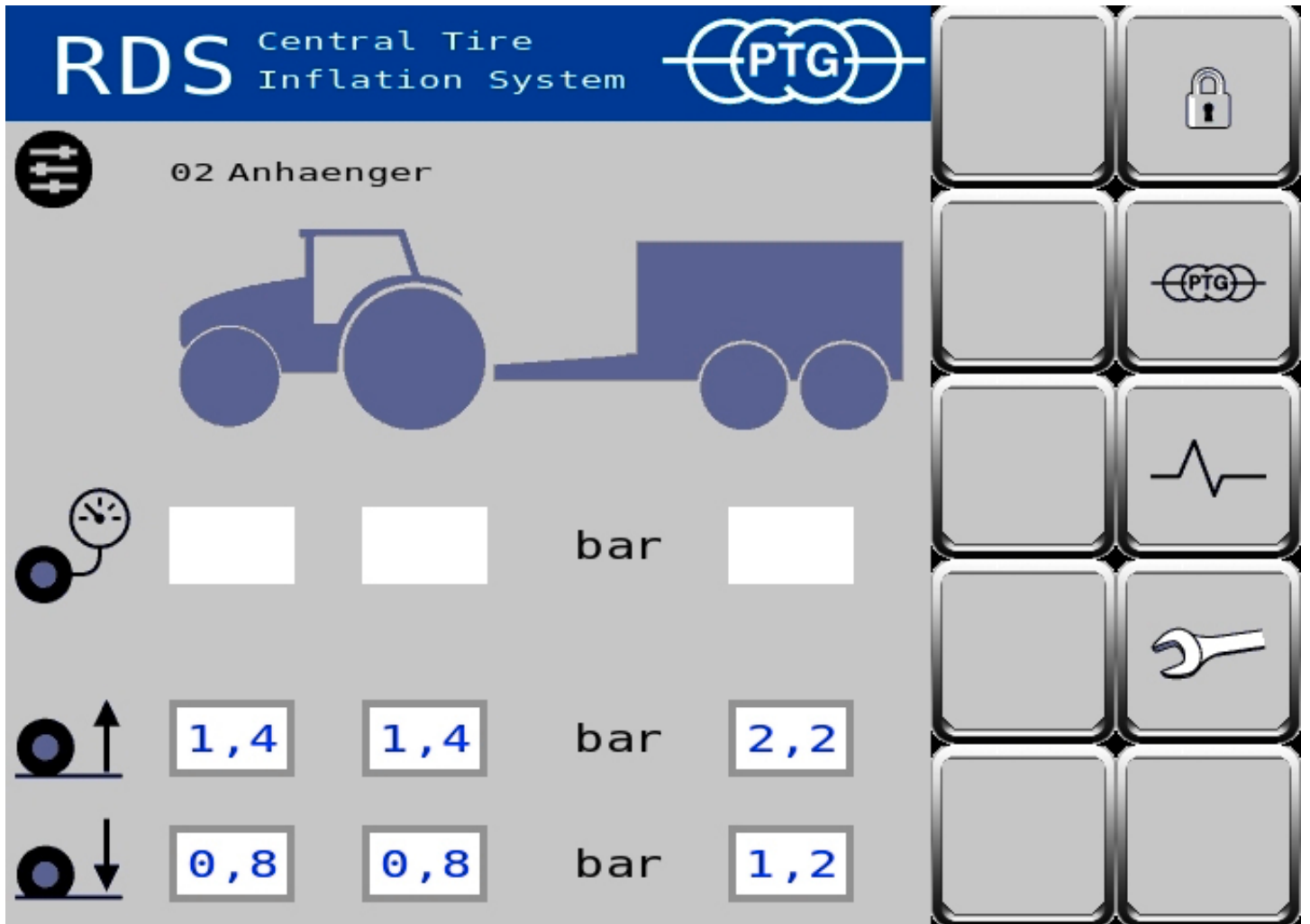




Tire inflation systems



Instruction manual for PTG central tire inflation systems with ISOBUS control

Software version 1.10



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General safety information

1. Introduction

Dear customer,

You have purchased a state-of-the-art product that will continue to function safely for many years as long as the installation instructions in these operating instructions are followed.

At the time of delivery, the product met all functional and quality-related requirements. To maintain this condition and ensure safe operation, you, as the installer and/or user, must read and understand these operating instructions.

If you have any questions, please contact:

PTG Reifendruckregelsysteme GmbH, Habichtweg 9 · D-41468 Neuss, Germany, Phone: 021 31-52 376-0, Email: ptg@ptg.info

1.1. Legal notice

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1.2. Declaration of conformity

The company PTG Reifendruckregelsysteme GmbH, Habichtweg 9, 41468 Neuss, Germany, declares that this central tire inflation system complies with the following directives and meets the following standards: • EMC Directive 2004/108/EC (ISO 14982) • ISOBUS VT (ISO 11783-6) • The resistance of electrical and electronic equipment to environmental conditions (ISO 15003)

1.3. Proper use

The central tire inflation system is used to fill and vent tubeless tires on the vehicle using a compressed air supply from the vehicle compressor or the additional compressor. It is intended for commercial applications involving stationary and/or moving vehicles. Uses outside this scope are not permitted and may damage the product. Water-filled tires may not be filled or vented using this system. It is not permissible to use tire pressures that do not correspond to the specifications regarding load and speed. Use for private purposes is generally prohibited. Modifying the product is not permitted. The safety instructions must be followed!

1.4. Warranty and exclusion of liability

The warranty period for all components of the system is one (1) year.

Defects and damage resulting from improper installation and/or use or non-compliance with the operating instructions are not covered by the warranty. PTG Reifendruckregelsysteme GmbH does not accept liability for any consequential damage resulting from such damage or defects.

NOTE

The product must not be commissioned until it has been established following installation that the vehicle complies with all relevant directives and regulations!

2. Safety and danger information

2.1. Basic safety instructions

- The installation of the CTIS may only be carried out by trained and instructed personnel in specialist workshops. Improper installation can lead to serious damage and injuries! When installing the CTIS, safety glasses, work gloves and hearing protection must be worn for the various work steps!
- When carrying out work on the product, always make sure that the vehicle has been secured to prevent it from rolling away or tipping over. Switch the engine off.
- Secure the removed wheels to prevent them from rolling away or tipping over! Follow the installation instructions provided by the vehicle manufacturer!
- When carrying out work on the product, always make sure that the product has been secured to prevent it being inadvertently restarted. For this reason, switch the product off if applicable and/or disconnect it from the power supply.
- When carrying out work on the product that cannot be performed from ground level, always make sure that your footing is secure. Use the steps and grab rails provided. Use suitable aids if necessary.
- The improper use of sealants and adhesives (e.g. Loctite 542) causes severe eye irritation, can irritate the airways, is harmful to aquatic organisms and has a long-lasting effect. Supplementary information: Contains methyl methacrylate. Can cause allergic reactions. Must be kept away from children.
- If the product has an electrical malfunction, this can cause serious injury. Therefore, disconnect electrical connections to the product when carrying out welding work on the vehicle, charging the vehicle battery or jump-starting the vehicle. When installing electrical connections, always make sure that the polarity is correct.
- The product is wholly or partially, permanently or intermittently pressurized.
- If any hose or tube connections come loose under pressure, this can lead to whipping lines in certain circumstances and can cause serious injury. When carrying out work on the product, always make sure that the product and its parts are not pressurized. If unpressurized working is not possible, take the recommended safety precautions and wear the recommended personal protective equipment (PPE). Keep other people away from the danger zone.
- The operating elements of the product should be easy to access and it should be possible to use them without the risk of touching hot, sharp or moving parts.
- Always install the product and/or components in such a way that operating/display elements and safety information on the vehicle and/or other devices are not covered.
- When installing the system, keep the field of vision of the driver clear.
- Before using the product, familiarize yourself with its characteristics and operation. For this purpose, it is essential that you read these operating instructions.
- Fully venting the tire may have caused it to become dislodged from its seat on the rim. Unless properly seated on the rim, the tire may become dislodged from the rim unexpectedly. When refilling, make sure that the tire is properly positioned on the rim seat! Observe the maximum permissible seating pressure specified by the tire manufacturer!
- The product must only be used for filling and venting processes on tires in a technically flawless condition.

-
- When filling tires, keep away from the danger zone. Also, follow the safety instructions provided by the tire manufacturer.
 - It is essential that you comply with the minimum and maximum permissible pressures specified by the tire manufacturer, while also taking into account the wheel/axle loads present and the conceivable driving speeds of your vehicle.
 - In the event of additional loads resulting from dynamic shifting of the wheel/axle load (e.g. driving up, down or across gradients, heavy towing tasks, heavy attachments), adjust the tire pressures according to the information provided by the tire manufacturer.
 - Damaged components may affect the operational reliability of the product and/or result in serious injuries and must be replaced with original parts immediately.
 - Once they have become defective, products and/or components may no longer be used in operation.

2.2. Format and meaning of safety information

DANGER

DANGER indicates a risk that WILL cause serious injuries or death if the safety instructions are not complied with.

WARNING

WARNING indicates a risk that MAY cause serious injuries or death if the safety instructions are not complied with.

CAUTION

CAUTION indicates a risk that MAY cause minor injuries.

NOTE

NOTE indicates a risk that MAY cause material damage to or malfunctioning of the product, the vehicle or other devices.


Some actions are performed in multiple steps. Where one of these steps involves a risk, safety information is provided.

Operation

NOTE




Operating the central tire inflation system is only possible when the engine of the vehicle is running, because air must be continuously supplied by the vehicle compressor. Otherwise, the information displayed may be incorrect and system functionality may be limited.


The central tire inflation system is operated via the ISO-BUS terminal of the vehicle.

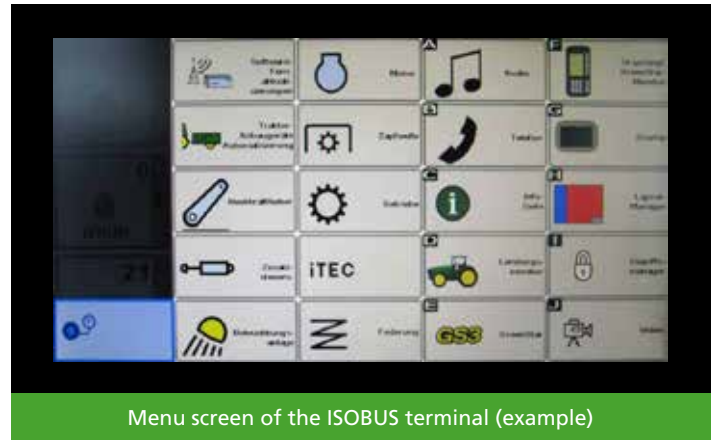
You can call up the screen pages of the central tire inflation system via the menu screen of the ISOBUS terminal. To do so, press  in the list of ISOBUS devices.

Start screen

The start screen is the control center of the central tire inflation system. From here, you can call up all of the other functions of the central tire inflation system. The start screen is also where you can define the target tire pressures.


The start screen shows an overview of the vehicles with a central tire inflation system installed. Each adjustment group (= group of wheels with the same tire pressure) is shown in a column under the corresponding wheel of the vehicle. Shown (from top to bottom) are a current tire pressure  and two separate target tire pressures for road travel  and field work .


The current tire pressure  is only displayed when the central tire inflation system is active.





Calling up other functions


You can call up the screen pages via the icons.

 Work screen _____ (page 7)

 PTG contact details _____ (page 9)

 Diagnostics screen _____ (page 10)


 System settings screen _____ (page 11)

 Vehicle configurations _____ (page 16)


Defining the target tire pressure

By tapping a target tire pressure e.g. **1,4** you can change its value – in this way, target tire pressures can be adjusted to suit the conditions in which the vehicle is being used. The change is applied to the current vehicle configuration.


Work screen

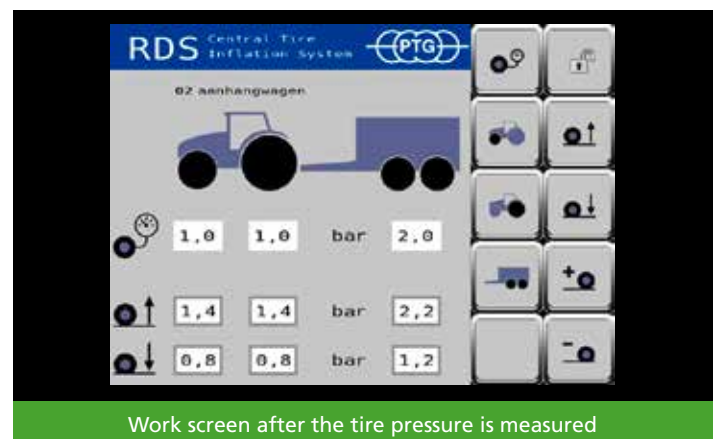
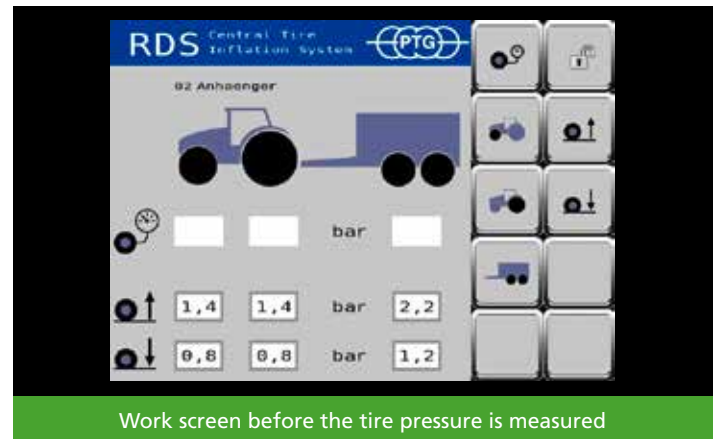
To access the work screen, unlock the central tire inflation system on the start screen. To do so, press 

NOTE


Every action carried out by the central tire inflation system can be interrupted at any time. To do so, press  This locks the system, and the start screen is displayed again.

Measuring the tire pressure

To check the tire pressures outside of the adjustment process (e.g. directly after starting the tractor), press  This briefly activates the central tire inflation system, and the tire pressure is measured. The display is updated after a few seconds.




Selecting the wheels to be adjusted

If a central tire inflation system with more than one adjustment circuit is installed on the vehicle (e.g. front axle and rear axle), it may be useful to only activate one adjustment circuit. You can use the following buttons to individually select or deselect the installed adjustment circuits: 


Which adjustment circuits are selected can be changed at any time, even during the adjustment process. For example, when using heavy rear implements, you can therefore use the power of the vehicle compressor to fill only the tires on the rear axle at first, and then fill the tires on the front axle later.


Filling/venting

Use  to fill the tires to the road pressure.

Use  to vent the tires to the field pressure.

The selected target tire pressure is displayed in the lower area of the work screen.



The flashing  shows that an adjustment process is active. The arrows below the wheels of the vehicle indicate the adjustment direction.

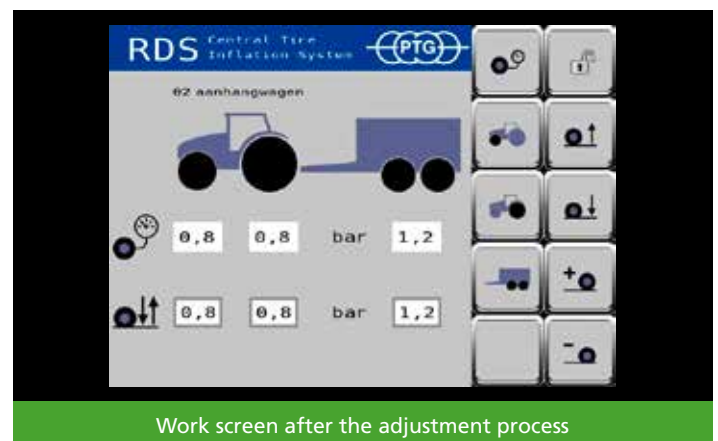
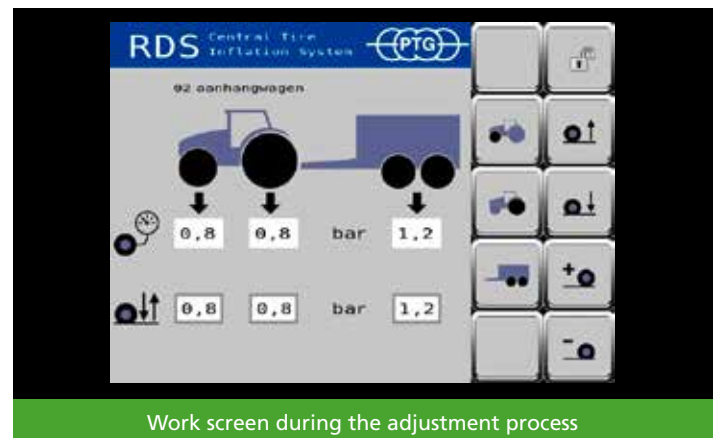
Once  has stopped flashing and the arrows under the wheels are no longer displayed, the adjustment process is complete.

Temporarily changing the target tire pressure

NOTE

Temporary changes are only possible when the current tire pressure is known. If necessary, carry out a measurement process first (see "Measuring the tire pressure", page 7).

If, during or after the adjustment process, you notice that the driving conditions are changing, you can manually adjust the tire pressures on all selected axles via  and  in increments of 0.1 bar per button press, without changing the target tire pressures that have been defined.





Error messages

If an error is detected while the central tire inflation system is in operation, the system stops the current process automatically, an error message appears on the ISOBUS terminal of the vehicle and an acoustic warning sounds. This also happens if the screen pages of the central tire inflation system are not currently displayed in the foreground on the ISOBUS terminal of the vehicle.


The error message contains the following information:

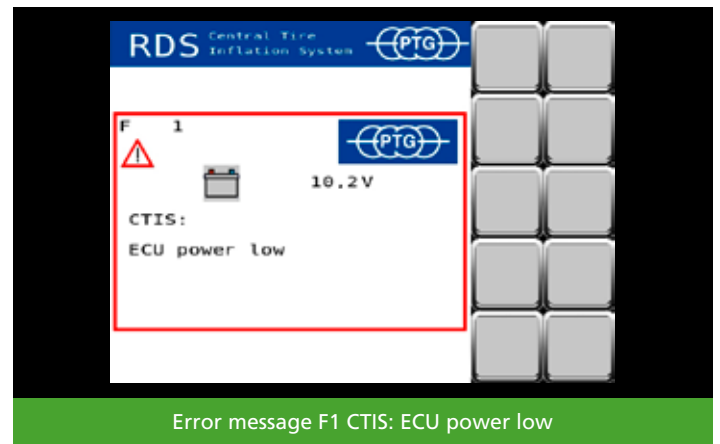
- Error number, e.g. F1, to identify the error
- Warning symbol
- PTG logo to identify the central tire inflation system as the source of the error
- Symbol (if available)
- Measured value of the defective value (if available)
- Error text, e.g. "CTIS: ECU power low", to describe the error in clear words

As soon as you confirm the error message, the screen is released. The error message is stored in the error memory (see "Diagnostics screen", page 10) as e.g. "01 ECU Lo".


To start using the central tire inflation system again after an error, you must lock  (switches to the start screen) and unlock  (switches to the work screen) the system once.

PTG contact details


To access the contact details, press  on the start screen. The contact details screen provides information on how to get in contact with PTG.



Diagnostics screen

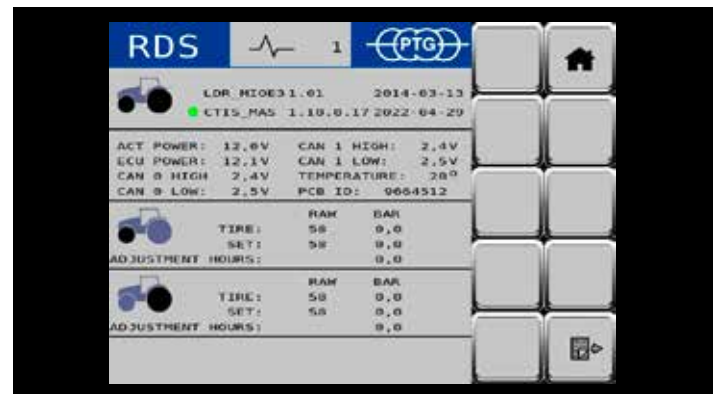
To access the diagnostics screen, press  on the start screen.

The diagnostics screen shows data about the central tire inflation system that may help with troubleshooting. The information is primarily intended for service technicians.

By scrolling to the right with the  button, you can call up the error messages stored in the system.

The two-digit number before the error abbreviation corresponds to the number displayed in the error message and can be used to uniquely identify the error. This helps service technicians to find and fix errors more quickly.

The number after the error abbreviation corresponds to the error frequency and is followed by the date and the operating hours counter status when the error last occurred.



Diagnostics screen 1




Diagnostics screen 2




Diagnostics screen 3


System settings screen

To access the system settings screen, press  on the start screen.

Calling up other functions


You can call up the screen pages via the icons.

 Start screen _____ (page 6)

 ISOBUS settings _____ (page 15)

 Service menu (protected)

 Factory settings (protected)

 Scroll to the next page _____ (page 12)

Units

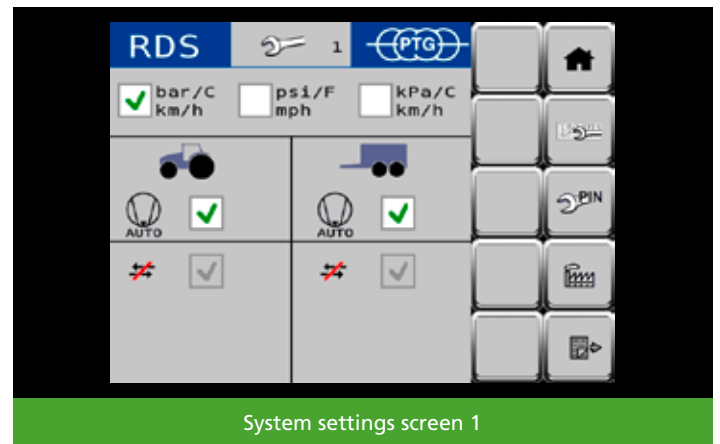
Here, you can set your preferred unit combination for pressure, temperature and speed.

Compressor (automatic)


By checking the box, you can enable the power supply for automatic control of the optional compressor





Unchecking the box interrupts the power supply for the automatic control. By scrolling to the right, you can call up other system settings on the system settings screen.



Measuring the tire pressure (automatic)

If you check the box, the tire pressures of all selected adjustment circuits are measured automatically on a regular basis for monitoring purposes, once the adjustment process is complete.  There is a 5-minute interval between the automatic measurements.

Automatic measurement is interrupted if you return to the start screen or an error occurs. Automatic measurement does not resume until a new adjustment process is completed.

If a deviation >0.1 bar is found during the automatic measurement of the tire pressures in an adjustment circuit, an information window allowing the correction of the deviation appears on the work screen. If you press  the central tire inflation system corrects the deviation that was found. If you press  the deviation found is not corrected, but the automatic measurement continues.

Adjustment switchoff

The adjustment process can end in two different ways:

Standard mode

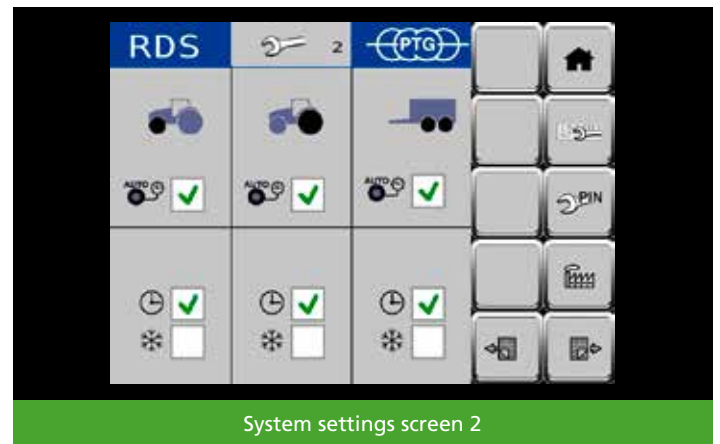
The adjustment process ends when the desired target tire pressure has been reached and a predefined time period has elapsed (default on 2-line systems).

Frost mode

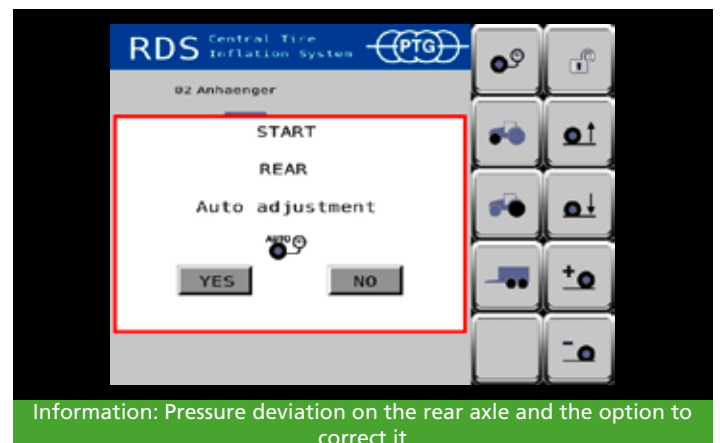
The tire pressure is permanently actively adjusted; the line system remains permanently pressurized. Adjustment is interrupted if you return to the start screen or an error occurs (alternative, more wear!).

NOTE

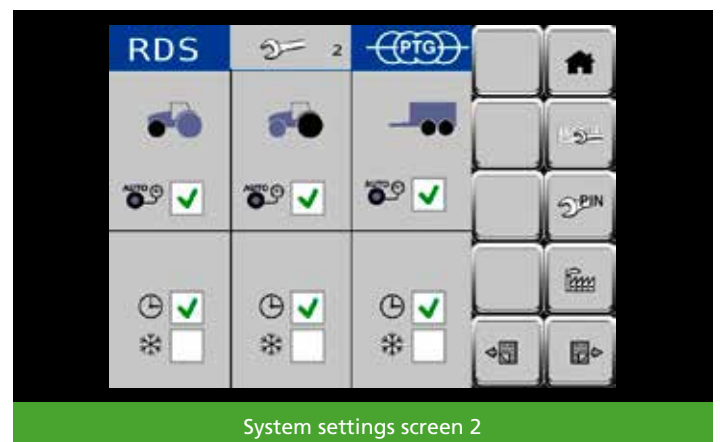
If the external temperature is below 10°C (50°F) when the vehicle is started, the central tire inflation system automatically switches into frost mode to prevent malfunctions due to any ice formation in the compressed air system.



System settings screen 2



Information: Pressure deviation on the rear axle and the option to correct it



System settings screen 2

Speed monitoring

If you check the box  the driving speed of the vehicle is monitored.

Unchecking the box stops the monitoring. No speed-related warnings are displayed.

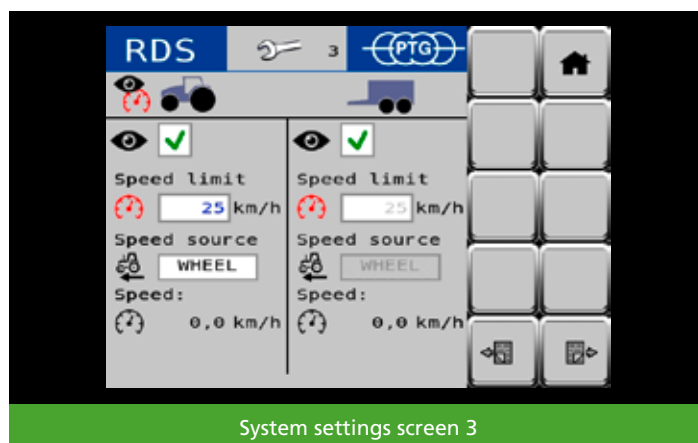
You can enter a speed in the **Speed limit** field. If driving at this speed or faster, the driver is warned that he is too fast for the currently set tire pressure – and therefore risk damaging the tires. (25 km/h is the default setting.)

In the **Speed source** field, you can choose between four different sources for the speed signal of the vehicle. (WHEEL is the default setting.)



NOTE

*The default speed monitoring settings in the central tire inflation system are not a recommendation – they are only an example of possible settings. It is the responsibility of the driver to define and adjust the appropriate settings for the tires (**Speed limit** for field work according to the tire manual) and the vehicle (**Speed source**)!*

The **Speed** display shows the driving speed value currently being received from the vehicle. The value can be used to check the configured settings (**Speed source**).



Speed warning

When speed monitoring is active   the driver receives a warning message from the central tire inflation system if he exceeds the defined speed limit of e.g. 25 km/h for longer than 10 seconds, unless the current tire pressure matches the target tire pressure for road travel.

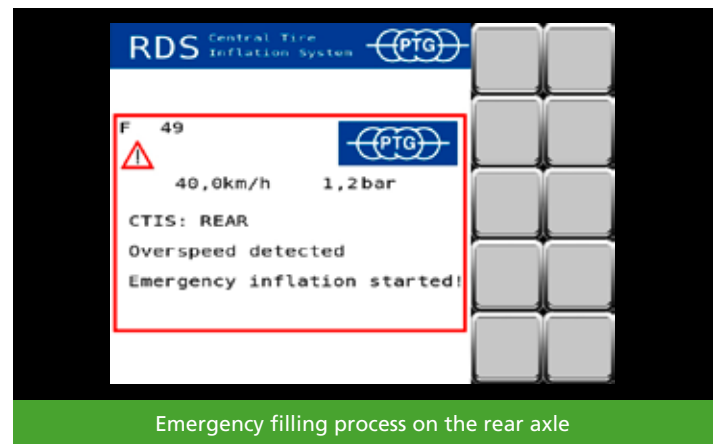
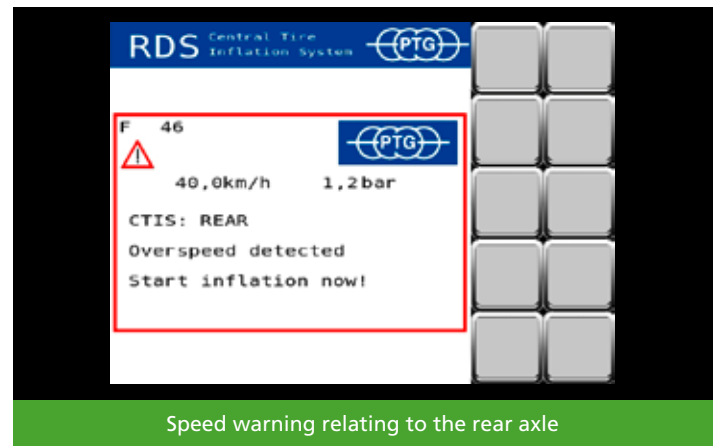
By confirming this warning message, the driver initiates the process of filling the tires in all affected adjustment circuits to the defined target tire pressure for road use. Speed warnings are stored in the error memory.

Emergency filling process


If the driver does not respond to the displayed speed warning within 10 seconds, the central tire inflation system autonomously initiates the process of filling the tires in all affected adjustment circuits to the defined target tire pressure for road use.

NOTE


This emergency filling process is only intended to protect the tires from damage in exceptional circumstances. It does not relieve the driver of the responsibility to define and adjust the appropriate tire pressure for the driving situation.





ISOBUS settings

Press  to access the ISOBUS settings.

If your vehicle has more than one ISOBUS terminal (also called VT or UT), you can select which terminal will display the central tire inflation system.


If you press  the system will display the number (also priority or VT instance) with which your terminals are logged into ISOBUS.

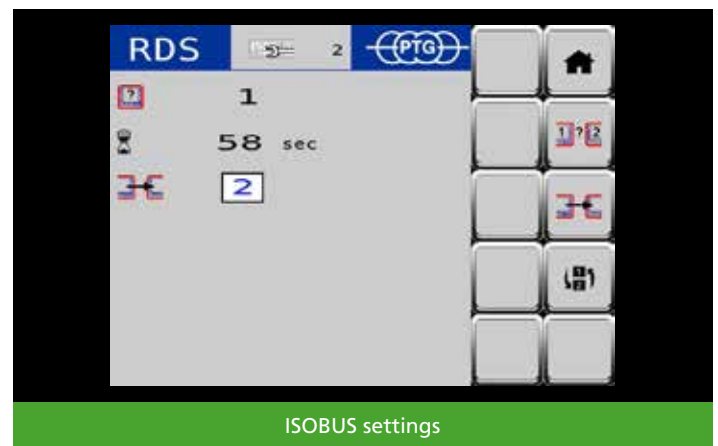
By pressing  you can move the central tire inflation system to the next terminal in order.

By pressing  you can switch between the current and the previously selected terminal.


 **1** Current terminal.

 **58 sec** Duration of the last login.

 **2** Display of the selection for the next terminal in order.



Vehicle configurations

In the vehicle configurations menu, you can save, adjust and easily call up the tire pressures for up to 18 different combinations of tractors and trailers/implements. To do so, press  in the upper left corner of the start screen.


Selecting a vehicle configuration

By default, the configuration is set to **01 Tractor only**. The configuration **02 Trailer** is also defined.

To select this second configuration, tap

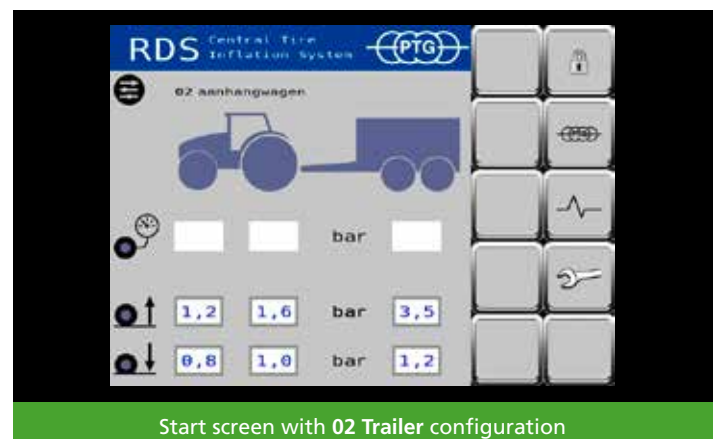
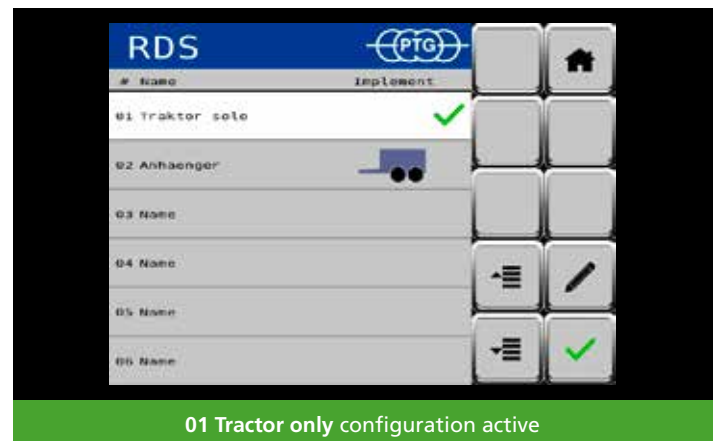
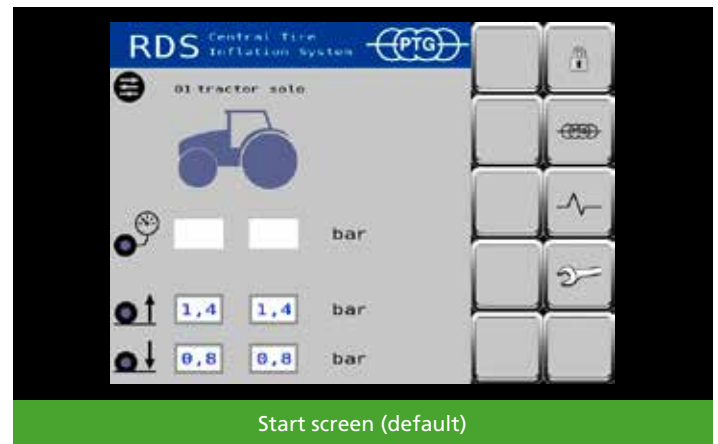
 or use the  and  buttons to navigate up and down the list.

When the **02 Trailer** configuration is selected, it is displayed with a light background.



To apply the selection to the start screen, press 


NOTE

The tire pressures defined in the default settings in configurations "01 Tractor only" and "02 Trailer" in the central tire inflation system are not tire pressure recommendations – they are only an example of possible settings. It is the responsibility of the driver to define and adjust the appropriate tire pressure for the driving situation!



Changing/creating a vehicle configuration

To perform a task such as changing the third configuration and thereby defining a new combination of tractor and trailer/implement, select the configuration by tapping on the corresponding line or use the  and  buttons to navigate up and down the list.

To define settings for the selected configuration, press  to start editing mode.

Tap the input field and enter a new name for the configuration, e.g. **Trailed sprayer**. Confirm the new name by pressing **OK**.

Select an appropriate vehicle image for the configuration, e.g. a trailed sprayer.

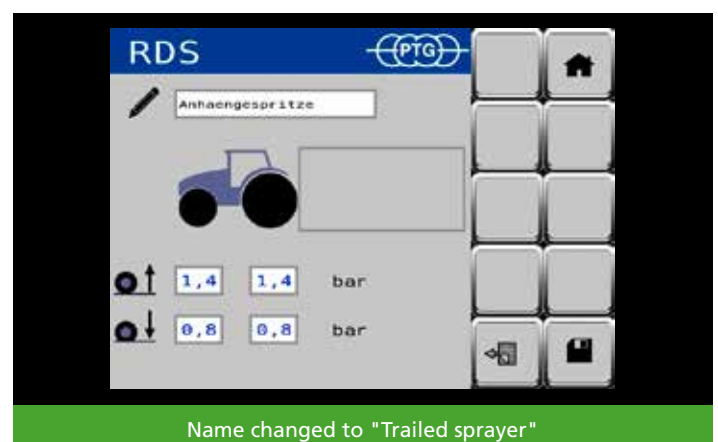
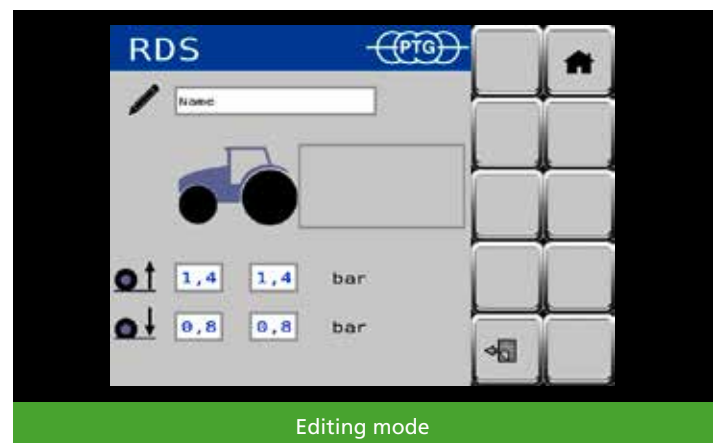
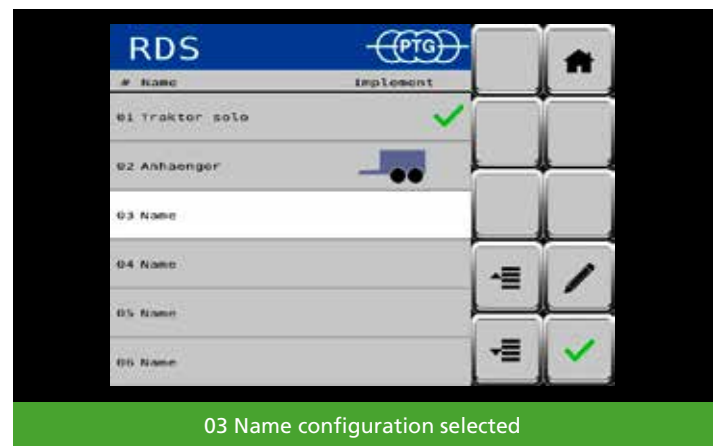
To do so, tap the selection frame to the right of the tractor image. A selection menu opens. You can navigate up and down the menu using the arrow buttons.



Depending on the selected vehicle type, the system will suggest example tire pressures that you must adjust for your vehicles.

NOTE

The tire pressures defined in editing mode for the vehicle configuration in the central tire inflation system are not tire pressure recommendations – they are only an example of possible settings. It is the responsibility of the driver to define and adjust the appropriate tire pressure for the driving situation!

Save your changes. To do so, press 



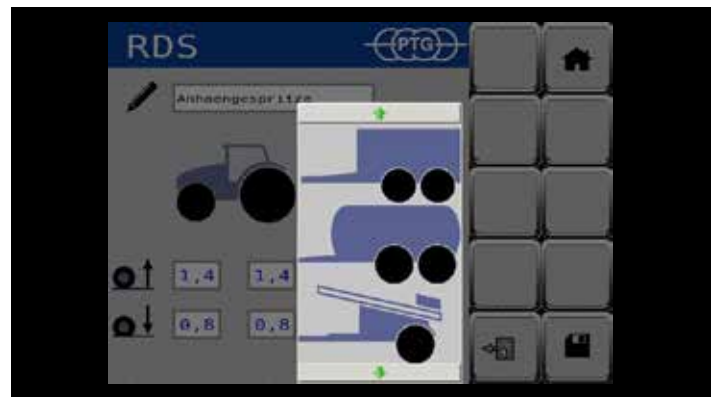
Return to the vehicle configurations menu by pressing  Now, select your changed configuration and apply this to the start screen. To do so, press 

NOTE

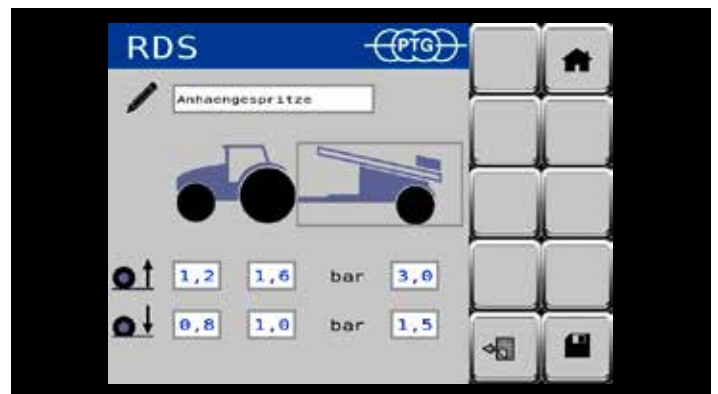
You can also create vehicle configurations with trailers/ implements without the central tire inflation system to define the tire pressures on the tractor for this driving situation according to the tire manual.

NOTE

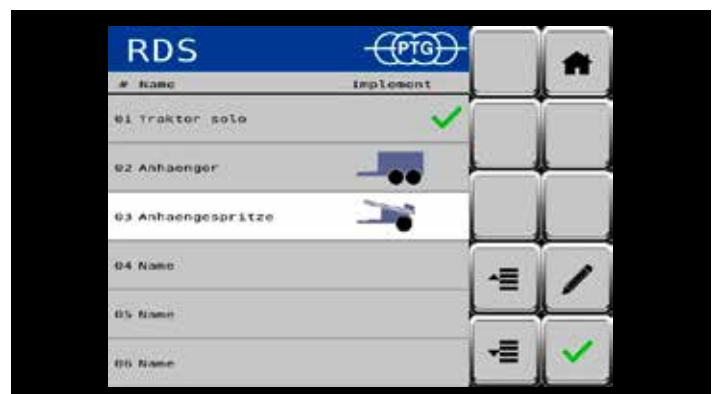
The vehicle image for a trailer or implement is then displayed on the start screen when no such vehicle is currently connected to the tractor. Switch to the configuration **01 Tractor only**, if you want to work without an implement.



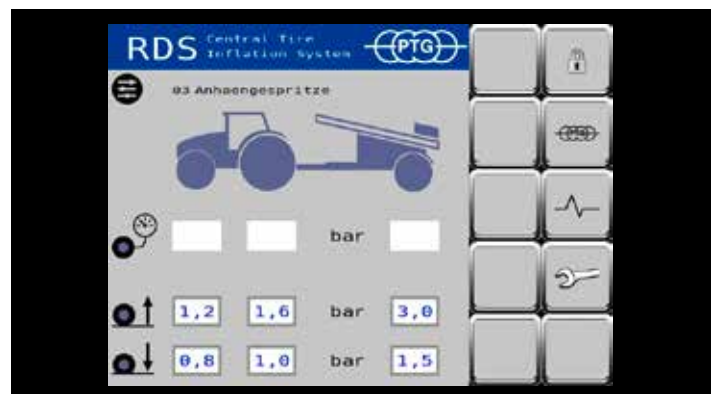
Menu for selecting the vehicle image



Vehicle image changed to a trailed sprayer



03 Trailed sprayer configuration selected



Start screen with 03 Trailed sprayer configuration





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