

## Liebherr Diagnostic Tool (LDT)

**Preface:** The Liebherr Diagnostic Tool (LDT) has been developed to provide service technicians in appliance diagnosis tasks. The LDT enables technicians to quickly obtain an overview of the current status of a compatible appliance.

The Remote Mode can be used to assist in actuating consumers individually or as part of a combination.

The Parameter Update function enables the latest parameter set to be played on the electronics. This prevents the hardware from having to be replaced.

Combined with the provision of a small volume of basic electronics, the on-site parameterisation permits a massive reduction in the number of configured (stored) electronics. The on-site programming of the type plate data for the appliance is also possible.

LDT is exclusively intended for the Liebherr contract organisation and consequently increases the expertise of the Liebherr service technicians.

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## Contents

<b>1</b>	<b>User Registration .....</b>	<b>4</b>
1.1	User registration (detail) .....	5
1.1.1	User data .....	5
1.1.2	Company data .....	5
1.1.3	Confirmation e-mail .....	6
1.1.4	Password issue .....	7
1.1.5	Liebherr approval .....	7
<b>2</b>	<b>Company administrator .....</b>	<b>7</b>
2.1	Add further employees .....	8
2.2	Request authorisation for LDT .....	8
<b>3</b>	<b>LDT installation .....</b>	<b>8</b>
3.1	System requirements .....	8
3.2	Download .....	9
3.3	Installation .....	9
3.4	Installation update .....	11
3.5	Start LDT .....	11
3.6	Authorisation .....	11
3.7	Database update .....	12
3.8	LDT settings .....	12
<b>4</b>	<b>Connection to an SDB-capable appliance .....</b>	<b>13</b>
4.1	Hardware .....	13
4.1.1	Serviceadapter .....	13
4.1.2	USB converter .....	13
4.2	Terminal .....	13
4.3	Establishing a connection .....	14
<b>5</b>	<b>Appliance status overview .....</b>	<b>15</b>
<b>6</b>	<b>Triggering consumers (Remote mode) .....</b>	<b>16</b>
<b>7</b>	<b>Controls details .....</b>	<b>17</b>
7.1	Sensors .....	17
7.2	Compressor .....	18
7.3	Speed-controlled fan .....	19
7.4	Fan .....	20
7.5	Door detection .....	21
7.6	Light .....	22
7.7	Defrost heater .....	23

7.8	Stepper motor valve .....	24
7.9	Air flap.....	25
7.10	Appliance power input .....	26
7.11	AirFilter reminder function .....	26
<b>8</b>	<b>Equipment errors .....</b>	<b>27</b>
<b>9</b>	<b>Update parameter set.....</b>	<b>28</b>
<b>10</b>	<b>Write type plate data .....</b>	<b>30</b>
<b>11</b>	<b>Replacement parts for electronics (parameterise).....</b>	<b>31</b>
<b>12</b>	<b>Emptying the electronics .....</b>	<b>32</b>

# 1 User Registration

Each user must be registered in order to be able to use LDT.

The user can access the log-on / registration page via the following LINK

LINK: <https://downloads.liebherr.com/software/ldt/>



The user must register on the first occasion that they use this tool.

In doing so, the user should use a personal e-mail address. No general company e-mail addresses such as [info@musterfirma.de](mailto:info@musterfirma.de) will be approved.

## 1.1 User registration (detail)

### 1.1.1 User data

The user data is first requested.

#### Persönliche Daten

Bereich


Anwendung

Anrede \*

Titel


Vorname \*

Nachname \*


E-Mail \* 

E-Mail bestätigen \*

Berufsbezeichnung

Telefonnummer \* 

Handynummer

bevorzugte Sprache \* 

Deutsch

Abbrechen


Weiter zu Schritt 2

\* Pflichtfeld

### 1.1.2 Company data

The company data is then requested.

#### Firmendaten

Company Name \* 

Country


Germany


Street \*

Postal Code \*

City \*

E-Mail-Address of company

Telephone Number 

DUNS Number 

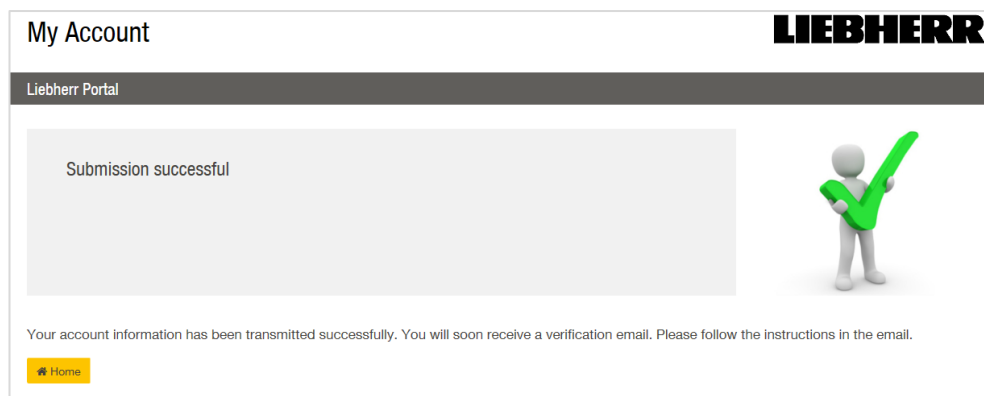
Website

☐ \* I have read and understood the [terms and conditions](#) and hereby agree to same.

Previous

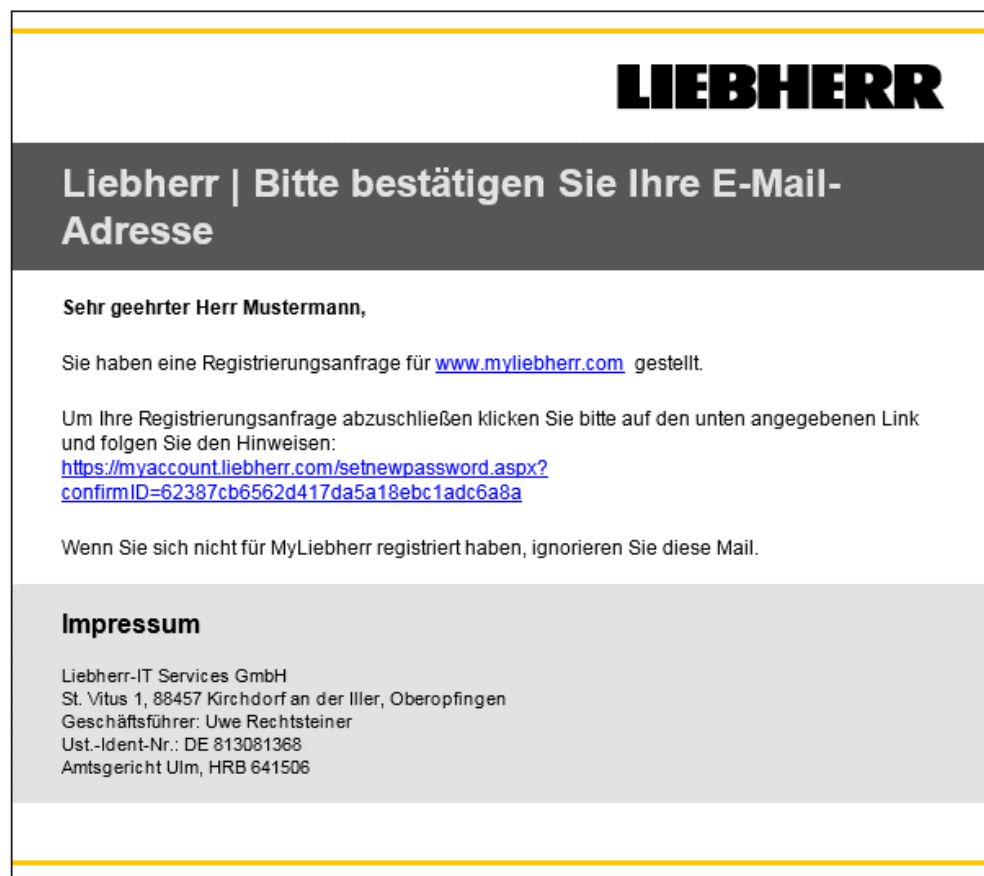
Sign Up

\* Pflichtfeld



### 1.1.3 Confirmation e-mail

The user receives a confirmation e-mail and must agree to the use of their e-mail address.



### 1.1.4 Password issue


The user can move to password assignments by selecting the LINK.

**My Account** **LIEBHERR**

Liebherr Portal

#### Kennwort einrichten

Bitte legen Sie ein Kennwort für Ihr Liebherr Benutzerprofil fest.



Das Passwort darf nicht Ihren Vor- oder Nachnamen enthalten.

Neues Passwort \*

.....

Passwort wiederholen \*

.....

Abbrechen

Passwort erstellen

\* Pflichtfeld

### 1.1.5 Liebherr approval

Once the registration process has been completed, the data is sent to Liebherr for approval.

Ihr Kennwort wurde erfolgreich eingerichtet.

Ihre Registrierung wird nun von einem Liebherr-Mitarbeiter bearbeitet. Über den Status der Bearbeitung werden Sie von uns per E-Mail benachrichtigt.

Zurück zur Startseite

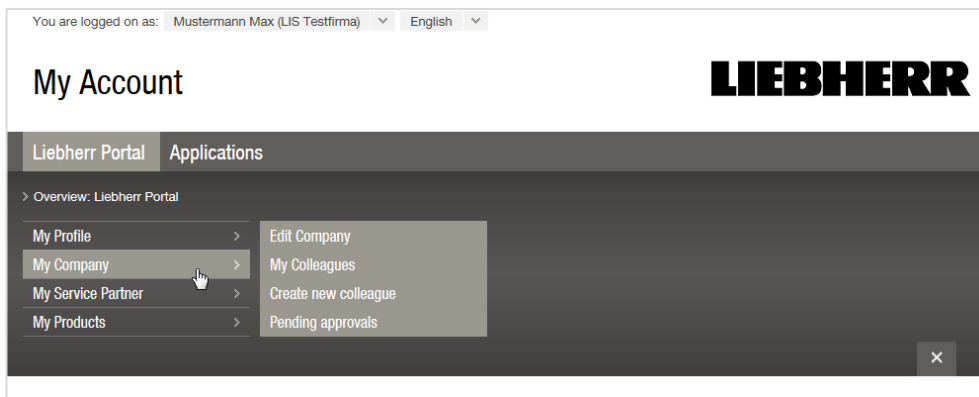
## 2 Company administrator

The first user from a company is created as the company administrator.

This person can register further users for the company.

<https://myaccount.liebherr.com>

## 2.1 Add further employees



## 2.2 Request authorisation for LDT

If the company administrator adds employees, Liebherr must authorise these employees to use the LDT.

In order to do so, send an e-mail to your responsible Liebherr contact with “Antrag auf LDT Zugriff” (or “Application for LDT Access”) in the subject line.

The e-mail address as well as the company data must be provided here.

Attention: Please be aware that this is a manual process and can take up to 2 working days.

## 3 LDT installation


### 3.1 System requirements

- Windows Operating System (Windows 7 SP 2 and higher)
- Min. 4 GB RAM
- Min. 4 GB free hard drive capacity

An RS232 interface / USB converter is required in order to establish a connection to the refrigerator.

The computer / laptop must at least have a partial Internet connection.

The LDT is available in a 64 Bit as well as a 32 Bit version.

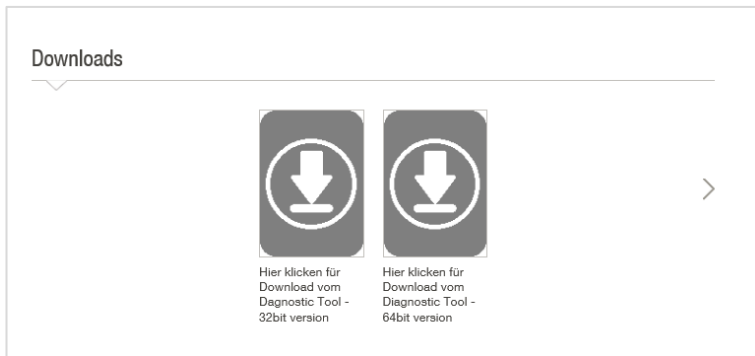
**TIP:** You can view the properties of your Windows version by pressing the Windows key  + Pause



## 3.2 Download

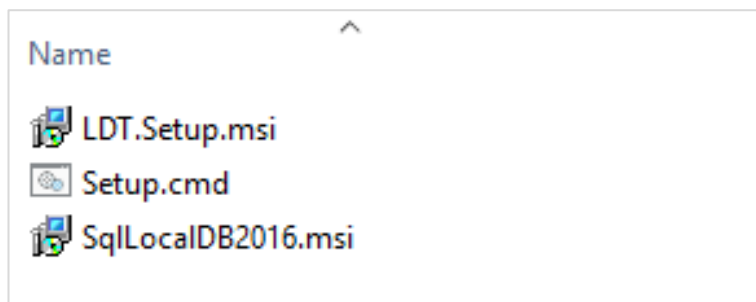
Registered users can download the LDT via the LINK.

<https://downloads.liebherr.com/software/ldt/>



Note the respective version (32 Bit / 64 Bit) when downloading the application.

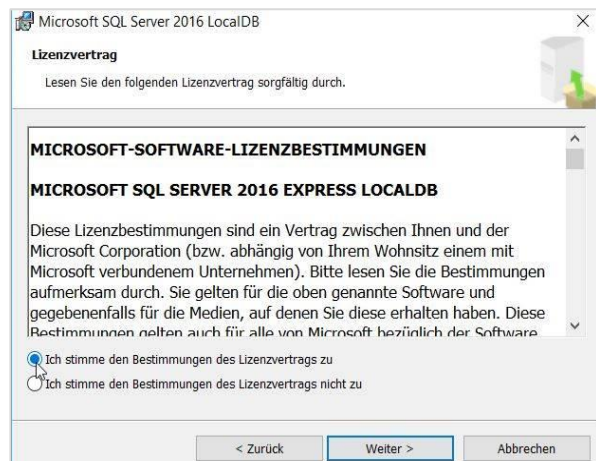
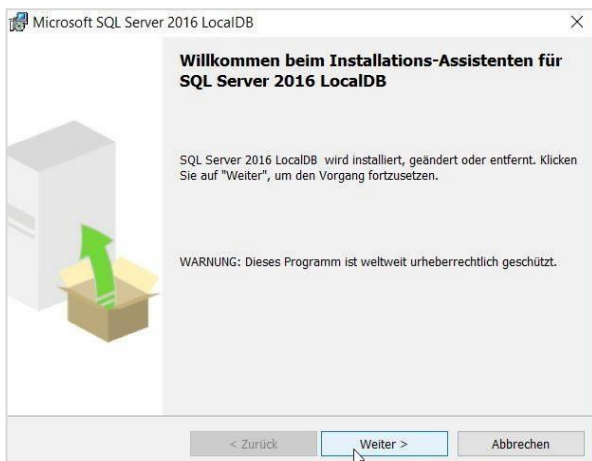
- Locally save the Zip file on the computer.
- Unpack the Zip file.

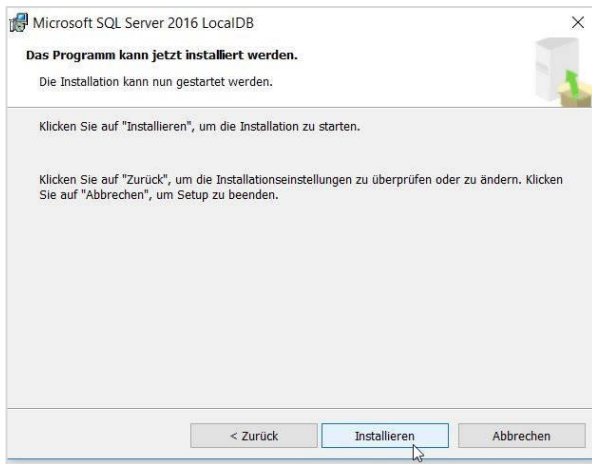


## 3.3 Installation

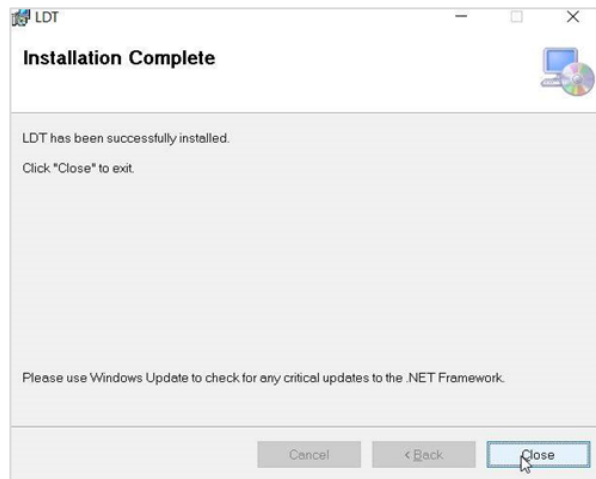
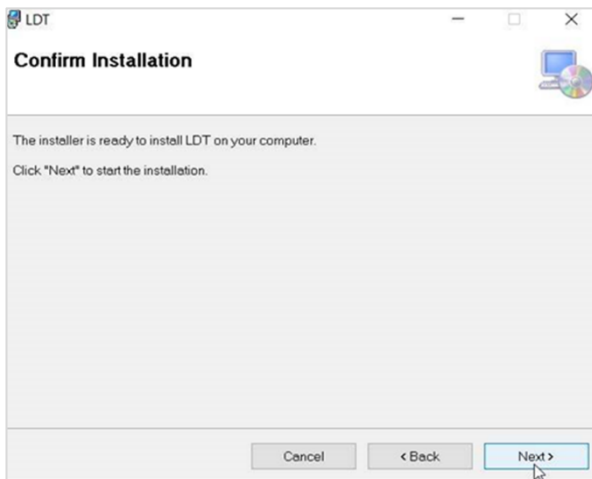
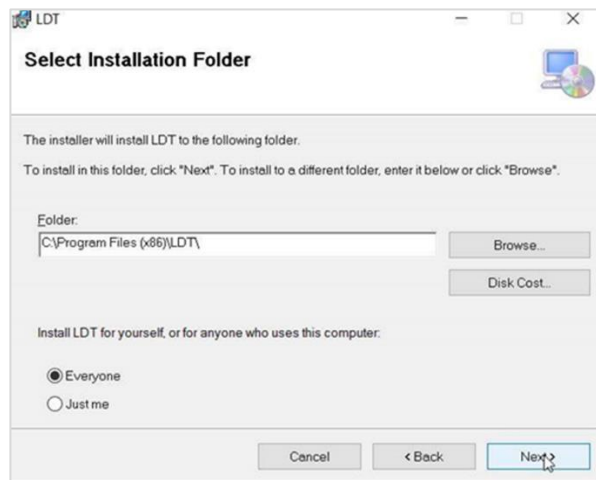
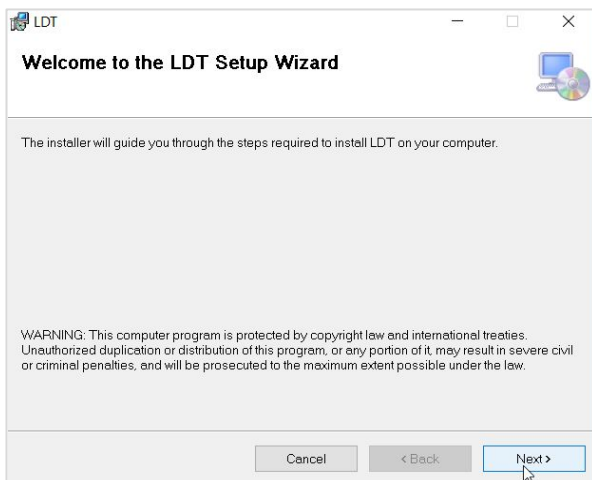
- Execute Setup.cmd.

The SQL database is installed first.





The LDT setup is then executed.



The installation can be performed manually if setup.cmd does not work.

- First execute *SQL...msi*.
- Then execute *LDT.Setup.msi*.

### 3.4 Installation update

A new version of LDT should be installed.

Ensure that the LDT is not open.

Uninstall LDT via the computer system settings.

Files will remain in the installation directory. Only delete these files if explicitly requested to do so.

- First execute SQL...msi.
- Then execute LDT.Setup.msi.

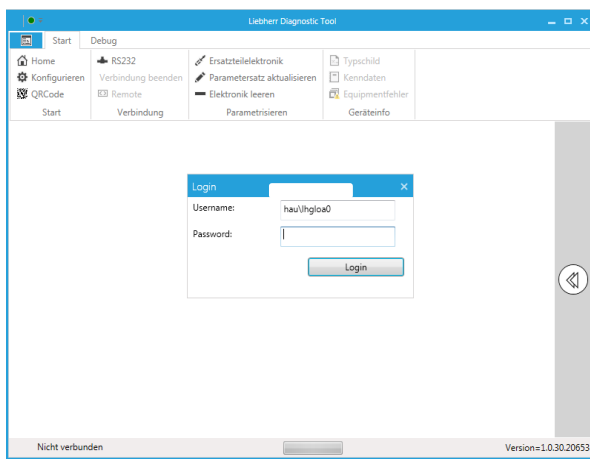
### 3.5 Start LDT

An LDT icon will appear on the desktop once successfully installed.



The computer must be connected to the Internet when starting the LDT for the first time.

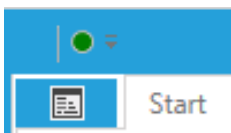
### 3.6 Authorisation



The user name must be the e-mail address used during the registration process.

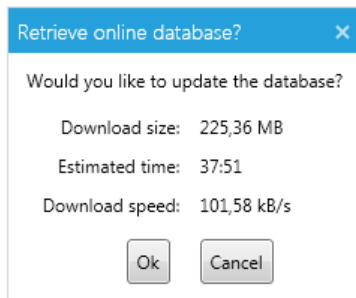
The password must also be entered.

A green dot on the upper left edge of the LDT displays the connection status to Liebherr systems.



### 3.7 Database update

The database is initially updated if the authorisation was successful.



- Confirm this query with "OK".

Once successfully downloaded, LDT will create the database.

LDT is terminated and automatically restarts.

### 3.8 LDT settings

Open settings	
<b>COM ports</b>  Set the respective COM Port as the default.	
<b>Printer setting (in-house function)</b>  A standard printer can be selected. This printer will print a label when programming replacement parts for electronics.	

## 4 Connection to an SDB-capable appliance

### 4.1 Hardware

#### 4.1.1 Serviceadapter

A Liebherr service adapter is required in order to establish a connection to an appliance with the LDT.



**Service adapter**

Article number: 6124 662, PG 28

#### 4.1.2 USB converter

A USB converter must be used if the computer does not have an RS232 interface.

A Liebherr adapter can be used here for instance.



**USB converter**

Article number: 9418 214, PG:18

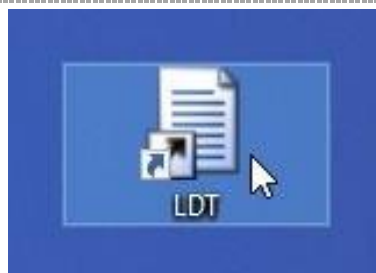
### 4.2 Terminal

The tool can be used to service all appliances that are suitable for use with the SmartDeviceBox (SDB). The adapter is connected at the point where the SBD is also inserted (behind the left front panel cover)

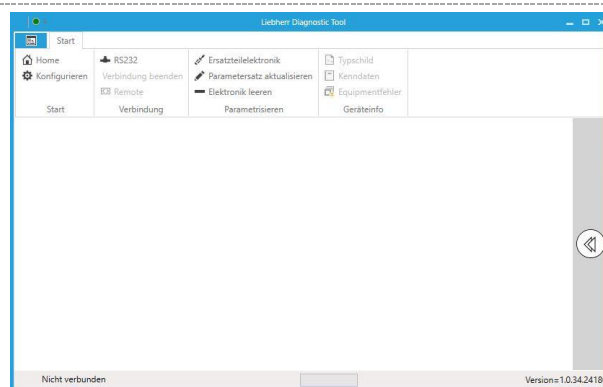


### 4.3 Establishing a connection

- Start LDT

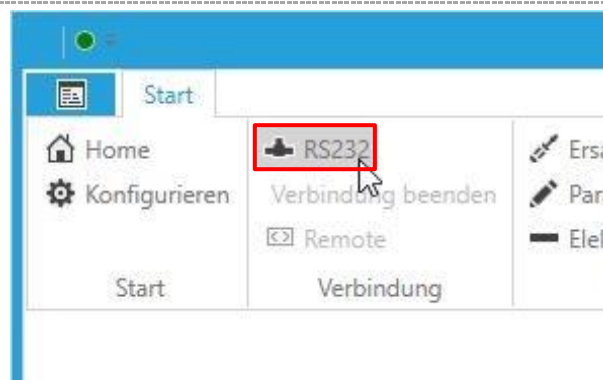


LDT start screen



Establish a connection with the appliance.

- Select "RS232".



- Select a COM port with the ID (E2015).



- Single click on "Verbinden" ("Connect").

**ATTENTION:** The connection establishment process takes a while (~30 seconds) without the tool responding.



The type plate data is assumed from the appliance if the connection is successful.

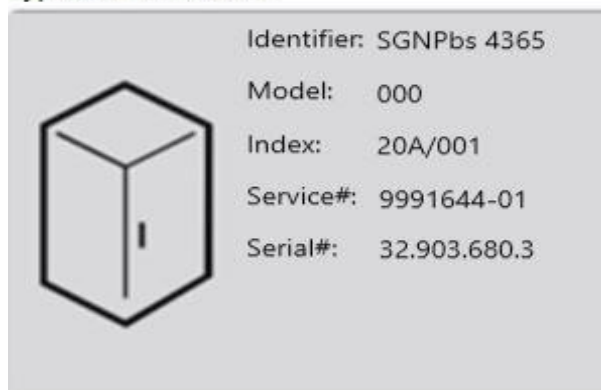
The following message

- Appliance designation=Identifier
- Serial number
- "Connected"

appears at the bottom left of the screen.

SGNPbs 4365 32.903.680.3 Verbunden

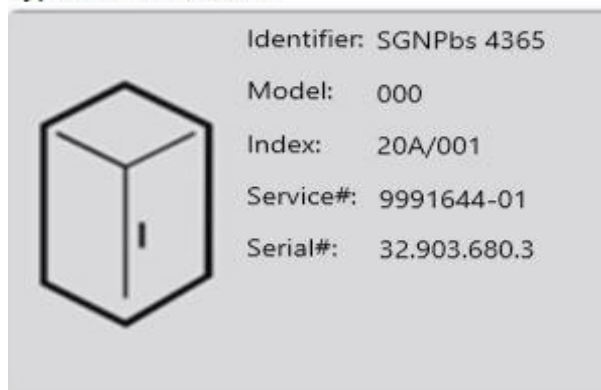
Typschildinformation:



## 5 Appliance status overview

Establishing a connection

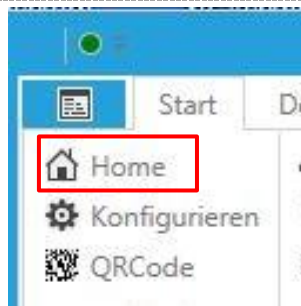
Typschildinformation:



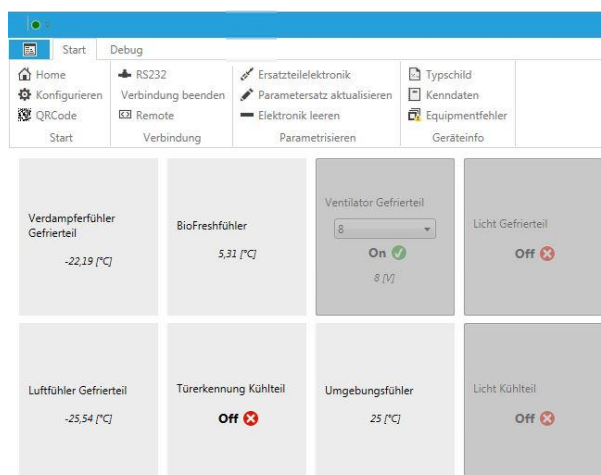
Switch to the Controls view.

- Select "Home".

(Controls description, see Chapter 7)

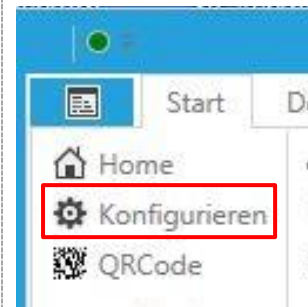


All standard controls are displayed.



Display further controls.

- Select “Konfigurieren” (“Configure”).

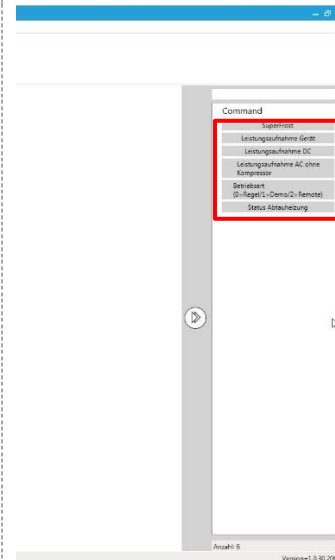


### Assume controls on the home screen

Move the controls to the home screen by means of a double click or drag and drop.

### Remove controls from the home screen

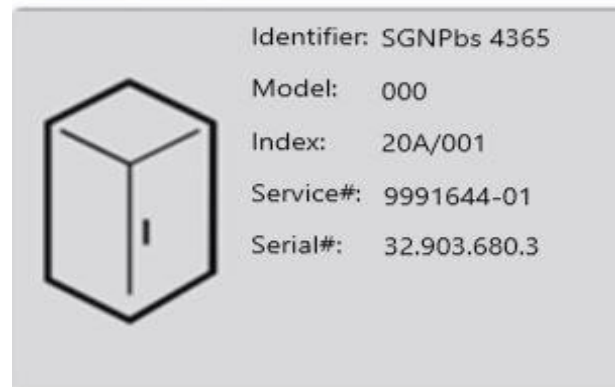
Move the controls to the Command field via drag and drop.



## 6 Triggering consumers (Remote mode)

Establishing a connection

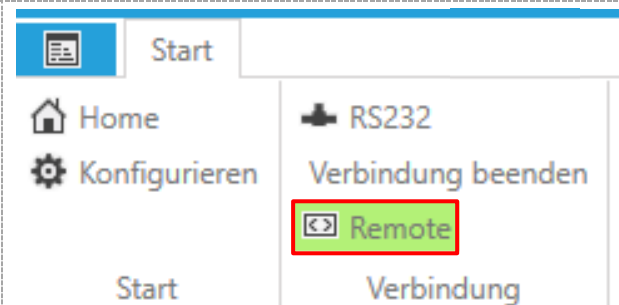
Typschildinformation:



Trigger consumers.

- Select “Remote”

See Controls description for further details.



Switch back to normal mode.


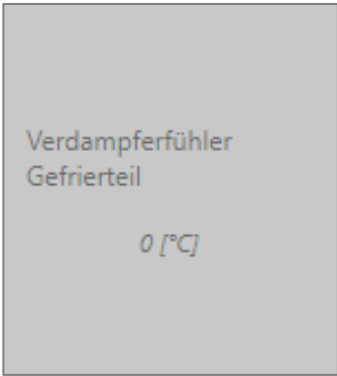
- Select “Remote” once again.




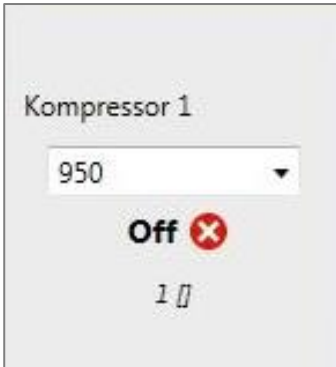
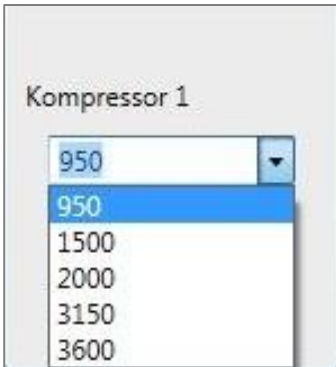

## 7 Controls details

Some controls are explained here. All controls are structured in a similar manner. Further controls will be added.





### 7.1 Sensors

Control	Standard (Monitoring mode)	Remote mode
<b>Sensors</b>  <i>All sensors are illustrated with this control type.</i>	 <p>Verdampferfühler Gefrierteil</p> <p>-21,05 [°C]</p> <p>The evaporator sensor measures a temperature of -21.05 °C.</p> <p>Values are constantly read without an offset.</p> <p>The control is displayed dark if a sensor error is detected.</p>  <p>Verdampferfühler Gefrierteil</p> <p>0 [°C]</p> <p>The evaporator sensor is exhibiting an error.</p> <p><b>Error:</b> <i>Temperature value is incorrect!</i></p>	Same as monitoring mode



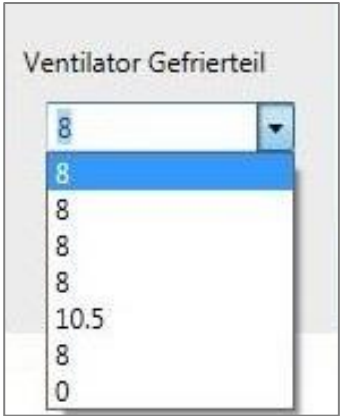

## 7.2 Compressor

Control	Standard (Monitoring mode)	Remote mode
Compressor	 <p>Compressor status is "On"</p> <p>Current speed level = 1</p> <p>In control mode, the speed levels are displayed for the compressor.</p> <p><b>ATTENTION:</b> The displayed speed level does not change for SuperFrost.</p> <p>SuperFrost has its own stored speed and this overrides the determined speed level.</p>	 <p>Compressor status is "Off"</p>  <p><b>Compressor ON</b></p> <p>Select the speed and actuate the control with the left mouse button.</p> <p>When the compressor is switched on, the speed can be changed by selecting it.</p>  <p><b>Compressor OFF</b></p> <p>Actuate the control with the left mouse button once again.</p>




### 7.3 Speed-controlled fan

Control	Standard (Monitoring mode)	Remote mode
<b>Speed-controlled fan</b>  <i>Speed-controlled fans are controlled via this control type.</i>	 <p>Fan status is "On" Current speed = 1112 rpm</p>	 <p>Fan status is "Off"</p>  <p><b>Fan ON</b> Select speed.</p>  <p><b>Fan OFF</b> Select speed "0".</p>





## 7.4 Fan

Control	Standard (Monitoring mode)	Remote mode
<b>Fan</b>  <i>All fans that are not speed-controlled are controlled via this control type.</i>	 <p>Fan status is "On"</p> <p>Current triggering voltage = 8 V</p> <p><b>On</b> = Fan ON</p> <p><b>Off</b> = Fan OFF</p>	 <p>Fan status is "Off"</p>  <p><b>Fan ON</b> Select triggering voltage.</p>  <p><b>Fan OFF</b> Select triggering voltage "0".</p>




## 7.5 Door detection

Control	Standard (Monitoring mode)	Remote mode
<b>Door detection</b>  <i>All door detections are displayed with this control type.</i>	<div data-bbox="584 338 922 714">  </div> <p><b>Off</b> = Door closed</p> <div data-bbox="584 822 922 1198">  </div> <p><b>On</b> = Door open</p> <p>The control is displayed dark if the associated compartment is switched off.</p> <div data-bbox="584 1431 922 1807">  </div> <p>Refrigerator compartment is switched off.</p>	Same as monitoring mode

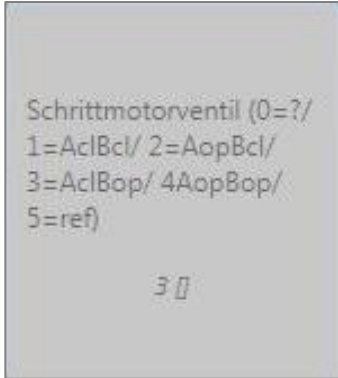
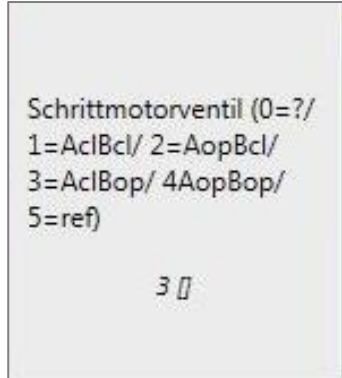
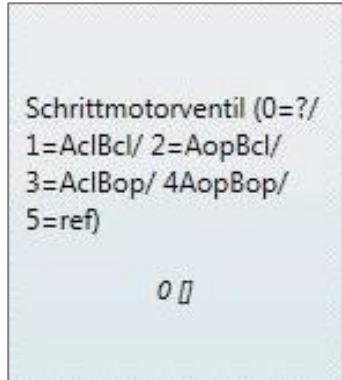
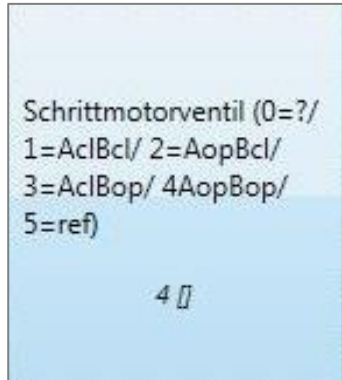
## 7.6 Light

Control	Standard (Monitoring mode)	Remote mode
Light	 <p><b>Off</b> = Light OFF Door is opened.</p>	 <p>Light status is "Off"</p>
	 <p><b>On</b> = Light ON</p>	<p><b>Light ON</b> Actuate the control with the left mouse button.</p>  <p>Light status is "On"</p> <p><b>Light OFF</b> Actuate the control with the left mouse button once again.</p>

## 7.7 Defrost heater



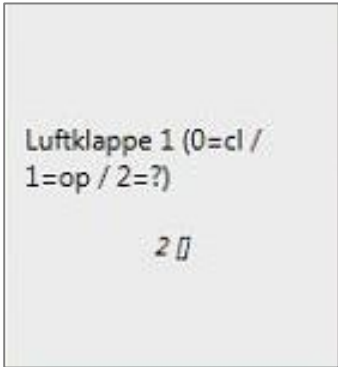
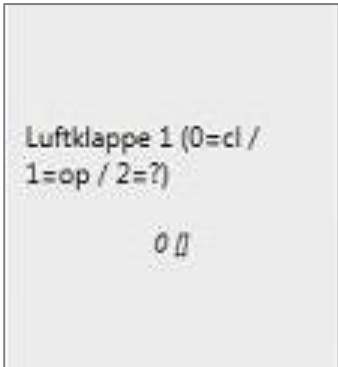
Control	Standard (Monitoring mode)	Remote mode
Defrost heater	 <p>Defrost heater status is "Off"</p> <p><b>Off</b> = Defrost heater OFF <b>On</b> = Defrost heater ON</p>	 <p>Defrost heater status is "Off"</p> <p><b>Defrost heater ON</b> Actuate the control with the left mouse button.</p>  <p>Defrost heater status is "ON"</p> <p><b>Defrost heater OFF</b> Actuate the control with the left mouse button once again.</p>

## 7.8 Stepper motor valve

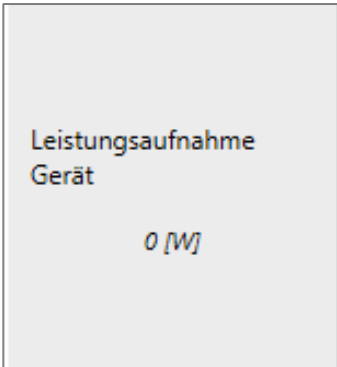
Control	Standard (Monitoring mode)	Remote mode
Stepper motor valve	 <p>Schrittmotorventil (0=?/ 1=AclBcl/ 2=AopBcl/ 3=AclBop/ 4AopBop/ 5=ref)</p> <p>3 ▢</p> <p>Stepper motor valve in position <b>3</b></p> <p><b>0=?</b> undefined/in motion</p> <p><b>1=AclBcl</b> Connection A = cl (close) closed Connection B = cl (close) closed</p> <p><b>2=AopBcl</b> Connection A = op (open) opened Connection B = cl (close) closed</p> <p><b>3=AclBop</b> Connection A = cl (close) closed Connection B = op (open) opened</p> <p><b>4=AopBop</b> Connection A = op (open) opened Connection B = op (open) opened</p>	 <p>Schrittmotorventil (0=?/ 1=AclBcl/ 2=AopBcl/ 3=AclBop/ 4AopBop/ 5=ref)</p> <p>3 ▢</p> <p>Stepper motor valve position 3.</p> <p>The next position is triggered by pressing the left mouse button on the control.</p>  <p>Schrittmotorventil (0=?/ 1=AclBcl/ 2=AopBcl/ 3=AclBop/ 4AopBop/ 5=ref)</p> <p>0 ▢</p> <p>The position is undefined during the movement, "0" is displayed.</p>  <p>Schrittmotorventil (0=?/ 1=AclBcl/ 2=AopBcl/ 3=AclBop/ 4AopBop/ 5=ref)</p> <p>4 ▢</p> <p>Stepper motor valve position 4.</p> <p>Switching the positions 1 → 2 → 3 → 4 → 1 → ...</p>




## 7.9 Air flap

Control	Standard (Monitoring mode)	Remote mode
Air flap	 <p>Air flap in position 1</p> <p>Position 0 = cl (close) closed</p> <p>Position 1 = op (open) opened</p> <p>Position 2 = Undefined/in motion</p>	 <p>Air flap position 1</p> <p>The next position is triggered by pressing the left mouse button on the control.</p>
		 <p>The position is undefined during the movement, "2" is displayed.</p>
		 <p>Air flap position 0</p> <p>Switching the positions 0 → 1 → 0 → ...</p>

## 7.10 Appliance power input

Control	Standard (Monitoring mode)	Remote mode
Appliance power input	 <p>The current power input of the entire appliance is displayed.</p> <p><b>ATTENTION:</b> The values are indicators. Measurement errors of up to 20%</p>	Same as monitoring mode

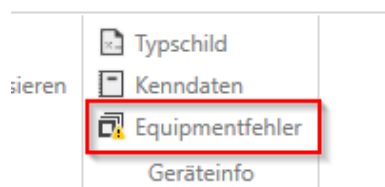
## 7.11 AirFilter reminder function

Control	Standard (Monitoring mode)	Remote mode
<b>AirFilter reminder function</b>  <i>This control can display the reminder function setting.</i>	 <p>The AirFilter reminder function is activated.</p>	Same as monitoring mode

## 8 Equipment errors

A triangle in the appliance display indicates an error message.

If a connection is established, the user can display a list of all present equipment errors by selecting “Equipmentfehler” (“Equipment errors”)



Equipmentfehler	
ErrorCode	Description
BT031	Fehler Luftfühler Gefrierteil
BT041	Fehler Verdampferfühler Gefrierteil
GQ033	Fehler (Drehzahl) Ventilator Verflüssiger

Schließen

03.11.2017  
10:41


## 9 Update parameter set

2 files can be updated with this function

- Liebherr **S**cript **D**ata (LSD)
- Liebherr **P**arameter **F**ile (LPF)

Establishing a connection

Typschildinformation:



Identifier: SGNPbs 4365  
 Model: 000  
 Index: 20A/001  
 Service#: 9991644-01  
 Serial#: 32.903.680.3

Select "Update parameter set".

 RS232 Verbindung beenden  Remote Verbindung	 Ersatzteilelektronik  Parametersatz aktualisieren  Elektronik leeren Parametrisieren
---	---

The following appear:

- Appliance designation (identifier)
- Service no.
- Hardware ID
- Parameter file list.

**Parameter file list:**

Version: Not relevant

Article number: This is the article number of the parameter version. Most recent displayed at the bottom.

Example: 614000600  
 614000601

Always use the current version unless otherwise stated.

Base electronics: This is the article number of the base electronics. Must correspond to the Hardware ID.

Gerätebezeichnung: GNi 4355

Service-Nr: 999144001

Hardware-ID: 612452802

Version ▼	Artikelnummer ▼	Basiselektronik ▼
34	614006600	612452802
34	614006601	612452802
40	614017600	612524600

OK

Select the suitable parameter set.  
Confirm with "OK".

Gerätebezeichnung: GNi 4355

Service-Nr: 999144001

Hardware-ID: 612452802

Version ▼	Artikelnummer ▼	Basiselektronik ▼
34	614006600	612452802
34	614006601	612452802
40	614017600	612524600

OK

The files are read.

GNi 4355 31.809.072.4

Gerätedaten lesen...

Update successfully performed.

LPF-Flash erfolgreich

### Error messages

An article number was selected that does not correspond to the Hardware ID.

Example:

Incorrect: 614017600

Correct: 614000601

**Remedial action:** Check whether the correct article number was selected.

Es gibt kein LPF für die ET Baugruppe 614017600 das zur ausgelesenen Hardware Id 612452802 passt.

The parametrising failed.

**Remedial action:** Re-parameterise.

LPF- Failed!

## 10 Write type plate data

If a connection is established to electronics without type plate data, the

- service number (Service#:) and
- serial number (Serial#:) must be entered retrospectively.

The following are detected and automatically entered:

- Identifier
- Model
- Index

Service number input.

Serial number input.

Save type plate.

Save was successful.

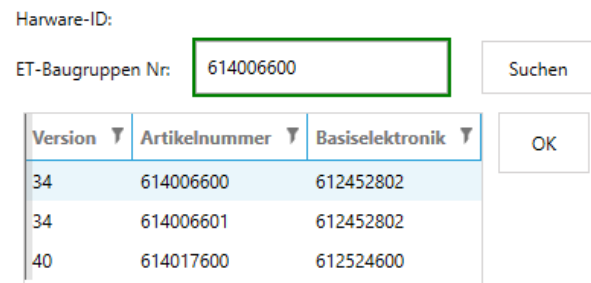
GNi 4355 318090724 Typschild wurde gespeichert!

## 11 Replacement parts for electronics (parameterise)

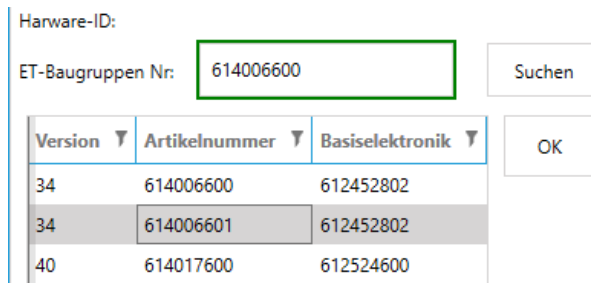
Select "Ersatzteilelektronik" ("Replacement parts for electronics").



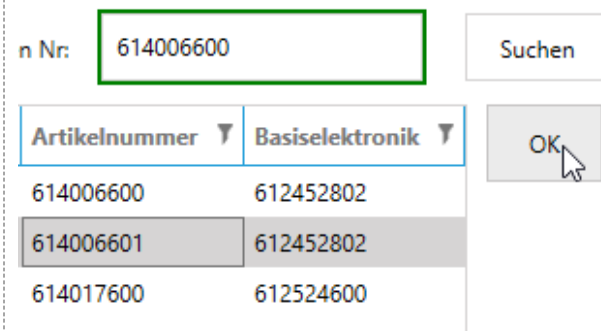
The "KD-ELEKTRONIK PROGRAMMIERT" ("CUSTOMER SERVICE ELECTRONICS, PROGRAMMED") LIPARTS article number, extended with "00" must be entered under "ET-Baugruppen Nr." (Replacement part assembly unit number).



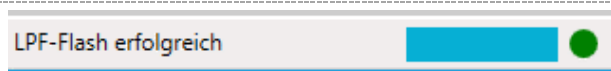
Select the article number in accordance with the present hardware. (The article number is stated on the electronics)  
The current parameter version is displayed at the bottom. Always use the current version unless otherwise stated.



Press "OK".  
Parametrising begins.



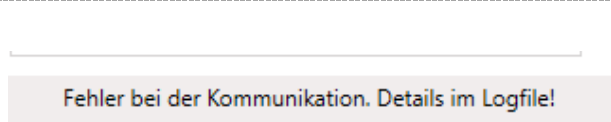
Update successfully performed.



### Error messages

The cause in the settings is that the wrong COM port has been set.

**Remedial action:** Set the correct COM Port as the default.



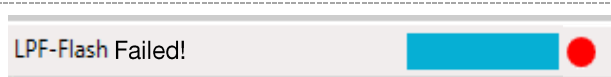
An article number was selected that does not correspond to the Hardware ID.

**Remedial action:** Check whether the correct article number was selected.

Es gibt kein LPF für die ET Baugruppe 614017600 das zur ausgelesenen Hardware Id 612452802 passt.

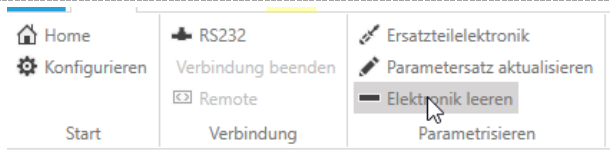
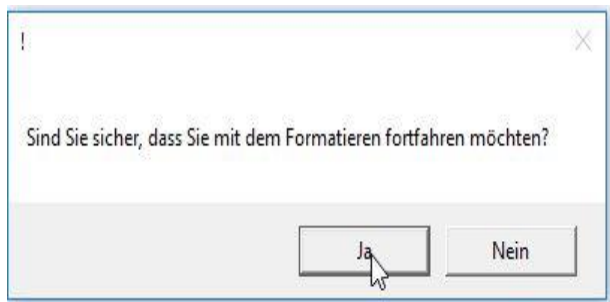
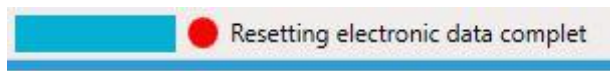
The parametrising failed.

**Remedial action:** Re-parameterise.



## 12 Emptying the electronics

This function is used if a certain piece of electronics was programmed with type plate data and configuration and is to be used with another appliance with different type plate data and configuration.

Select "Elektronik leeren" ("Empty the electronics").	
Confirm the security prompt by pressing "Ja" ("Yes").	
Confirmation that "Leeren" ("Empty") was successful.	
"Wrong Configuration" appears in the appliance display.	