open, the parameters requiring calibration will also be overwritten at the same time!

There is a separate manual for the 3003-Servicetool.

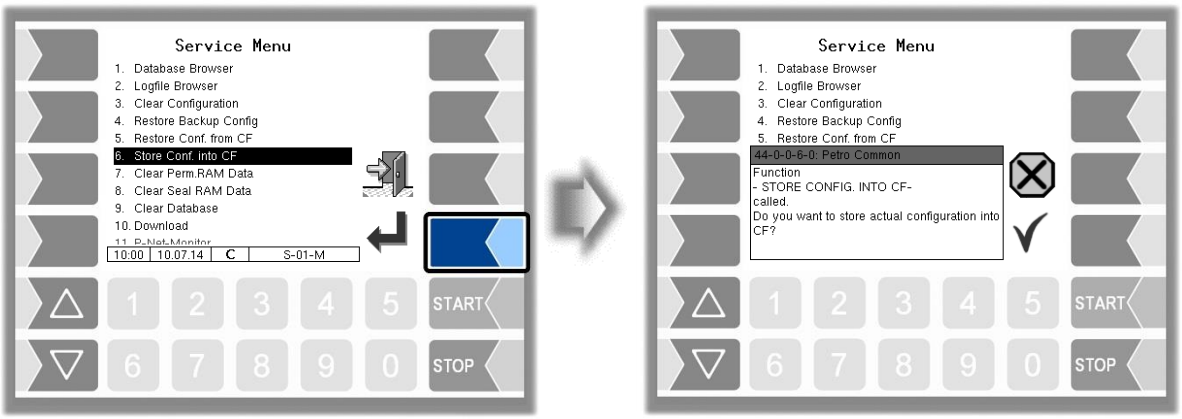
4.7.5 Restore Configuration from CF



When you confirm the prompt, the configuration of parameters saved at the CF-card (see section 4.7.6) is loaded. The existing parameter settings are overwritten.

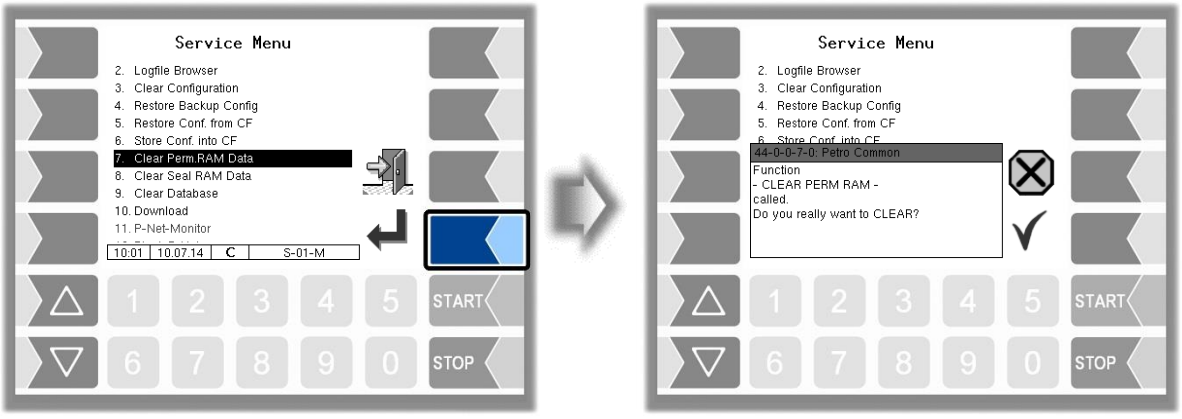
Attention:
When the seal switch is opened will also the parameter settings subject to statutory be overwritten!

4.7.6 Store Configuration into CF



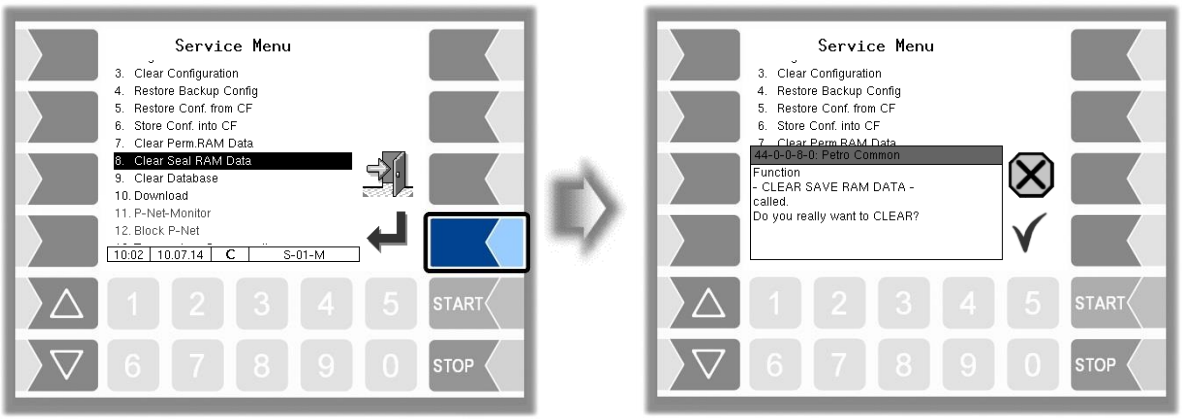
When you confirm the prompt, the existing configuration of parameters will be saved to the CF-card. The saved configuration can be reloaded later (see section 4.7.5). This way you can e.g. easily set an identically configuration to several vehicles.

4.7.7 Delete Permanent RAM data



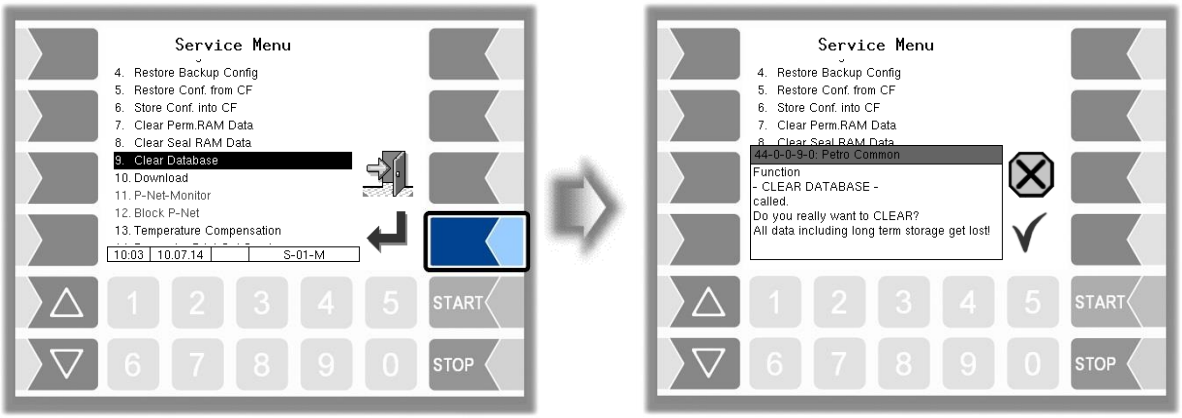
Attention:
When you confirm the prompt, the contents of the RAM are cleared (data for the last delivery).

4.7.8 Delete Seal RAM Data



Attention:
When you confirm the prompt, the contents of the RAM that are subject to statutory calibration (e.g. totalizer counts) are cleared).
Only possible with open seal switch!

4.7.9 Delete Database

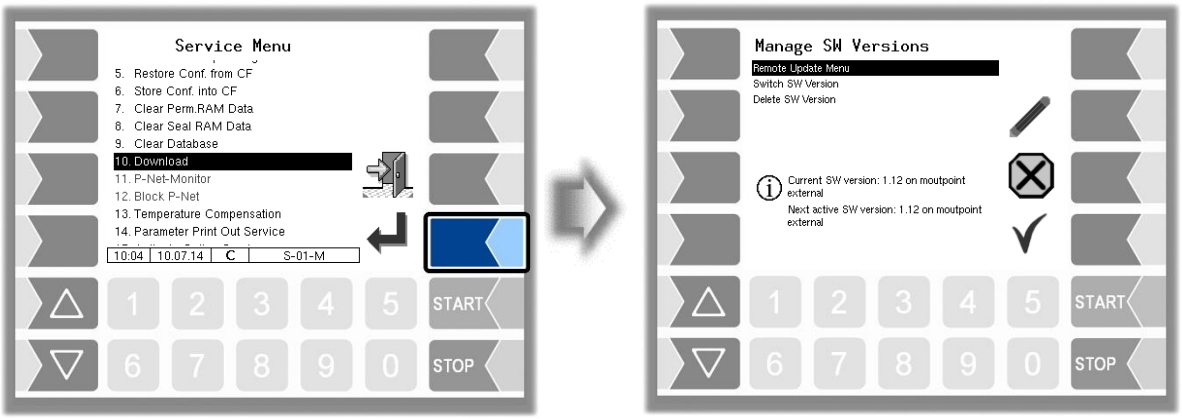


Attention:
When you confirm the prompt, all data (order data, scheduled data) is cleared from the database.
Only possible with open seal switch!

4.7.10 Download

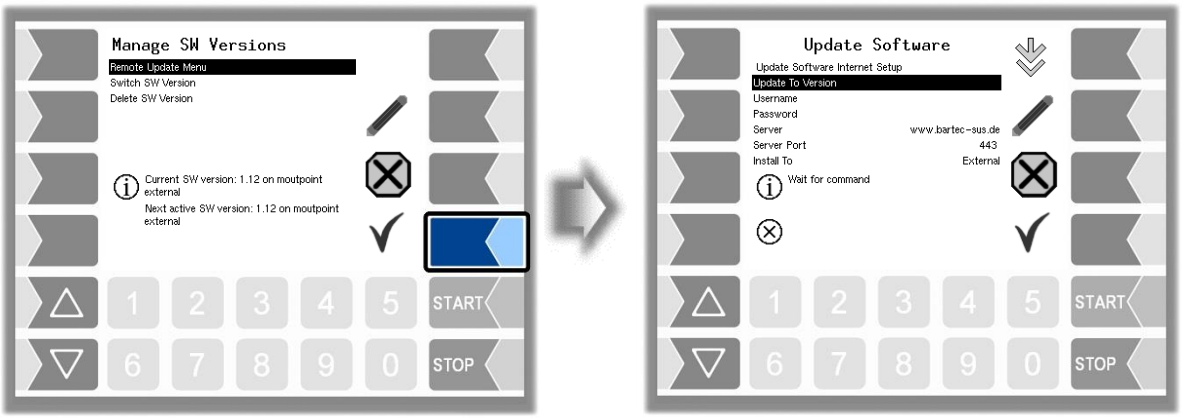
This menu is available for software updates.

If software modules for which calibration is obligatory change as a result of the update, a message appears on the event display each time after the system is restarted if the version numbers of these modules have not been updated.
You can exit the version check with the calibration switch open in order to update the version numbers of the software modules.



4.7.10.1 Remote Update Menu

This menu option allows you to download a new program version of the controller software from the BARTEC BENKE server via a GPRS connection.



Update to Version

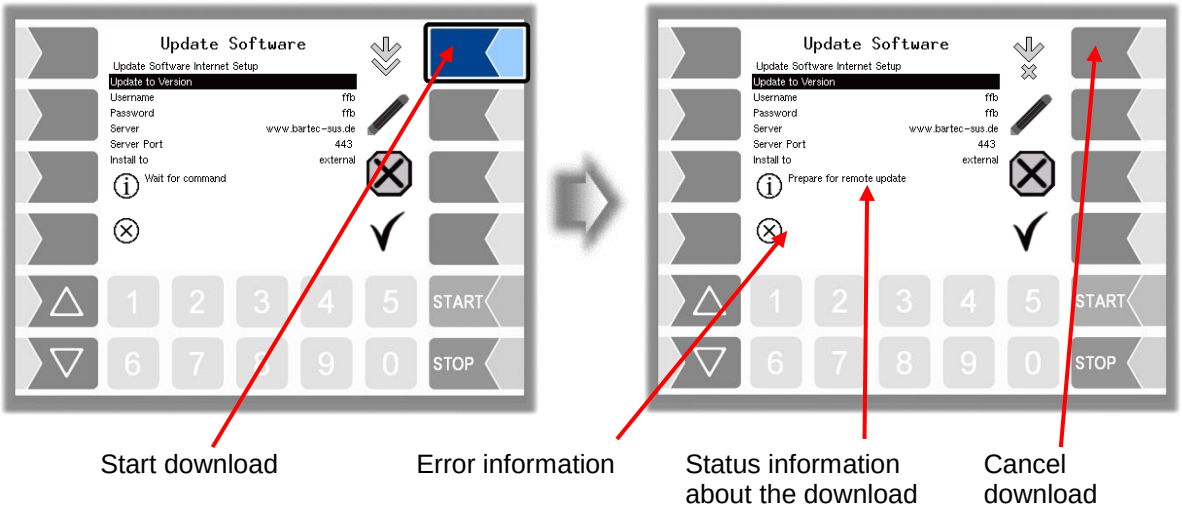
Here you can enter the number of the software version to be downloaded. Without an entry the latest version that is found at the server will be downloaded

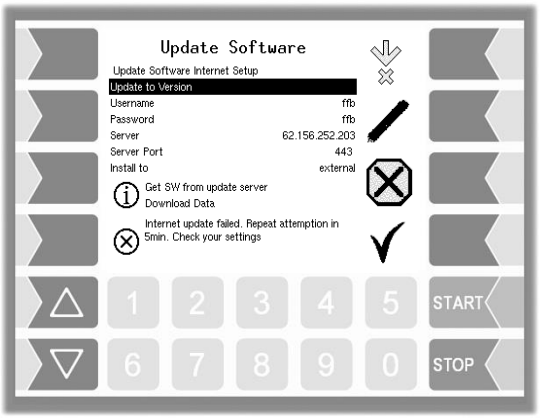
Username and Password

The user name and password for the download are assigned by BARTEC BENKE and must be entered manually.

SSL encryption

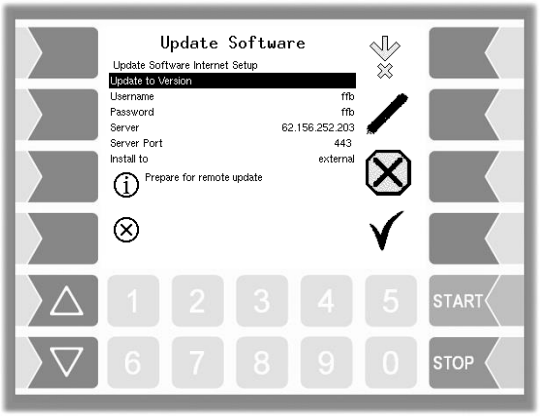
If the SSLv3/TLSv1 option is available, please select TLSv1.
If you have any questions in this regard, please contact BARTEC BENKE Service.



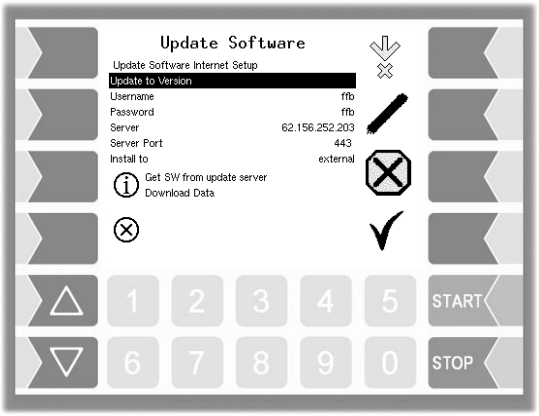


If the download is interrupted, for instance because the connection to the server is interrupted, it is automatically restarted after 5 minutes and resumed at the point at which it was interrupted.

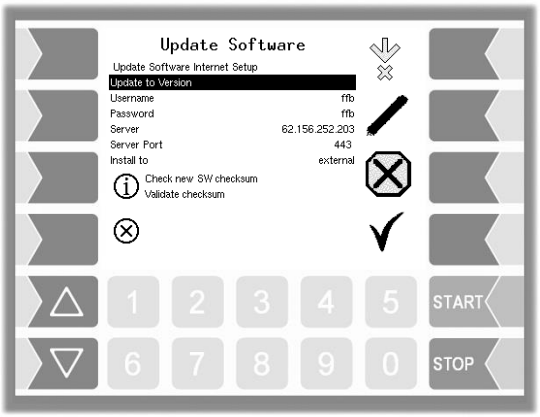
If the download is interrupted manually, the data that was already downloaded is deleted. The download must be restarted if necessary.



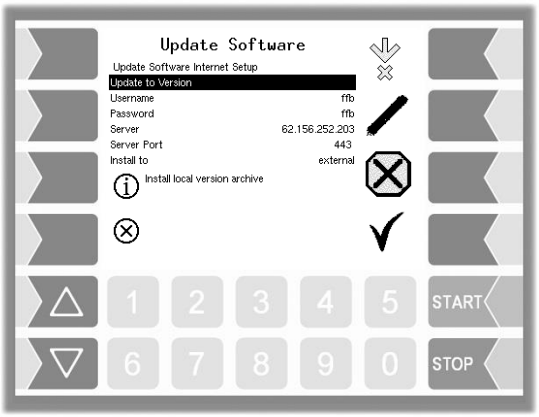
Connection to Server is established



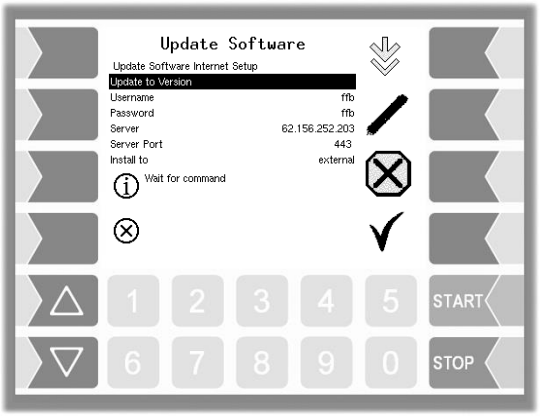
Data is downloaded



Compressed data downloaded successfully.
Checksums Server-Client compared..



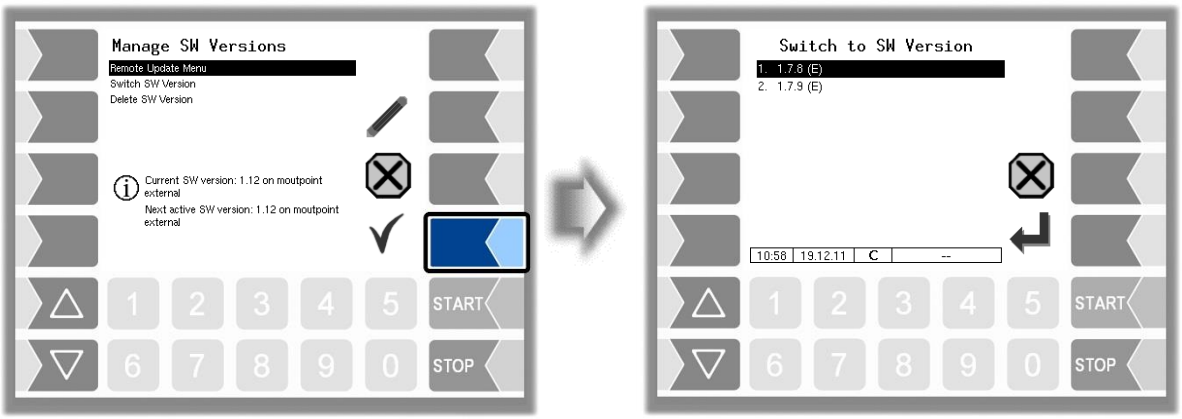
Unzipping files.



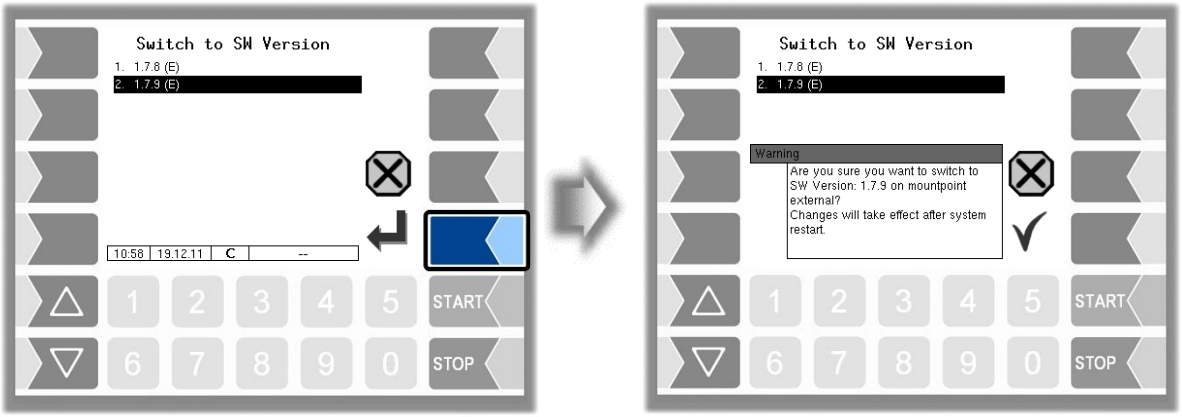
Files unzipped successfully and download complete..

4.7.10.2 Switch Software Version

After downloading a new software version, you can switch to the new version.



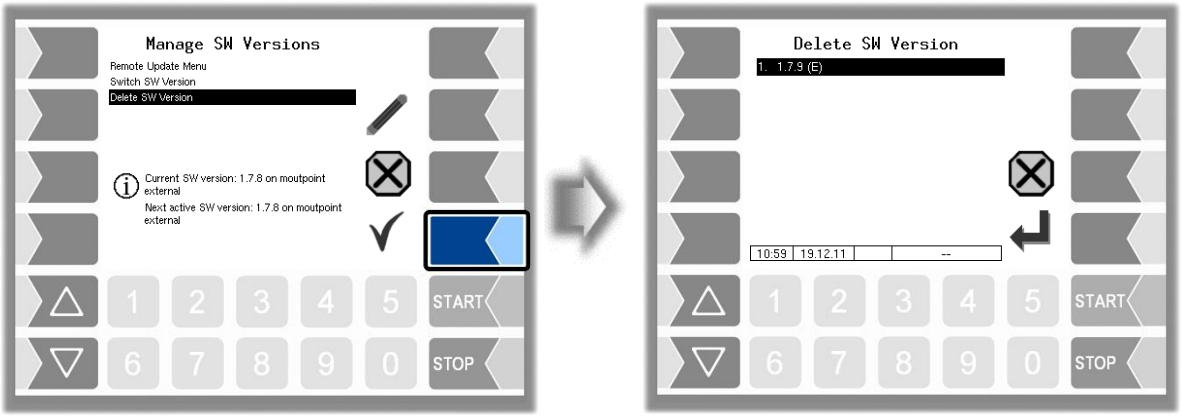
Select the software version and touch the “confirm” softkey“.



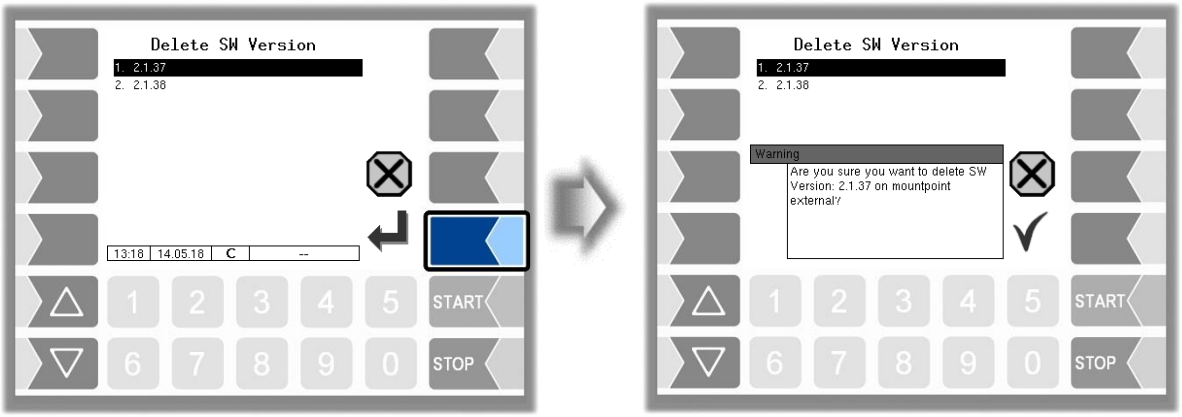
- Confirm the security query.
- Then shut down the system and reboot it.

The new software version is available only after restarting the system.

4.7.10.3 Delete Software Version



If multiple software versions are stored, you can delete the versions which are no longer needed.



After you confirm the security prompt, the selected version will be deleted.

The active software version cannot be deleted!

4.7.11 P-Net-Monitor

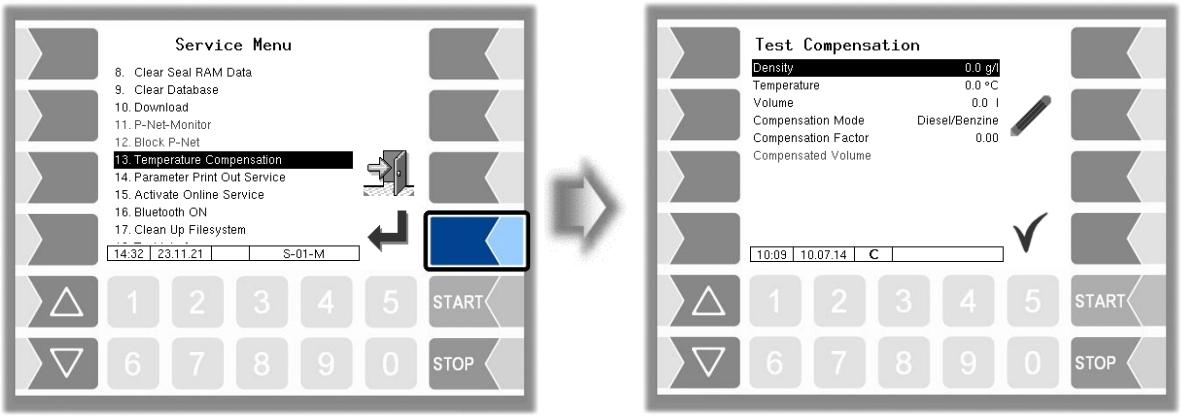
Because in the current installation of the measuring system no P-Net devices are used, this menu has no function.

4.7.12 Block P-Net

Because in the current installation of the measuring system no P-Net devices are used, this menu has no function.

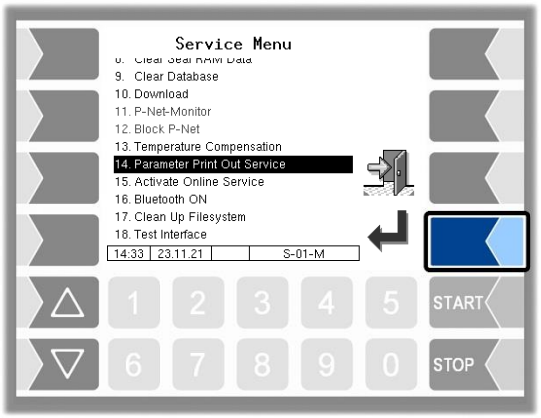
4.7.13 Temperature Compensation

This menu is required solely for testing the temperature compensation for the precheck by the Office of Weights and Measure.



4.7.14 Parameter Print Out Service

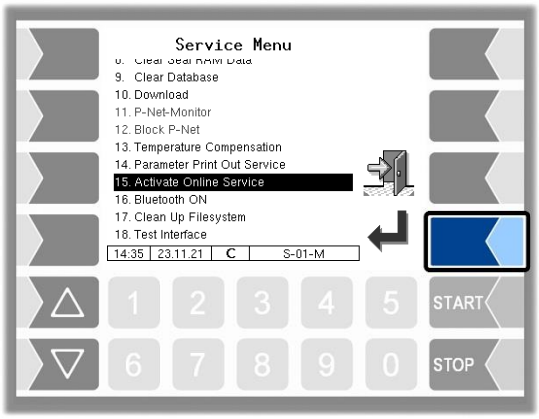
If a parameter print out for service purpose is required, you can use this function to print a parameter print out in German language regardless of the current system language.
(Not executable in software version 1.19.x and older.)



4.7.15 Activate Online-Service

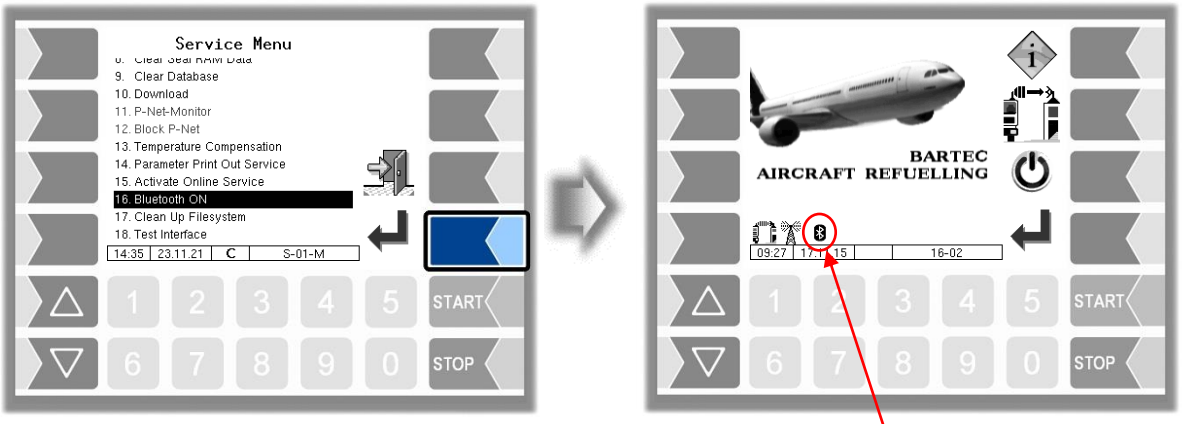
(Supported in the software version as of 1.18.4.
From version 1.18.9 also with symbol representation).

After activating the online service, you allow the BARTEC BENKE service access to service information of the vehicle. This makes it possible to download journals, log files etc. Access is via an FTP server. The connection is activated for 3 minutes, within which the access to the data must be started. The connection will be terminated automatically if no access is made for 3 minutes. The online service can also be activated in the diagnostics menu.
The active connection to the FTP server is displayed in the basic screen.
This requires a configured remote access (see Page 35).



4.7.16 Activate Bluetooth

When a Bluetooth receiver is configured (see section 4.4.11), you can activate the bluetooth interface here.



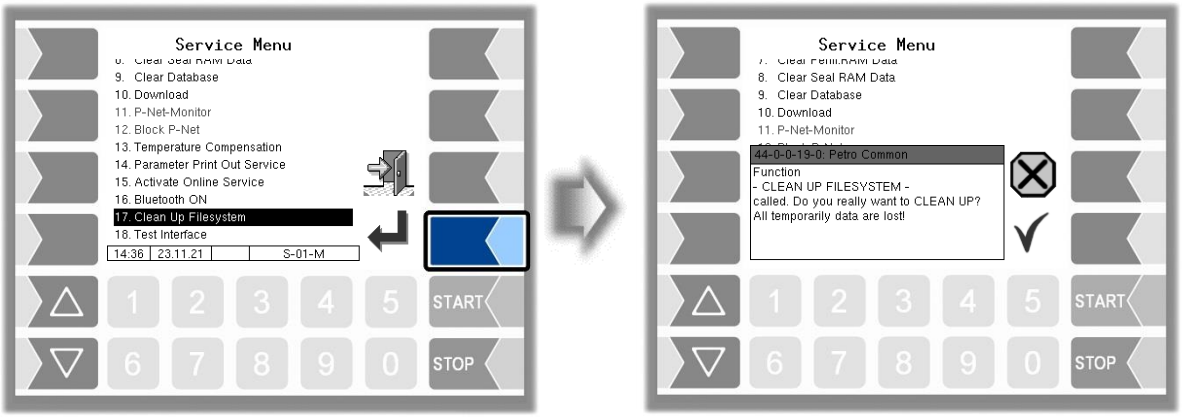
If the Bluetooth interface is enabled, it is displayed by a symbol

With the BARTEC service tool can be established a connection and accessed to the software.

4.7.17 Clean up file system

If the capacity of the internal memory is 80% exhausted, a corresponding message is issued.

Mit dem Menüpunkt „Dateisystem aufräumen“ können Sie das Löschen von Daten, die nicht benötigt werden (Übertragungsdaten, temporäre Daten) jederzeit manuell auslösen, um einen Speicherüberlauf zu verhindern.



Attention:
Response data that has already been generated and not transmitted can be deleted!

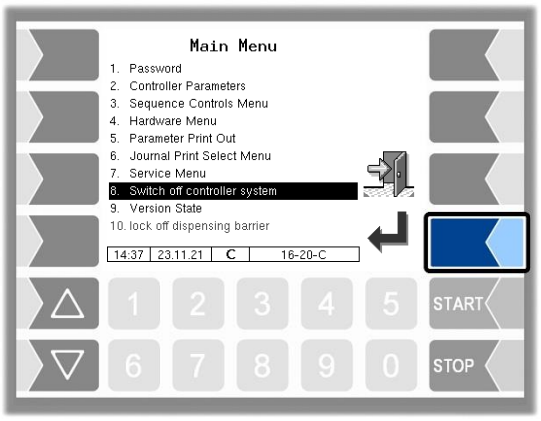
4.7.18 Test Interface

This function is in ffb not supported!

4.8 Controller System Switch Off

- Confirm the „Controller System Switch Off“ item from the Main menu.

The system is switched off properly, shutting down all modules.



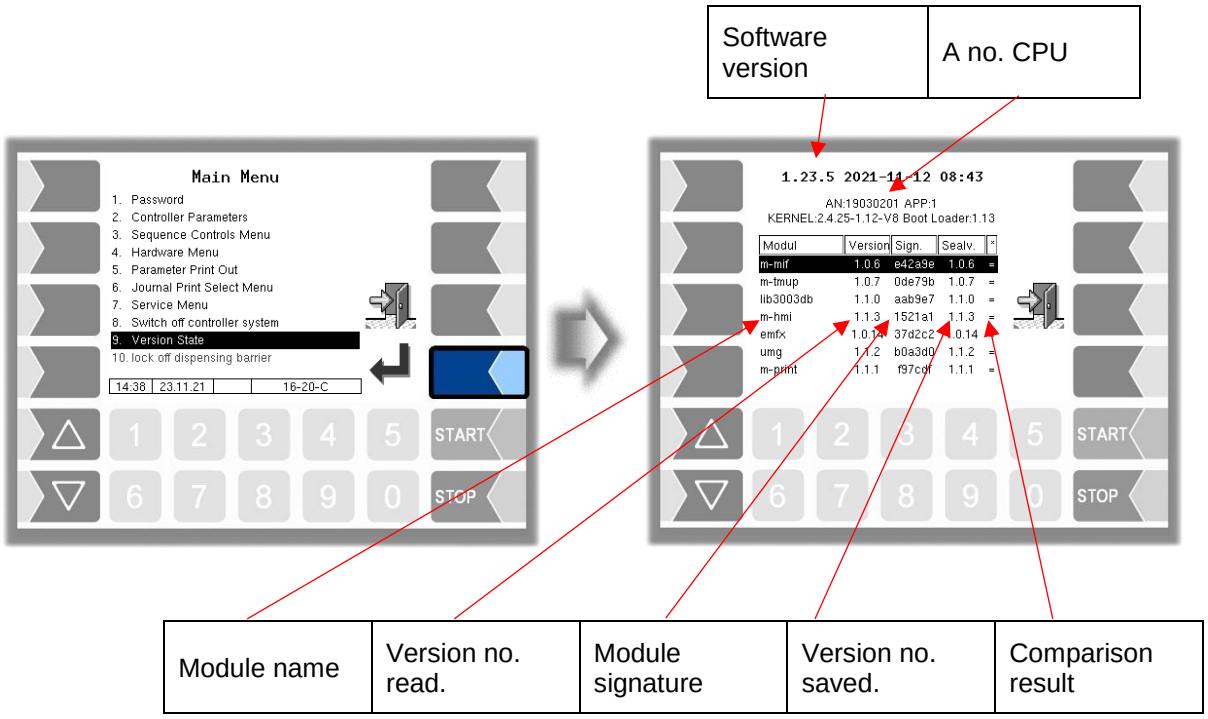
The system can also be switched off by using the „**Fehler! Verweisquelle konnte nicht gefunden werden.**“ softkey in the basic screen.

4.9 Version state

- Confirm the “Version State“ item from the Main menu.

The data is relevant for calibration is displayed:

- Software version
- Serial no. of the CPU, application type, kernel no.
- Version comparison of the software modules subject to calibration.

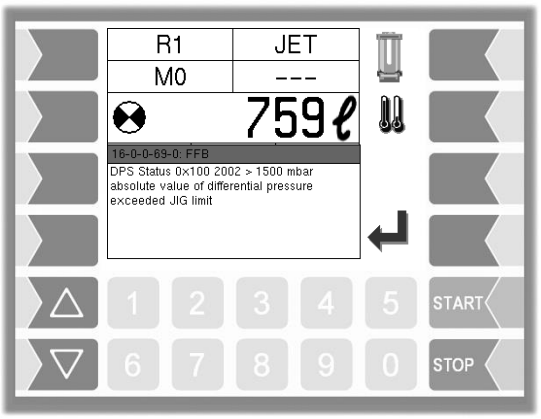


The current version of all modules must be identical to the calibration version.
Every time the system is started, all software modules are checked. If any incorrect versions are found, an error message is displayed. If necessary, you are prompted to recalibrate. However, product delivery is still possible unless the changes are extensive. In this case, recalibration is required first.

If you close the Seal Versions Check while the seal switch is open, will the saved version numbers be updated and the corresponding message is deleted.

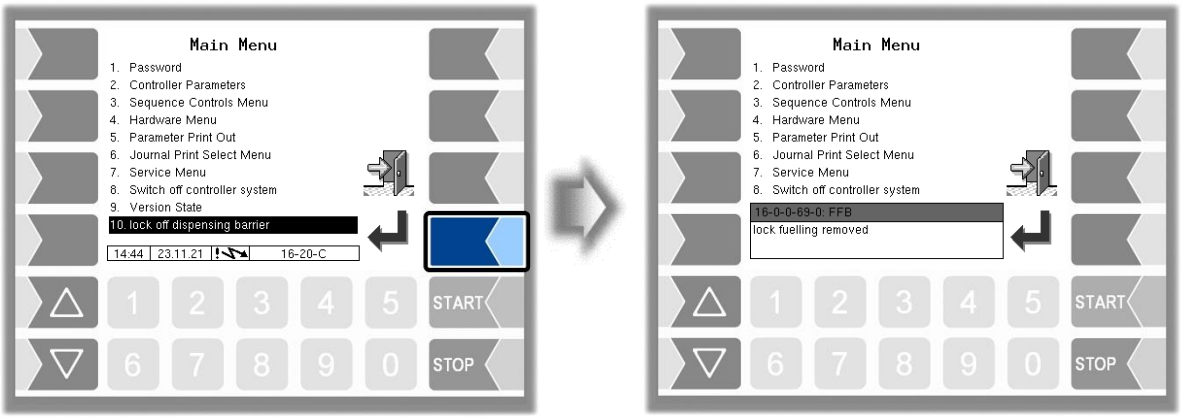
4.10 Lock off dispensing barrier

When exceeding the maximum differential pressure limit, exceeding the maximum deviation from the configured differential pressure or when exceeding the maximum permissible water content a dispensing barrier is activated. The current refuelling can be completed; however, it can no further refuelling be started.



You can lock off the dispensing barrier, when the cause for the differential pressure exceeding has been eliminated (e.g. by filter replacement).

3. First enter the user password before. Enter the password as described in section 4.1.
4. Then confirm the menu item “Lock off dispensing barrier”.



5 Appendix

5.1 Overview of the configuration menu

The following overview should help you to locate individual parameters within the Configuration menus.

The software configuration is protected by passwords and the seal switch. This permits access to various configuration options.
The password level currently accessible is indicated by a letter in the info line of the display. Each password level includes all lower password levels.

Password level	**Indicator**	**Access**
0 :No password		Read only
1 :Driver password	D	Time, language
2 :User password	U	Operating parameters
3 :Service password	S	Software parameters not subject to statutory calibration
4 :Open seal switch	C	All parameters

In this overview, the indicator of the configuration level is shown next to the menu name. It is generally also valid for all submenus.
Exceptions are mentioned under the relevant submenus.

1: Password

Driver password D

User password U

Service password S

2: Controller parameters U

System Time D

- System Date C
- System Time D
- Auto-Synchronisation
- Timezone
- Daylightsaving

Daylightsaving Beginn

- Month
- Week
- Day of Week

Daylightsaving End

- Month
- Week
- Day of Week

System Language D

de (german)
en (english)
fr (french)
tr (turkish)
cs (czech)
pl (polish)
ru (russian)
It (italian)

Time leveling to HO U

Auto switch language D

3: Sequence Controls-Menu

Meter Controls-Parameters U

Double Delivery
Multi MIF
Preset Enter at Order
Preset Enter Retry
Red. Flow Before Preset
Red. Flow less than
Stop Flow Before Preset
Stop x% of Flow
Temp. Treshold
Difference S
Fuelling autostart
tolerance quantity S

3: Sequence Controls-Menu

Truck-Parameter	U
Truck Number	
Truck Registration	
Truck Type	
Airport name	
Delivery note no	
Tax no.	
User	
Main Product Configuration	C
Designation	
Number	
Shortcut	
Scale unit	
Calibration factor	
Density	
Reference temperature	
Compensation	
Compensation mode	
Compensation factor	
ADR text	U
Product group	C
Meter	S
Additiv Product Configuration	C
Designation	
Number	
Shortcut	
Metrol. product	
Add. Mischungsv. 1/x	
Dialog Parameters	U
No Fuel-Function	S
Order Complete Dialog	S
Set Default Product	U
Data store dialog off	U
View of sheduled data	U
shift dialog	U
Input PIT	U
Detektor-Test message	U
Intervall	
Park position at order	U
Driver-id order	U
Enlarged display of flight	U
Change planned order date	U
Office/Remote	U
TCP Communication	
TCP/IP Parameter	U
Server IP Address	
Server Port	
Transmission Parameters	U

3: Sequence Controls-Menu

Remote Communication

Vehicle-ID
Comm. Protocol
Protocoll version
Send Repeat Timer
Send Repeat Counter
Send Error Message
Fuel-Break-Timer
Max. Backup Messages
Remove Old Message
Send Queue Erase
Scheduled Data Erase
Transmit IPs ✳
Order with msg2 ✳
No. of specific messages
Send Login ✳
Show softkey ping ✳
Order request/ return ✳
Simmulate e-mail receipt
Airline data msg60 ✳
Append with FHS-ID

FTP Communication
FTP Configuration S

Box Configuration
Box Name
Service Status
Check Inbox Period
Compress Data
Resume down and upload
Max. amount of pending files
FTP Configuration
Username
Password
Server Path
IP/Domain
Port
Security
Enable SSL
Accept any Certificate
Certificate
TSL/SSL Version

FTL/FTP Parameter U

Communication
Softkey tour date
Interface on/off
Transfer timeout
FTP Configuration

Ticket Layout-Konfiguration U

Seq. No
Auto print of delivery note

3: Sequence Controls-Menu

Ticket Identifikation
Horizontaler Offset
LF vor Bon
LF vor Position
LF zwischen Position
LF nach Position

Cartridge Changeout Curve U

HMI Temperatur limits S
Switch off below
Switch on above
Measurement interval

Flushin hoses S
Hose 1
- Flushing
- Intervall
- Flush volume

Hose 2
- Flushing
- Intervall
- Flush volume

Multistep valve S
Log Out 13
- Turn off time
- Turn on time
- Cycles

Log Out 12
- Turn off time
- Turn on time
- Cycles

Flow
Reduced flow
Duration of flow deviation

4: Hardware Menu

Metering System Interface C

Select Meter-IF

Measurement Interface ½

Counter 1 (2,3,4)

logical number
number of meter 1 (2)
Operation mode
calibration 1
calibration 2
calibration 3

Temperature sensor 1 (2,3,4)

logical number
calibration 0/-195°C
calibration 50/-80°C
circulation delay
firmware version
driver version

4: Hardware Menu

min. volume
roll. direction
Kanäle
Type
dyn. calibration
1. (… 5.) flow
1. (… 5.) correction
ref.-temperature
K1
K2

Inputs / Outputs U

1. (… 16.) Outpu
Logical allocation
Invert

1. (… 16.) Input
Logical allocation
Invert
Resting state

LOG-Level
firmware version
driver version

Printer-Select U

Epson TMU 295
Print Function
Print mode
Printer type
Paper Output Front
Paper release
Lines per page
Output
Extended log

Tally Genicom MIP 480
Print Function
Lines per page
Paper Eject
horiz. Offset
Record
Record Interval
Output

GPRS Modem Parameters U

Device
Baudrate
Active Modem
Provider data
  APN-Server
  APN user
  APN password
SIM data
  Dial-String
  PIN-Code
Security
  Report IP to BARTEC

Touch-Calibration S

Contrast
x/y calibration
Setting the brightness
Blink on/off
Calibrate HMI ½

Large Display S

Brand

4: Hardware Menu

Interface
Baud
Data
Parity
Stop bit
Flow Control } Schauf only
Brightness }
Update Wait-Timer
Display Digits } Isoil only
Time out }

Analyzer Velcon S

Analyzer
Interface
Baud
Data
Parity
Stopbit
Flow Control
Update Wait-Timer
Error Counts
Max. Water Content
Max. Solids Content
Hysteresis
Measure Value Dialog

Additive Pump Viper S

Additive pump
Test Double Strokes
Stroke/Liter Additive
Additive Totalizer
Pulse Duration
Pulse Separation
Flow Indicator
Max. Err. Flow Indic.
Totalizer Erase

Power Supply S

System Fan
  Switching Off Above
  Switching On Above
Firmware Version

IBoxmA-Interface S

iBox Interface
  Serial number
  Firmware Version
  Driver Version
1. (2.) junction box
  Serial number
  1. (… 18.) Iinput Box 1
  Invert
  Namur
Free water sensor
  Sensor terminal
  Measurement range

4: Hardware Menu

- 50ppm max. duration
- min. flow
- min. quantity
- max. water content
- time of exceeding
- Warning at
- Time of exceeding warning
- Next warning after
- Stop at warning
- during TU and Defuelling
- Blinking at warnung
- Blinking at alarm
- ppm-value

Differential pressure sensor

- Sensor terminal
- max. flow
- min. flow
- max. diff. pressure
- max. deviation
- current beginning CB
- current final CF
- pressure at CB
- pressure at CF
- Period of flow
- deviation of Flow
- pressure warning at
- JIG-limit

dipstick

- Sensor terminal
- Install. bottom up
- Nominal length
- Offset
- Tank height
- Damping
- Tank serial no.
- min. tank capacity
- max. tank capacity
- Big display

Common

- Logging
- dps limit simul. [0]
- H2O limit simul. [9]
- H2O alarm simul. [8]

Bluetooth-Receiver S

- Bluetooth-receiver
- Device
- Baud
- Pin
- Name

J1939-Interface S

- J1939 aktiv
- Address
- Interlock adresse
- Address claiming

4: Hardware Menu

- Message filter
  - Acceptance filter mod
  - 0…7 Acceptance filter
  - 0 7 filtermask
- Priorities of transmit messages
  - Interlock 22-33
  - Interlock 34-45
  - Interlock 46-57
  - Interlock 60-62/ 70-76
  - Interlock 77-88
  - Interlock 89-98
  - Free Input 200-211
  - Free Input 212-223
  - Free Input 224-235
  - Application Status

  FFB
- Firmware Version
- Driver Version

Large leak detection S

- GLE Connection
  - Vehicle.GLE
- Group name
- IP-Adresse
  - Subnetzmaske
  - Gateway
  - Server IP
  - Location
  - MAC-Adresse
  - WLAN
  - SSID
- Encryption
  - WPA Mode
  - PSK
  - WEPIndex
  - WEP Auth

TAG reader 69-10 S

- Aktive
- Address
- Interface

GPS U

- GPS Receiver
- Search Radius
- Load Search Radius
- KM-Recording
- GPS-Logging
- Model
- Firmware Version

WLAN Adapter U

- WLAN adapter
- WLAN netzwork
  - On system startup
  - DHCP-Client
  - WLAN IP-Adresse

4: Hardware Menu

- Subnet maske
- Gateway
- DNS-server
- Default-gateway

WIFI Setting

- SSID
- WLAN Key
- Frequenzy
- Country
- Encryption
- Keying-Protocol
- Status-Interval

Serial Number

Firmware

Module basic U

Communication to master

- Baudrate TVE S
- Interface TVE S

Communication to Slave

- Baudrate TVE S
- Interface TVE S
- Time synchronisation TVE
- Disconnect Timeout

Diagnosis Logging

5: Parameter Print Out

6: Journal Print Select Menu 0

Print Current Tour

Print not printed tours

Selection Tour Journals

Journal with errors

Show Bypass

Print Tourinfo

7. Service Menu S

Database Browser, Logfile-Browser } 0

Clear Configuration

Restore Backup from CF

Restore Conf from CF

Store Conf. into CF

Clear Perm RAM Data

Clear Seal RAM Data

Clear Database

Download

P-Net-Monitor

Block P-Net

Temperature Compensation

Parameter Print Out Service

Activate Online Service

Bluetooth ON

Clean Up Filesystem
Test Interface

8: Controller-System Switch Off 0

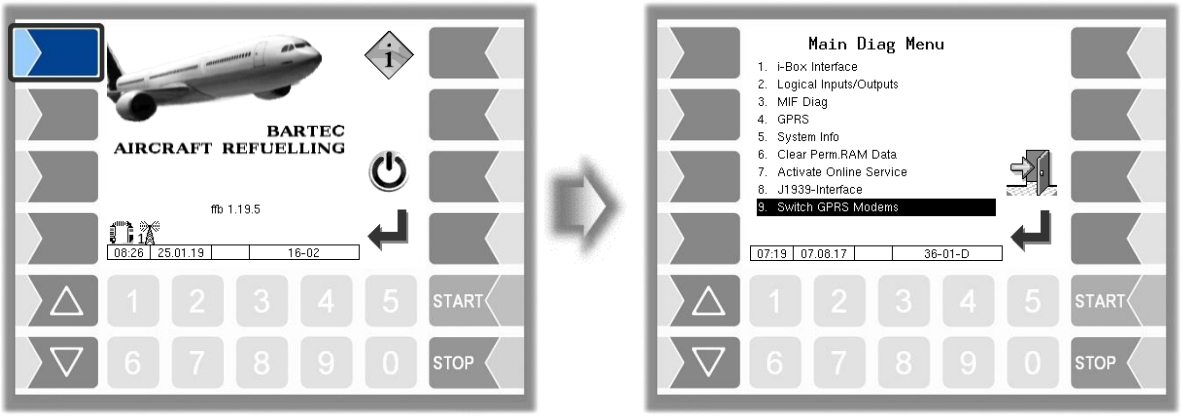
9: Version state 0

10: Lock off dispending barrier U

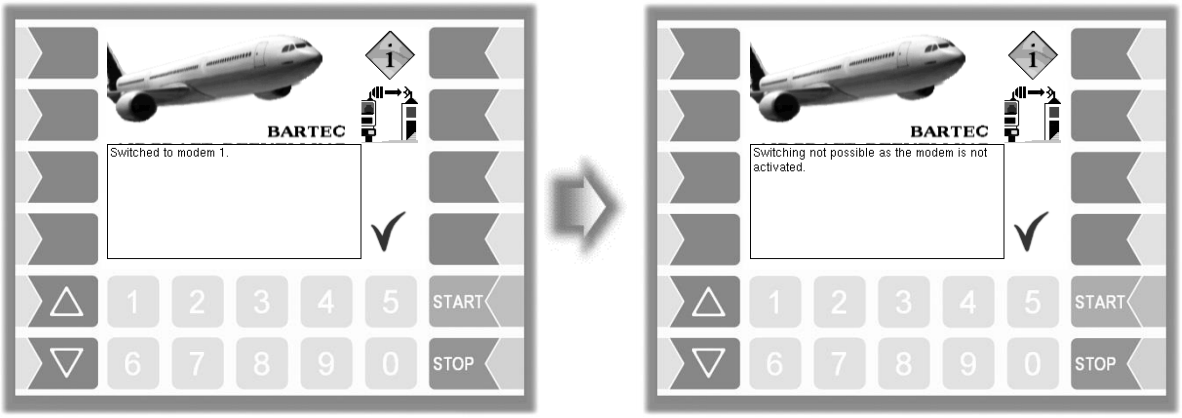
5.2 Diagnostics menu

You can use the upper left softkey to open a diagnostics menu. This service function allows the service professionals to perform a specific diagnosis on individual system components.
You can open the diagnostic menu either outside of a tour, within a tour or within an order.
.

Attention:
Use the functions of the Diagnostics menu except on instructions and in cooperation with service specialists of BARTEC BENKE.



Example modem circuit



Switch modem OK

Switch modem failed

5.3 Logical Outputs and Inputs

5.3.1 Logial Outputs

Configurable outputs

logical No.	Function	Description
1	Enable meter 1 (or to PLC via J1939-Interface)	Toggles enabling valve for the respective meter
2	Enable meter 2 (or to PLC via J1939-Interface)	
3	Enable meter 3 (or to PLC via J1939-Interface)	
4	Enable meter 4 (or to PLC via J1939-Interface)	
5	Flow reduction meter 1	Switches on before reaching the preset quantity. Switches on exceeding or falling below a predetermined flow limit- on or off.
6	Flow reduction meter 2	
7	Flow reduction meter 3	
8	Flow reduction meter 4	
10	HMI cooling	
12	Multistep valve	Flow Control inlet side (see page 42)
13	Multistep valve	Flow Control outlet side (see page 42)
20	Signal „Received Message from Headoffice“ (or to PLC via J1939-Interface)	Switches when certain messages have been received from the office.
21	additivation pulse	Switches when additivation unit Viper is configured.
22	Temperature counter 1, 2, 3, 4	Switches on when exceeding the temperature limit value to one of the configured counters.
23	Interlock	Switches when a configured interlock is open or faulty.
24	Interlock left cabinet door	Switches when the Interlock of the cabinet door is open or faulty.
25	Interlock right cabinet door	
26	Interlock left deck hose	Switches when the Interlock of the respective deck hose is open or faulty.
27	Interlock right deck hose	
28	Interlock reel hose	Switches when the Interlock of the respective reel hose is open or faulty.
29	Interlock outer suction connector	Switches when the Interlock of the outer suction connector is open or faulty.
30	Interlock collective output ground drum	Switches when one of the Interlocks “ground drum” left or right is open or faulty.
31	Differential pressure sensor out of tolerance (or to PLC via J1939-Interface)	Switches when exceeding the maximum differential pressure limit or non-compliance with the maximum deviation.
32	Water sensor out of tolerance (or to PLC via J1939-Interface)	Switches when exceeding the maximum water content.
33	Faulty Interlock	Switches when a configured Interlock is faulty.
34	Interlock ladder rear	Switches when the Interlock of the rear ladder is open or faulty.
35	Interlock input coupling	Switches when the Interlock of the input coupling is open or faulty.
36	Interlock safety belt	Switches when the Interlock of the safety belt is open or faulty.
37	Interlock platform	Switches when the Interlock of the platform is open or faulty.
38	Interlock collective output deck hose	Switches when one of the Interlocks “deck hose” left or right is open or faulty.
39	ball valve deck hose	Switches when the input “ball valve deck hose” is open and the logical inputs 64 to 69 are closed. (✳)
40	ball valve deck hose left	Switches when the input “ball valve deck hose” left is open and the logical inputs 63 and 65 are closed. (✳)

logical No.	Function	Description
41	ball valve deck hose right	Switches when the input “ball valve deck hose” right is open and the logical inputs 63, 64 and 66 to 69 are closed. (✳)
42	reel hose	Switches when the input “ball valve reel hose” is open and the logical inputs 63 to 65 and 67 to 69 are closed. (✳)
43	reel hose left	Switches when the input “ball valve reel hose” left is open and the logical inputs 63 to 66 and 68 to 69 are closed. (✳)
44	reel hose right	Switches when the input “ball valve reel hose” right is open and the logical inputs 63 to 67 and 69 are closed. (✳)
45	refuel back	Switches when the input “ball valve refuel back” is open and the logical inputs 63 to 68 are closed. (✳)
46	load output	Switches when interlock 33 is active.
47	Minimum tank capacity	Switches when the tank content falls below the lower switch-off point or when there is an error.
48	Maximum tank capacity	Switches when the tank content exceeds the upper switch-off point or when there is an error.
49	Water sensor flashing signal	Indicates the status of the water sensor.
50	System switched on	Indicates whether System 3003 is switched on.
51	Slop tank	If the slop tank input reports full or error, the slop tank output is set.

(✳) *Not configured inputs are handled as closed, faulty ones as open*

Attention:
If no further use of the output signals or of the output information is specified by BARTEC BENKE, the superstructure manufacturer is responsi-ble for further use.

5.3.1.1 Outlet 1,2,3,4: Enable measuring point

The logical output controls the enable valve of the measuring point. Use the START softkey to set the output and reset it with the STOP softkey.
The information is transmitted via the CAN/J1939 interface.

5.3.1.2 Output 20: Message from the office

If a plain text message is received from the office, this appears on the display with a dialog message, and the logical output is set. After you confirm the dialog message, the logical output is reset.
With the Bartec interface, the plain text message is sent with a DSX telegram, with the FOSI interface, it is sent with a K1 telegram and with the FOI interface, it is sent with a 10 telegram.
The information is transmitted via the CAN/J1939 interface.

5.3.1.3 Output 23: Interlock

The logical output is set as soon as a configured logical input with interlock function is detected as open or faulty. When all the logical inputs are closed again, logical output 23 is reset.

5.3.1.4 Output 31: Differential pressure sensor out of tolerance

If the current differential pressure dP exceeds the configurable limit value ("JIG limit value" parameter), the output is set.

If the differential pressure dP% extrapolated to 100% flow exceeds the configurable limit value ("max. differential pressure" parameter) or, if a differential pressure deviation between the extrapolated dP%s which is greater than the configurable deviation ("max. deviation" parameter) is detected, the output is set.
The logical output is only withdrawn again after the current order has been completed.
The information is transmitted via the CAN/J1939 interface.

5.3.1.5 Output 32: Water sensor out of tolerance

If the ppm value ("ppm value" parameter) exceeds the maximum water content ("max. water content" parameter) for a configurable duration ("exceedance duration" parameter), the output is set. The logical output is only withdrawn again after the current order has been completed.

If the ppm value parameter exceeds the warning value ("Warning value" parameter) for a configurable period of time ("exceedance duration" parameter), the output is set. The behaviour of logical output 32 can be configured if the warning value is exceeded ("Shut down on warning" parameter).

The information is transmitted via the CAN/J1939 interface.

5.3.1.6 Output 49: Water sensor flashing signal

The output is set statically as soon as the water sensor no longer reports an error (sensor value$_{\text{absolute value}}$ >3.8 mA) or the ppm value ("ppm value" parameter) is less than the warning value ("Warning value" parameter).

If the ppm value exceeds the warning value for a configurable period of time ("Exceedance duration" parameter), the output is triggered periodically. The duration of the switch-on and switch-off pulse in this state is set with the "Flashing on warning" parameter.

If the ppm value exceeds the configurable maximum water content ("Max. water content" parameter) for a configurable period of time or if the water sensor reports an error (sensor value$_{\text{absolute value}}$ <3.8 mA) then the output is triggered periodically. The duration of the switch-on and switch-off pulse in this state is set with the "Flashing on alarm" parameter.

5.3.1.7 Output 50: System switched on

The output is set as soon as System 3003 starts. The output is only withdrawn again after shutting down. When used with a lamp, the output serves as a visual feedback to show whether the system is still running, for example.

5.3.2 Logical Inputs

Configurable inputs

logical No.	*Function*	*Designation*	*FTL-Nr.*
1	external enabling the meter	Via this input it is possible to control the enabling of the meter by external electronics (e.g. plc). Before every enabling of a meter by the 3003 system, this input is checked. IIf the input is inactive, the message will be displayed. The input is not checked during a delivery but only when restarting after an interruption. Message text: Input : Log. No. 1: No external meter enable exists	
2	Input clutch /AmPIT	The status of this input is needed for the GLE system (large leak detection).	
3 *	Messstellenwahl Zähler 1		
4 *	Messstellenwahl Zähler 2		
5	Slugguard	Input for monitoring the water sump	
6	Slop tank	Input for monitoring the slop tank.	
21	Flow monitoring Additivation		
22	Interlock	cabinet door left	210
23	Interlock	cabinet door right	211
24	Interlock	deck hose left	205
25	Interlock	deck hose right	206
26	Interlock	support strut left	224
27	Interlock	support strut right	225
28	Interlock	ground drum left	212
29	Interlock	ground drum right	213
30	Interlock	reel hose	207
31	Interlock	outer suction connector	232
32	Interlock	platform	204
33	Interlock	filling left	218
34	Interlock	residual emptying	233
35	Interlock	ladder rear	234
36	Interlock	fold clip	216
37	Interlock	PTO	201
38	Interlock	safety belt	203
39	Interlock	Interlock bypassing	228
40	Interlock	manual deadman switch	202
41	Interlock	tread	215
42	Interlock	input coupling	217
43	Interlock	Lifting	235
44	Interlock	deck hose	236
45	Interlock	reel hose right	237
46	Interlock	Down filling connection right	219
47	Interlock	Cylinder front left	238
48	Interlock	Cylinder rear left	239
49	Interlock	Cylinder front right	240
50	Interlock	Cylinder input coupling	241
51	Interlock	pantograph on lifting platform	242
52	Interlock	foldable railings left	243
53	Interlock	foldable railings right	244
54	Interlock	down filling connection	245
55	Interlock	nozzle coupling	246
56	Interlock	tap hose fitting	247
57	Interlock	suckback fitting	248
58	Interlock	pump over connection	249
59	Interlock	Fuse isolating switch amplifier 1	250

or from PLC via J1939 Interface

logical No.	Function	Designation	FTL-Nr.
60	Interlock	Fuse isolating switch amplifier 2	251
61	Interlock	input coupling driving position	252
62	Interlock	ground drum rear	214
63	ball valve deck hose		
64	ball valve deck hose left		
65	ball valve deck hose right		
66	ball valve reel hose		
67	ball valve reel hose left		
68	ball valve reel hose right		
69	ball valve refuel back		
70	Interlock	cabinet door left	208
71	Interlock	cabinet door right	209
72	Interlock	hose lift front left	220
73	Interlock	hose lift front right	221
74	Interlock	hose lift rear left	222
75	Interlock	hose lift rear right	223
76	Interlock	Interlock 3km/h control	226
77	Interlock	Interlock indicator lamp	227
78	Interlock	Interlock lockup lamp	229
79	Interlock	Interlock status	230
80	Interlock	refuel back	231
81	Interlock	support strut rear left	253
82	Interlock	support strut rear right	254
83	Interlock	driver seat	255
84	Interlock	driver door	256
85	Interlock	Cylinder rear left	257
86	Interlock	reel hose left	258
87	Interlock	entrance drum	259
88	Interlock	bogie entrance drum end position	260
89	Interlock	entrance drum hose locking	261
90	Interlock	hand brake	262
91	Interlock	Ripcord for emergency release of the hose coupling	263
92	Interlock	loading right side	264
93	Interlock	ladder	265
94	Interlock	platform	266
95	Interlock	entry platform	267
96	Interlock	drum hose lower casement	268
97	Interlock	drum hose upper casement	269
98	Interlock	drum hose upper / lower casement	270
99	Interlock	Coverbox reel hose	271
100	Interlock	Coverbox deck hose	272
⋮	⋮		
200	free input 0		
201	free input 1		
⋮	⋮		
235	free input 35		

or from PLC via J1939 Interface

or from PLC via J1939 Interface

∗ *from Version 1.18.7*

5.3.2.1 Input 1: External measuring point enable

The external enable for the measuring point allows external electronics (e.g. a PLC) to influence the enable of the measuring point. The logical input is checked each time the START button is pressed. If the logical input is active, the "Enable measuring point" output is set and the program sequence continues. If the logical input is inactive, the display only shows the dialog message "Input: Log. No. 1: No external measuring point enable available" appears on the display. The input is not checked during the current fuel-filling.

5.3.2.2 Input 5: Water in the sump

This input signals whether there is water in the sump of the filter/water separator. As soon as the input changes from the status "No water" to "Water", the user sees the dialog message "Filter/water separator: Water in the sump” on the display. If the sensor status is already set to "Water" and the user switches to the Order details window, then the dialog message also appears.

5.3.2.3 Input 6: Slop tank

This input signals whether the slop tank is full and needs to be emptied. The slop tank status appears in the Tour window. If the slop tank input reports full or error when switching to the "Order" window, a dialog box is displayed for the operator and an order can be started. If a fuel-filling is already in progress, a dialog box appears and you can stop the fuel-filling. The slop tank sensor status is stored in the tour journal and is recorded after each fuel-filling. If the slop tank input reports full or error, the slop tank output is set.

5.3.2.4 Input 22-62/70-100: Interlock

The states of the configured logical inputs with an interlock function (e.g. open, closed, cable break or short circuit) appear on the display in the interlock window and are transmitted via the CAN/J1939 interface. If one of these logical inputs is detected as open or faulty, logical output 23 is also set. When all the logical inputs are closed again, logical output 23 is reset.
The status of logical input 42, input coupling, is also transmitted to the GLE system if large leak detection is configured.

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