



Original instructions

**FleetManager™ 4.x**  
with TDU access control



first in intralogistics



## List of abbreviations

Abbreviation	Meaning
BGG	Employers' liability insurance association policy
BGV	Employers' liability insurance association regulation
DFÜ	Remote data transfer
GPRS	General packet radio service
LED	Light emitting diode
PIN	Personal identification number
RGB	Red–green–blue colour space
TDU	Truck data unit



## 1 Foreword

<b>Information regarding these operating instructions</b> .....	2
Scope and target group .....	2
Designation .....	2
Issue date and topicality .....	2
Storage location .....	2
Copyrights and trademark rights .....	2
Definitions and explanations .....	3
Other applicable documents .....	4
Declaration of conformity in accordance with the Radio Equipment Directive 2014/53/EU .....	4

## 2 Safety

<b>Definition of terms used for responsible persons</b> .....	6
Operating company .....	6
Operator .....	6
<b>Basic principles for safe operation</b> .....	6
Damage and defects .....	6
Use of non-original parts .....	6
<b>Residual risk</b> .....	7

## 3 Description

<b>Using FleetManager™</b> .....	10
Proper use .....	10
Impermissible use .....	10
<b>Equipment and accessories</b> .....	11
<b>Overviews and description</b> .....	13
Overview and basic function .....	13
Display elements .....	14
Activating access control after delivery .....	15
Initial configuration and activation .....	16
Changing the configuration .....	17
Deactivating FleetManager™ .....	17
<b>Shock sensor (variant)</b> .....	18
Detecting shock events .....	18
Emergency operation after a shock event .....	18

## 4 Operation

<b>Commissioning and functional checking</b> .....	20
<b>Operator login without pre-shift code</b> .....	23
Operator login on the reading device (without preshift code) .....	23
Operator login on the keypad (without preshift code) .....	24
<b>Operator login with pre-shift code</b> .....	26
Evaluating the operational reliability of the industrial truck .....	26
Functional restrictions if the pre-shift code is negative .....	26
Logging in again with the operator's pre-shift code .....	27
Operator login on the reading device (with preshift code) .....	27
Operator login on the keypad (with preshift code) .....	31
<b>Operator logoff</b> .....	33
<b>Malfunctions, causes and remedies</b> .....	35
<b>Decommissioning</b> .....	37

## 5 Technical data

<b>Radio equipment</b> .....	40
------------------------------	----

1

---

## Foreword

## Information regarding these operating instructions

# Information regarding these operating instructions

## Scope and target group

These operating instructions describe access control for industrial trucks using FleetManager™ in the following variants:

- FleetManager™ with reading device and transponder chip
- FleetManager™ with keypad

The possible responses of FleetManager™ and of the industrial truck are also described.

The target group of these operating instructions comprises the operators of the industrial

trucks (drivers, fleet managers, workshop personnel).

These people can enable the industrial truck for operation by means of a valid access authorisation.

These operating instructions do not describe:

- Construction, function and operation of the FleetManager™ PC software (see description of FleetManager™ PC software)
- Details of possible parameterisations
- Technical details of the access control

## Designation

The device described in these operating instructions is named **FleetManager™4.x**

**TDU** (subsequently referred to as **FleetManager™**).

## Issue date and topicality

These operating instructions correspond to the state of the technology at the time of printing. Subject to changes in technology and equipment.

These operating instructions will be updated as soon as there are any changes. This applies in particular to changes in function where they affect the behaviour of the industrial truck, but also to changes to the software versions used.

Thank you for reading and complying with these operating instructions.

If you still have any questions, require technical support for your product, would like to suggest improvements or have discovered any errors, please contact the relevant STILL service centre.

We hope you enjoy your driving

STILL GmbH  
Berzeliusstrasse 10  
22113 Hamburg Germany

## Storage location

These operating instructions must be supplied with the industrial truck.

If these operating instructions are lost, the operator must immediately request a replacement from STILL.

## Copyrights and trademark rights

These operating instructions—either in part or in full—may only be reproduced, translated

or made available to third parties with the express **written** permission of STILL GmbH.



## Definitions and explanations

These operating instructions contain important warning signs relating to operation, to which particular attention must be paid. They are marked with DANGER, WARNING or CAUTION.

### **DANGER**

Indicates procedures that must be strictly adhered to in order to prevent the risk of fatalities.

### **WARNING**

Indicates procedures that must be strictly adhered to in order to prevent the risk of injuries.

### **CAUTION**

Indicates procedures that must be strictly adhered to in order to prevent material damage and/or destruction.

Each operation-related warning sign is structured in the following sequence:

- Description: Nature and source of the danger, as well as potential consequences if disregarded
- Avoidance: Measures for avoiding the danger/prohibitive rules

In some cases, there are also other signs which must be observed in addition to the operation-related warning signs. They are labelled NOTE or ENVIRONMENTAL NOTE.

### **NOTE**

For technical requirements that require special attention.

### **ENVIRONMENT NOTE**

To prevent environmental damage.

## Information regarding these operating instructions

### Other applicable documents

These operating instructions are supplementary.

Basic safety and operation-related warning signs for operation of the industrial truck can be found in the operating instructions of the corresponding industrial truck.

Other guidelines listed in these operating instructions only apply in Germany:

- BGG (German Trade Association Guidelines) 925 "Training and instruction of

drivers of industrial trucks with driver's seat and driver's platform"

- BGV D27 (Regulations of the Employer's Liability Insurance Association) "Accident prevention regulations for industrial trucks"

#### NOTE

*Observe the national regulations for your country!*

### Declaration of conformity in accordance with the Radio Equipment Directive 2014/53/EU

The manufacturers of the radio equipment installed in the industrial truck declare that the radio equipment corresponds to the Radio Equipment Directive 2014/53/EU. The declarations of conformity can be viewed at the following Internet address:

<https://www.still.de/eu-declarations.html>

2

---

**Safety**

## Definition of terms used for responsible persons

### Definition of terms used for responsible persons

#### Operating company

The operating company is the individual or legal entity that uses the industrial truck—and associated equipment—or on whose instruction the industrial truck is used.

The instruction must be given to the operator **in writing**.

As the operating company, you must instruct the operator in his or her duties and provide a code of conduct when using FleetManager™.

Ensure:

- That the FleetManager™ software is used only for its intended purpose and in accordance with the safety regulations in these operating instructions and
- That the operator of the industrial truck has received, read and understood these operating instructions

#### Operator

The operator of a power-driven industrial truck—and the associated equipment—must comply with the following requirements in order to operate and/or to drive an industrial truck in Germany:

- He or she must suitable for and trained for this activity and
- must have proven to the operating company or a representative of the operating company of their ability to drive and handle loads.

The required minimum age of the operator and/or driver depends on the model of the industrial truck.

The contract for driving an industrial truck must be provided to the operator **in writing**.

#### NOTE

*Observe the national regulations for your country!*

In Germany, these requirements are regulated by BGV D27 (Regulations of the Employer's Liability Insurance Association), §7 "Accident prevention regulations for industrial trucks".

Operators are accordingly trained and qualified if they have been trained in accordance with BGG 925 (German Trade Association Guidelines) "Training and instruction of drivers of industrial trucks with driver's seat and driver's platform".

### Basic principles for safe operation

#### Damage and defects

The operator must immediately report any damage or other defects to FleetManager™ to the supervisory personnel.

Equipment that is not safe for operation or for use on the road must not be used until it has been properly repaired.

#### Use of non-original parts

Original parts and accessories are designed specifically for this FleetManager™. We

would like to draw your attention explicitly to the fact that parts and accessories supplied

by other companies have not been tested and approved by STILL.

**⚠ DANGER**

**Risk of accident through use of non-original parts.**

Non-original parts can have a negative effect on the design features of the industrial truck and thus impair active and/or passive driving safety.

Before installation, obtain approval from the manufacturer and, if necessary, from the relevant regulatory authorities.

---

The manufacturer accepts no liability for any damage caused by the use of non-original parts and accessories without **written** approval.

## Residual risk

Due to the variety of options relating to the parameterisation of industrial trucks and the FleetManager™ software, the response of the FleetManager™ software and industrial truck may vary.

Defined responses are ultimately also dependent on the truck control unit and the setup of the respective industrial trucks.

FleetManager™ remains a device for access control and can never be a substitute for proper decommissioning of the industrial truck.

The driver must **not depend exclusively** on the responses of FleetManager™ during operation. The driver **always** takes responsibility for safe operation.



3

---

Description

## Using FleetManager™

### Using FleetManager™

#### Proper use

The FleetManager™ is used to control access to industrial trucks.

Drivers are granted access to an industrial truck by means of a transponder chip (reading device variant) or by entering a PIN code (keypad variant). The PIN code can contain either five or eight digits.

The fleet manager uses the FleetManager™ PC software to assign the transponder chips or PIN codes to the industrial trucks (configuration). The validity of the access authorisation can be adjusted as required.

After configuration, only drivers with an appropriate transponder chip or PIN code

can unlock the assigned industrial truck and lock it again to prevent use by unauthorised persons.

In addition to controlling access, the FleetManager™ performs the following functions:

- Recording of operating data
- Detection of shock events (if equipped with a shock sensor)
- Temporarily change in the properties of the industrial truck

The data is analysed by the fleet manager or workshop personnel on a separate computer using remote data transfer and the FleetManager™ PC software.

#### Impermissible use

The operating company or operator, and not the manufacturer, is liable for any hazards caused by improper use.

#### NOTE

*Please note the definition of the following responsible persons: "operating company" and "operator".*

Use for purposes other than those described in these operating instructions is prohibited.



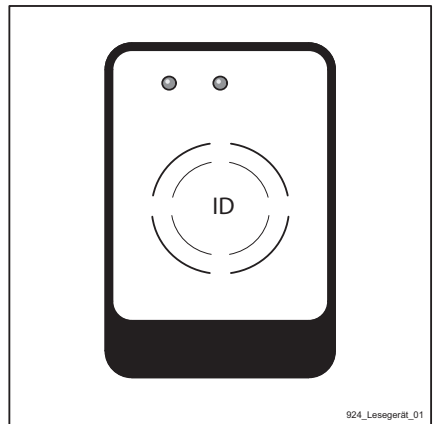
## Equipment and accessories

Item	Designation	Comment
2	In reading device variant only: Transponder chip	The transponder chip is supplied with a fixed code. This can be assigned to an operator by adjusting the configuration. The code itself cannot be changed.
1	Optional: Acceleration sensor	For measuring shock accelerations of the industrial truck.
1	Optional: Remote data transfer component	For transferring data remotely.

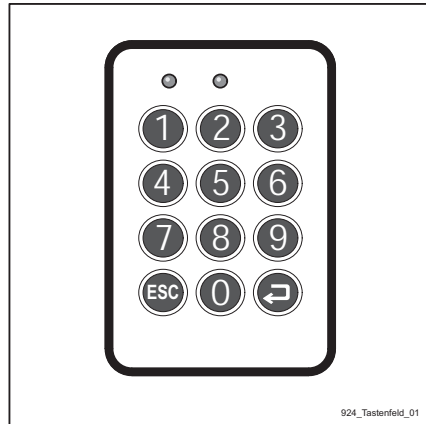
Illustration of **transponder chip**



Illustration of **reading device variant**



## Equipment and accessories

Illustration of **keypad** variant

## Overviews and description

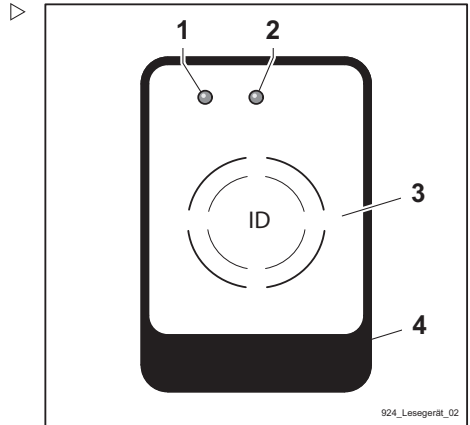
### Overview and basic function

#### Reading device variant

FleetManager™ (reading device variant) consists of a housing (4) containing an integrated reading device (3).

LED 1 (1) and LED 2 (2) serve as a display element. Both LEDs cover the RGB colour space and can reproduce various colours.

In addition to the visual displays of the two LEDs, an integrated signal transmitter can sound corresponding signal tones.



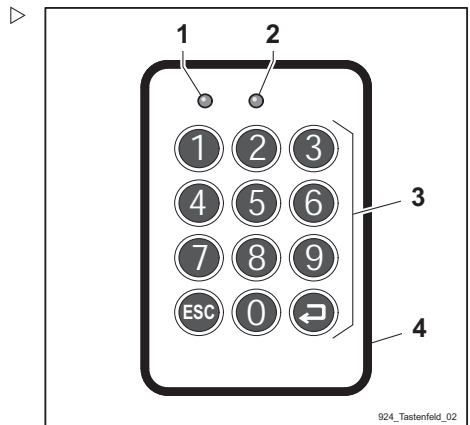
- 1 LED 1
- 2 LED 2
- 3 Reading device
- 4 Housing

#### Keypad variant

FleetManager™ (keypad variant) consists of a housing (4) with a keypad (3).

LED 1 (1) and LED 2 (2) serve as a display element. Both LEDs cover the RGB colour space and can reproduce various colours.

In addition to the visual displays of the two LEDs, an integrated signal transmitter can sound corresponding signal tones.



- 1 LED 1
- 2 LED 2
- 3 Keypad
- 4 Housing

## Overviews and description

**Display elements****LED indicators**

Display element	Possible statuses
LED 1	Permanently lit
	Flashing slowly at two-second intervals
	Flashing quickly
	Single flash
LED 2	Permanently lit
	Flashing slowly at two-second intervals
	Flashing quickly
	Single flash

**NOTE**

*When switching on FleetManagers™, both LEDs briefly flash white.*

**Signal tone indicators**

Display element	Possible statuses
Signal transmitter	One short signal tone
	Two short signal tones
	One long signal tone

## Activating access control after delivery

### CAUTION

Danger associated with use of the truck by unauthorised persons



After the truck is delivered to the operating company, the FleetManager™ must be put into operation so that only persons authorised by the operating company have access to the truck.

- Put the FleetManager™ into operation immediately after delivery of the truck.
- Make the truck available only to persons authorised by the operating company.
- If FleetManager™ is not put into operation immediately after delivery of the truck, convert the truck to a different access control. Contact the authorised service centre regarding this matter.

The fleet management system installed in your truck provides effective protection against unauthorised access. The system can only be activated at the customer's premises, as it uses essential customer data. This means that the truck is not protected against unauthorised access at the time of delivery.

The fleet management system in the truck must therefore be put into operation immediately after delivery in order to guarantee protection. If this is not possible, **the operating company** must ensure that the truck is made available only to authorised persons. If it is decided not to use the fleet management system, **the operating company is also responsible for ensuring** that the truck is equipped with some other form of access control.

In its delivered state, the display elements respond according to the table below after the industrial truck is switched on:


FleetManager™ LEDs	Signal transmitter
  LED 1 is not lit. LED 2 is permanently lit (green).	Two short signal tones sound.

## Overviews and description

### Initial configuration and activation

The fleet manager uses the FleetManager™ PC software to assign the transponder chips or PIN codes to the industrial trucks (configuration). The validity of the access authorisation can be adjusted as required.

If this transponder chip or PIN code is issued to a driver, the driver is provided with access authorisation for the industrial truck.

The fleet manager can also specify in the configuration whether the operator has to press the  confirmation button after entering a PIN code in the keypad variant.

After the configuration has been created, the fleet manager must send the configuration file to the truck so that the access authorisations are activated on the truck. This is done via wireless transfer either via mobile radio network or Bluetooth, depending on the vehicle equipment.

### Preshift codes (optional)

The fleet manager can also specify in the configuration whether the operator has to enter a preshift code when logging in.

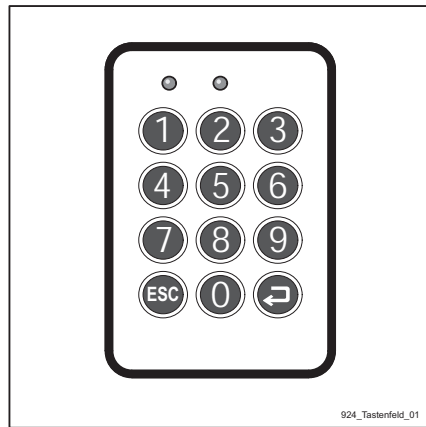
By entering this preshift code, the operator is able to assess the status of the industrial truck.

The following statuses are defined:

- Truck OK.
- Truck ready for operation, but faults present.
- Truck not ready for operation.

The preshift code is entered after the actual login. The preshift code is entered in different ways depending on the FleetManager™ variant:

- Reading device variant: Remove the transponder briefly after logging in and hold it in front of the reading device again at the required LED flash sequence (see table below).
- Keypad variant: Enter the PIN code (and then press the confirmation button if required) and press an additional button as described in the table below.



Condition	Reading device variant	Keypad variant
Truck OK.	If LED 2 flashes green (cycle 1), return the transponder chip.	Press the <b>0</b> button.
Truck ready for operation, but faults present.	If LED 1 flashes red and LED 2 flashes green (cycle 2), return the transponder chip.	Press the <b>1</b> button.
Truck not ready for operation.	If LED 1 flashes red (cycle 3), return the transponder chip.	Press the <b>2</b> button.

### NOTE

*The keypad variant ignores all buttons except the **0**, **1** and **2** buttons when the preshift code is being entered.*

### Activation (master enable)

The industrial truck is initially activated using master enable. This is used to provide feedback to confirm that the configured industrial truck actually belongs to the customer's fleet.

### NOTE

*Unlike initial configuration, master enable does **not** have to be repeated if subsequent changes are made to a configuration.*

When using the reading device variant, the fleet manager must hold a special master transponder chip in front of the reading device.

When using the keypad variant, the fleet manager must input a special master PIN code.

### Changing the configuration

The configuration data can be sent to FleetManager™ at any time (even when the industrial truck is in operation) by means of a remote data transfer command and can then

be stored there. However, the new configuration data is not applied (activated) until the operator has logged off.

### Deactivating FleetManager™

FleetManager™ can be deactivated by changing the parameters in the service diagnostics.

This is required to enable the industrial truck to be operated for servicing work without valid access authorisation.

## Shock sensor (variant)

**Shock sensor (variant)****Detecting shock events****Defining a shock event**

An acceleration sensor must be installed in order to record shock event data (such as in a collision).

Using this data, the identity of the operator logged in to the industrial truck at the time of the shock event can be reconstructed.

The acceleration sensor measures shock accelerations (vibrations) of the industrial truck; these are then compared with the pre-defined limit values and saved.

A shock event is recorded if the shock acceleration measured at any one moment exceeds a **pre-defined activation threshold**.

**Reading out and transferring the shock event data**

The shock event data can be read out either during the regular cyclic data transfer process or via an immediate transfer. The fleet manager can then evaluate the shock acceleration data using the FleetManager™ 4.x PC software.

**Emergency operation after a shock event**

The functional restrictions of the industrial truck after a shock event are dependent on the industrial truck and its parameterisation.

The signals of the industrial truck after a shock event can also be configured:

- No display
- LED display
- LED display and audible signal tone

LED display after a shock event (if parameterised):

**LED display**

LED 1 flashes quickly red.

LED 2 lights up continuously green.

After a shock event (e.g. after a collision), the operator responsible at the time of shock event must park the industrial truck securely.

- Bring the industrial truck into the designated parking area and actuate the parking brake.
- Switch off the industrial truck using the key switch.



4

---

## Operation

## Commissioning and functional checking









## Commissioning and functional checking







## Initial configuration by the fleet manager

 NOTE

The configuration can be adjusted at any time over the mobile radio network — i.e. via wireless transmission using the FleetManager™ 4.x PC software — while the industrial truck is switched on. The configuration is first activated on the industrial truck when the instructions in the following table have been completed in full.

In the following table, the initial configuration is described for both variants of FleetManager™ (reading device and keypad).

Seq. No.	Operating step	LED statuses	Signal transmitter
1	Generate the configuration table using the FleetManager™ PC software.	—	—
2	Switch on industrial truck using key switch.	  LED 1 is not lit. LED 2 is permanently lit (green). ►The industrial truck is initially ready for operation without valid access authorisation.	Two short signal tones sound.
3	Transfer the configuration data via the mobile radio network.	  LED 1 flashes red at one-second intervals. LED 2 flashes green at one-second intervals. ►This status is retained until the fleet manager switches off the industrial truck using the key switch.	A short signal tone sounds.
4	Switch off the industrial truck using the key switch and then switch it on again.	  LED 1 is not lit. LED 2 flashes slowly (green) at two-second intervals.	No signal tone sounds.
5	<b>For the reading device variant only:</b> Hold the master transponder chip in front of the reading device.	  LED 1 is not lit. LED 2 is permanently lit (green). ►The industrial truck is integrated into the fleet.	Two short signal tones sound.

Seq. No.	Operating step	LED statuses	Signal transmitter
6	<b>For keypad variant only:</b> Enter the master PIN code and press the  button to confirm if required.	  LED 1 is permanently lit (red). LED 2 flashes green every time a key is pressed.	A short signal tone sounds every time a button is pressed.
		► If any of the buttons (including the  ) are not pressed within five seconds, the login procedure must be restarted from the beginning.	
		  LED 1 is not lit. LED 2 is permanently lit (green).	Two short signal tones sound.
		► The industrial truck is integrated into the fleet.	

### Changes to the configuration by the fleet manager





 **NOTE**

*If login using a preshift code is configured, the operator may be prompted by the device to input the preshift code (see chapter "Operation in normal operation mode").*








 **NOTE**

*The fleet manager can send the configuration data at any time (even during operation of the industrial truck) over the mobile radio network to the industrial truck, where it can be stored. However, the new configuration data is not applied (activated) until the operator has **logged off**.*

If an operator is still logged in during configuration, the following display elements appear:

Seq. No.	Operating step	LED statuses	Signal transmitter
1	Generate the configuration table using the Fleet-Manager™ PC software.	  LED 1 is not lit. LED 2 is permanently lit (green).	No signal tone sounds.
2	Transmit the configuration data by means of a remote data transfer command.	  LED 1 is not lit. LED 2 is permanently lit (green).	No signal tone sounds.

## Commissioning and functional checking

Seq- No.	Operating step	LED statuses	Signal transmitter
3	<b>Depending on the variant:</b> Log off using the transponder chip or by pressing the  button on the keypad.	  LED 1 lights up red for approx. one second. LED 2 is not lit.	A long signal tone sounds.
		  LED 1 is not lit. LED 2 flashes quickly (green).	No signal tone sounds.
		  LED 1 is not lit. LED 2 flashes slowly (green) at two-second intervals.	No signal tone sounds.

**Function checking**

When an industrial truck is configured for the first time after delivery and is activated by means of master enable, it can then still only be operated with valid access authorisation.

In the event of malfunctions, LED 1 and LED 2 respond accordingly and a signal tone sounds (see chapter "Malfunctions, causes and remedies"). The industrial truck remains locked and cannot be operated.



A further manual function check by the operator is not necessary.

## Operator login without pre-shift code

### Operator login on the reading device (without preshift code)


**i** NOTE


*For trucks on which the key switch has been replaced by the TDU, the first step ("Switch on industrial truck using key switch") is omitted.*







Seq. No.	Operating step	LED statuses	Signal transmitter
1	Switch on industrial truck using key switch. For trucks on which the key switch has been replaced by the TDU, the first step ("Switch on industrial truck using key switch") is omitted.	 LED 1 is not lit. LED 2 flashes slowly (green) at two-second intervals.	No signal tone sounds.
2	Hold the transponder chip in front of the reading device.	 LED 1 is not lit. LED 2 is permanently lit (green).	Two short signal tones sound.
►The industrial truck is ready for operation.			


## Operator login without pre-shift code






Operator login on the keypad  
(without preshift code) NOTE

The fleet manager can also specify in the initial configuration, or in subsequent changes to a configuration, whether the operator has to press the  button to confirm entry of a PIN code.

Operator login **without** entry confirmation via the  button:

Seq. N-o.	Operating step	LED statuses	Signal transmitter
1	Switch on industrial truck using key switch. For trucks on which the key switch has been replaced by the TDU, the first step ("Switch on industrial truck using key switch") is omitted.	  LED 1 is not lit. LED 2 flashes slowly (green) at two-second intervals.	No signal tone sounds.
2	Enter the PIN code.	  LED 1 is permanently lit (red). LED 2 flashes green every time a key is pressed.	A short signal tone sounds every time a button is pressed.
		► If any of the buttons are not pressed within five seconds, the login procedure must be restarted from the beginning.	
		  LED 1 is not lit. LED 2 is permanently lit (green).	Two short signal tones sound.
		► The industrial truck is ready for operation.	

Operator login **with** entry confirmation using the  button:

Seq. N-o.	Operating step	LED statuses	Signal transmitter
1	Switch on industrial truck using key switch. For trucks on which the key switch has been replaced by the TDU, the first step ("Switch on industrial truck using key switch") is omitted.	 LED 1 is not lit. LED 2 flashes slowly (green) at two-second intervals.	No signal tone sounds.
2	Enter the PIN code.	 LED 1 is permanently lit (red). LED 2 flashes green every time a key is pressed. ► If any of the buttons are not pressed within five seconds, the login procedure must be restarted from the beginning.	A short signal tone sounds every time a button is pressed.
3	Press the  button.	 LED 1 is not lit. LED 2 is permanently lit (green). ► If the  button is also not pressed within five seconds, the login procedure must be restarted from the beginning. ► The industrial truck is ready for operation.	Two short signal tones sound.

## Operator login with pre-shift code

### Operator login with pre-shift code

#### Evaluating the operational reliability of the industrial truck

By entering the pre-shift code, the operator is able to evaluate the status of the industrial truck.

The following statuses are defined:

- Industrial truck OK
- Industrial truck ready for operation, but faults present
- Industrial truck not ready for operation

The operator enters the pre-shift code after logging into the industrial truck. After logging in, but before the pre-shift code has been entered, the hydraulic functions are fully enabled but the drive functions are limited. In this way, the operator can evaluate the operational reliability.

#### Functional restrictions if the pre-shift code is negative

If the result of a pre-shift procedure is that the "industrial truck is not ready for operation", there is the option to limit the drive functions and hydraulic functions. The fleet manager determines the restrictions when carrying out the configuration using the PC software <sup>TM</sup>4.x.

The restrictions remain in force even if the industrial truck is switched on and off. They can be reset only using an access means or PIN code with corresponding authorisation. As long as the restrictions are active, no further pre-shift procedures can be performed.

Result of the pre-shift procedure	Enabled functions
Industrial truck OK	Drive functions and hydraulic functions enabled
Industrial truck ready for operation, but faults present	Drive functions and hydraulic functions enabled
Industrial truck not ready for operation	Drive functions and hydraulic functions are enabled or restricted (depending on the pre-shift configuration)



## Logging in again with the operator's pre-shift code

When carrying out the configuration using the PC software TM 4.x, the fleet manager determines whether an operator must enter another pre-shift code when logging in again.

There are two available options:

- 1 Pre-shift procedure upon change of driver
- 2 Pre-shift procedure 1x daily



### NOTE

*If there has been no change of operator within that time, a pre-shift code must be entered again 12 hours after the last pre-shift procedure.*

### Option: "Pre-shift procedure upon change of driver"

When an operator logs off after the pre-shift procedure, the same operator can log back on without a new pre-shift procedure. This applies even if the industrial truck has been switched off and on again in the meantime.

A new pre-shift procedure is necessary only when there is a change of operator.

### Option "Pre-shift procedure 1x daily"

When an operator logs off after the pre-shift procedure, the same operator must perform a new pre-shift procedure if there has been a change of day between the last login and the new login. Any authorised driver can then log in without a pre-shift procedure at any time up to the end of the current day. A new pre-shift procedure is necessary only when there is a change of operator.

## Operator login on the reading device (with preshift code)

To log into the industrial truck, the operator must hold a valid transponder chip in front of the reading device. Once the login procedure

## Operator login with pre-shift code

has been completed successfully, the pre-shift procedure starts. By means of different LED signals, the reading device successively offers the available statuses of the industrial truck for selection. The operator selects the pre-shift code for the status of the industrial truck by holding the transponder chip in front of the reading device again. The pre-shift procedure is now complete.

An operator can log off only using the same transponder chip as was used to log in.

### Timeout during the pre-shift procedure




If the operator holds the transponder chip in front of the reading device for longer than 30 seconds after login, the login process is cancelled. The PIN code must be entered a second time.

If the operator does not hold a transponder chip in front of the reading device within 30 seconds after logging in, the login process is cancelled. The PIN code must be entered a second time.




### Performing the pre-shift procedure

The device runs through the cycles described in the following tables one after the other until the operator holds the transponder chip in front of the reading device during the required LED flash sequence. To select cycle 2, for example, the operator must first allow cycle 1 to run through without any user action.


Status "Truck OK (cycle 1)"

Seq. No.	Operating step	LED statuses	Signal transmitter
1	Switch on the industrial truck using the key switch. For industrial trucks in which the key switch is replaced by the TDU, skip this step.	 LED 1 does not light up. LED 2 flashes slowly (green) at two-second intervals.	No signal tone sounds.
2	Hold the transponder chip <b>briefly</b> in front of the reading device (login).	 LED 1 does not light up. LED 2 flashes quickly green. ▶ <b>Cycle 1</b> is now started and runs for three seconds. The operator must hold the transponder chip in front of the reading device again (operating step no. 3) during this three-second period, i.e. while LED 2 is flashing quickly green.	A short signal tone sounds.
3	Hold the transponder chip in front of the reading device during the three-second period indicating <b>cycle 1</b> .	 LED 1 does not light up. LED 2 lights up continuously green. ▶ The industrial truck is now ready for operation.	Two short signal tones sound.







Status "Industrial truck ready for operation but faults present (cycle 2)"

Seq. No.	Operating step	LED statuses	Signal transmitter
1	Switch on the industrial truck using the key switch. For industrial trucks in which the key switch is replaced by the TDU, skip this step.	 LED 1 does not light up. LED 2 flashes slowly (green) at two-second intervals.	No signal tone sounds.
2	Hold the transponder chip <b>briefly</b> in front of the reading device (login).	 LED 1 does not light up. LED 2 flashes quickly green. ▶ <b>Cycle 1</b> is now started and runs for three seconds without any further action by the operator.	A short signal tone sounds.
		 LED 1 flashes quickly red. LED 2 flashes quickly green. ▶ <b>Cycle 2</b> is started at the end of cycle 1 and runs for a further three seconds. The operator must hold the transponder chip in front of the reading device again (operating step no. 3) during this three-second period, i.e. while the two LEDs are flashing quickly.	No signal tone sounds.

## Operator login with pre-shift code


Seq- No.	Operating step	LED statuses	Signal transmitter
3	Hold the transponder chip in front of the reading device during the three-second period indicating <b>cycle 2</b> .	 LED 1 does not light up. LED 2 lights up continuously green. ▶ The industrial truck is now ready for operation.	Two short signal tones sound.


## Status "Industrial truck not ready for operation (cycle 3)"








Seq- No.	Operating step	LED statuses	Signal transmitter
1	Switch on the industrial truck using the key switch. For industrial trucks in which the key switch is replaced by the TDU, skip this step.	 LED 1 does not light up. LED 2 flashes slowly (green) at two-second intervals.	No signal tone sounds.
2	Hold the transponder chip <b>briefly</b> in front of the reading device (login).	 LED 1 does not light up. LED 2 flashes quickly green. ▶ <b>Cycle 1</b> is now started and runs for three seconds without any further action by the operator.	A short signal tone sounds.
		 LED 1 flashes quickly red. LED 2 flashes quickly green. ▶ <b>Cycle 2</b> is started at the end of cycle 1 and runs for a further three seconds if there is no action by the operator.	No signal tone sounds.
		 LED 1 flashes quickly red. LED 2 does not light up. ▶ <b>Cycle 3</b> is started at the end of cycle 2 and runs for a further three seconds. The operator must hold the transponder chip in front of the reading device again (operating step no. 3) during this three-second period, i.e. while LED 1 is flashing quickly red.	No signal tone sounds.
		 LED 1 does not light up. LED 2 lights up continuously green. ▶ The industrial truck is now ready for operation.	Two short signal tones sound.
3	Hold the transponder chip in front of the reading device during the three-second period indicating <b>cycle 3</b> .	 LED 1 does not light up. LED 2 lights up continuously green. ▶ The industrial truck is now ready for operation.	Two short signal tones sound.


### Operator login on the keypad (with preshift code)

**i** NOTE





*If the preshift code is not entered within 30 seconds after entering the PIN code (or after confirming the PIN code via the  button), the login process is cancelled.*

Operator login **without** entry confirmation via the  button:

Seq. No.	Operating step	LED statuses	Signal transmitter
1	Switch on industrial truck using key switch. For trucks on which the key switch has been replaced by the TDU, the first step ("Switch on industrial truck using key switch") is omitted.	 LED 1 is not lit. LED 2 flashes slowly (green) at two-second intervals.	No signal tone sounds.
2	Enter the PIN code.	 LED 1 is permanently lit (red). LED 2 flashes green every time a key is pressed.	A short signal tone sounds every time a button is pressed.
		▶ If any of the buttons are not pressed within five seconds, the login procedure must be restarted from the beginning.	
		 LED 1 is not lit. LED 2 flashes quickly (green).	No signal tone sounds.
▶ The PIN code was entered correctly.			
3	Press the button corresponding to the status of the industrial truck:  : Truck OK  : Truck ready for operation, but faults present  : Truck not ready for operation	 LED 1 is not lit. LED 2 is permanently lit (green).	Two short signal tones sound.
		▶ The industrial truck is ready for operation.	

Operator login **with** entry confirmation using the  button:

## Operator login with pre-shift code

Seq. No.	Operating step	LED statuses	Signal transmitter
1	Switch on industrial truck using key switch. For trucks on which the key switch has been replaced by the TDU, the first step ("Switch on industrial truck using key switch") is omitted.	 LED 1 is not lit. LED 2 flashes slowly (green) at two-second intervals.	No signal tone sounds.
2	Enter the PIN code.	 LED 1 is permanently lit (red). LED 2 flashes green every time a key is pressed. ► If any of the buttons are not pressed within five seconds, the login procedure must be restarted from the beginning.	A short signal tone sounds every time a button is pressed.
3	Press the ⊖ button.	 LED 1 is not lit. LED 2 flashes quickly (green). ► If the ⊖ button is also not pressed within five seconds, the login procedure must be restarted from the beginning.	No signal tone sounds.
4	Press the button corresponding to the status of the industrial truck: 0: Truck OK 1: Truck ready for operation, but faults present 2: Truck not ready for operation	 LED 1 is not lit. LED 2 is permanently lit (green). ► The industrial truck is ready for operation.	Two short signal tones sound.

## Operator logoff

On both STILL and non-STILL trucks, the operator must first ensure the industrial truck is parked securely and then log off properly (see chapter "Decommissioning").



### NOTE

*An operator can only log off using the same transponder chip that was used to log in. If an operator is still logged on when another operator with access authorisation holds their transponder chip in front of the reading device, this results in an immediate change of operator.*

### NOTE






*If the operator does not log off before leaving the industrial truck, the device can optionally be set to log off automatically after a certain time has elapsed. The fleet manager can specify the length of this period in the configuration as required.*

### Reading device variant

Seq. N-o.	Operating step	LED statuses	Signal transmitter
1	Hold the transponder chip <b>briefly</b> in front of the reading device.	 LED 1 lights up red for approx. one second. LED 2 is not lit.	A long signal tone sounds.
		 LED 1 is not lit. LED 2 flashes slowly (green) at two-second intervals.	No signal tone sounds.

## Operator logoff

## Keypad variant

Seq. No.	Operating step	LED statuses	Signal transmitter
1	Press the  button and <b>hold down</b> .	Neither LED lights up. ►Acknowledgement is issued.	A long signal tone sounds.
		  LED 1 lights up red for approx. one second. LED 2 is not lit.	A long signal tone sounds.
		  LED 1 is not lit. LED 2 flashes slowly (green) at two-second intervals.	No signal tone sounds.






## Malfunctions, causes and remedies


### NOTE

The fault displays only appear when FleetManager™ is activated.

#### Process messages


LED statuses	Signal transmitter	Cause	Remedy
 LED 1 is permanently lit (red). LED 2 is not lit.	A long signal tone sounds.	Reading device variant: <b>No</b> valid access authorisation.	Generate a valid access authorisation using the FleetManager™ PC software.
		Keypad variant: <b>No</b> valid access authorisation for the PIN code entered.	
		Keypad variant: Incorrect PIN code entered or not confirmed via the  button.	Enter the PIN code again.
 LED 1 is permanently lit (red). LED 2 flashes once (green).	A long signal tone sounds.	Access authorisation has essentially been granted to the operator, but the specified period of validity has expired.	Adapt the period of validity using the FleetManager™ PC software.
		The truck date is incorrect.	Update the truck date.

#### Warnings



LED statuses	Signal transmitter	Cause	Remedy
 LED 1 flashes quickly (yellow). LED 2 is permanently lit (green).	—	The memory is up to 80% full.	Empty the memory.

## Malfunctions, causes and remedies

## Error

LED statuses	Signal transmitter	Cause	Remedy
 LED 1 flashes quickly (red). LED 2 flashes quickly (red).	A long signal tone sounds upon activation.	Several causes are possible: The reading device or keypad is not accessible. The GPRS module is not accessible. The integrated rechargeable battery is empty. The memory is full.	Notify the STILL service centre.

## Action indicators

LED statuses	Signal transmitter	Cause	Remedy
 LED 1 flashes quickly (red). LED 2 is permanently lit (green).	—	A shock event has occurred.	Reset the shock event.
 LED 1 flashes quickly (blue). LED 2 is not lit.	—	The truck has been connected to a suitable reading device via Bluetooth and all operating data is being read out (this process can take up to 5 minutes)	While the truck is switched on but not in motion, wait until all the relevant data has been read out. As soon as the display changes to a different status, continue working with the truck.

## Decommissioning

- Bring industrial truck into the designated storage area and actuate parking brake.
- Log off the operator properly.

### NOTE

*If the operator does not log off before switching off the industrial truck, the truck will be locked when it is switched on again, to prevent unauthorised access.*

- Switch off industrial truck using key switch.



**5**

---

## **Technical data**

## Radio equipment

## Radio equipment

Technical data in accordance with RED 2014/53/EU

<b>GSM / GPRS</b>	
Frequency bands	Quad band GSM 850 / 900 / 1800 / 1900 MHz
Maximum transmission power	Class 4 (2 W) for GSM850
	Class 4 (2 W) for GSM900
	Class 1 (1 W) for GSM1800
	Class 1 (1 W) for GSM1900
<b>Bluetooth</b>	
Frequency bands	2400 MHz ... 2483.5 MHz (2.4 GHz ISM band)
Maximum transmission power	+3 dBm
Maximum range	30 m
Version	Bluetooth 2.1 + EDR
<b>RFID</b>	
Frequency bands	125 kHz, 13.56 MHz
Maximum transmission power (EIRP)	18.92 dBuA/m, 2.66 dBuA/m



STILL GmbH

50988011937 EN – 06/2019