



# Operating instructions

FRIAMAT 7 prime

FRIAMAT 7 basic



# Table of Content

- 1. About this document .....8
  - 1.1. Objective and target group of these instructions ..... 8
  - 1.2. About these operating instructions ..... 8
  - 1.3. Symbols used ..... 8
  - 1.4. Representation for the menu navigation ..... 9
  - 1.5. Applicable relevant documents ..... 9
  - 1.6. Updates to these instructions ..... 10
  
- 2. Safety ..... 10
  - 2.1. Designated, intended use ..... 10
  - 2.2. Non-permitted utilisation ..... 11
  - 2.3. Bluetooth® function (FRIAMAT prime) ..... 11
  - 2.4. Structural alterations to the product and spare parts ..... 11
  - 2.5. Obligations of the owner or operator ..... 11
  - 2.6. Obligations of the operator ..... 12
  - 2.7. Staff training ..... 12
  - 2.8. Standards and guidelines ..... 12
  - 2.9. Safety measures at the installation location ..... 12
  - 2.10. Behaviour in case of emergency ..... 12
  - 2.11. Safety measures for operating modes ..... 13
    - 2.11.1. Mains supply operation ..... 13
    - 2.11.2. Generator operation ..... 13
    - 2.11.3. Extension Cables ..... 13
  - 2.12. Residual risks ..... 14
    - 2.12.1. Energised parts ..... 14
    - 2.12.2. Fire hazard and explosion hazard ..... 14
  - 2.13. Property damage ..... 14
  
- 3. Product description ..... 14
  - 3.1. Function description ..... 14
  - 3.2. Device structure ..... 15

3.3.	Function keys .....	16
3.4.	Display .....	17
3.4.1.	Display structure .....	17
3.4.2.	Function key symbols .....	18
3.4.3.	Function status symbols .....	19
3.5.	Rating plate .....	19
3.6.	Reading device .....	19
3.6.1.	Scanner .....	19
3.6.2.	Reader wand .....	20
3.7.	USB data interface with protective cap .....	20
3.8.	Temperature probe .....	20
3.9.	Acoustic signal .....	20
3.10.	Fan .....	20
3.11.	FRIAMAT preCHECK function .....	21
3.12.	Bluetooth® interface (FRIAMAT prime) .....	21
3.13.	Maintenance Interval .....	22
3.14.	Device registration, customer portal and software update .....	22
3.15.	Data transfer (FRIAMAT prime) .....	23
3.15.1.	Output Formats .....	23
3.15.2.	Designating the transferred data .....	23
3.15.3.	Software for additional data processing .....	23
4.	User menu .....	23
4.1.	Menu tree (FRIAMAT basic) .....	24
4.2.	Menu tree (FRIAMAT prime) .....	24
5.	Setting up and connection .....	26
5.1.	Preparatory activities .....	26
5.2.	Setting up and connecting the device .....	27
6.	Switching the device on and off .....	28
7.	Initial commissioning .....	28

- 7.1. Acquire basic settings ..... 28
- 7.2. Activating and registering the device ..... 29
- 8. Menu operation ..... 30
  - 8.1. Operate menu ..... 30
    - 8.1.1. Entering via the virtual keyboard or numeric keypad ..... 30
    - 8.1.2. Acquiring entries or settings ..... 30
  - 8.2. Acquire device settings ..... 30
    - 8.2.1. Set the date and time ..... 30
    - 8.2.2. Select the system language ..... 30
    - 8.2.3. Set signal tone volume ..... 31
    - 8.2.4. Resetting the device to factory settings ..... 31
    - 8.2.5. Select protocol language (FRIAMAT prime) ..... 31
    - 8.2.6. Select country of operation (FRIAMAT prime) ..... 31
    - 8.2.7. Manage coupled Bluetooth® devices (FRIAMAT prime) ..... 31
  - 8.3. Manage functions (FRIAMAT prime) ..... 31
    - 8.3.1. Switch on/switch off documentation (FRIAMAT prime) ..... 31
    - 8.3.2. Switch on/switch off Bluetooth® (FRIAMAT prime) ..... 31
    - 8.3.3. Traceability active (FRIAMAT prime) ..... 32
    - 8.3.4. Switch on/switch off "device disabling" function ..... 32
  - 8.4. Manage data capture (FRIAMAT prime) ..... 32
    - 8.4.1. Traceability data ..... 32
      - 8.4.1.1. Pipe number ..... 32
      - 8.4.1.2. Pipe length ..... 32
      - 8.4.1.3. Fitting ID ..... 32
    - 8.4.2. Information data ..... 33
      - 8.4.2.1. Information text ..... 33
      - 8.4.2.2. Comment ..... 33
      - 8.4.2.3. Scraper device ..... 33
      - 8.4.2.4. Subcontractor ..... 33
    - 8.4.3. ID data ..... 33
      - 8.4.3.1. Sorting and picking number ..... 33

- 8.4.3.2. Seam number .....33
    - 8.4.3.3. GPS data ..... 34
  - 8.5. Manage capture data (FRIAMAT prime) ..... 34
    - 8.5.1. Transmit data .....34
    - 8.5.2. Delete data ..... 34
  - 8.6. Reading in an operator pass (FRIAMAT prime) ..... 34
- 9. Fusion procedure ..... 35
  - 9.1. Read in barcode ..... 35
    - 9.1.1. Utilise the reading device ..... 35
      - 9.1.1.1. Utilising the scanner .....35
      - 9.1.1.2. Utilise the reader wand ..... 35
    - 9.1.2. Scan in the barcode with the reading device ..... 36
    - 9.1.3. Enter barcode digits manually (emergency entry) ..... 36
  - 9.2. Executing the fusion procedure ..... 37
    - 9.2.1. Enter ID data (FRIAMAT prime) .....37
    - 9.2.2. Start fusion ..... 37
    - 9.2.3. Enter information data (FRIAMAT prime) ..... 39
    - 9.2.4. Enter Traceability data (FRIAMAT prime) ..... 39
    - 9.2.5. Conclude the fusion procedure ..... 39
  - 9.3. Disabling and enabling the device (FRIAMAT prime) ..... 40
    - 9.3.1. Disable the device manually ..... 40
    - 9.3.2. Enable the device ..... 40
  - 9.4. Coupling up the smartphone (FRIAMAT prime) ..... 41
  - 9.5. Install software update ..... 41
  - 9.6. Let the sequential number be displayed (FRIAMAT prime) .....42
  - 9.7. View device information ..... 42
- 10. Supervisor menu (FRIAMAT prime) ..... 43
  - 10.1. Menu tree ..... 43
  - 10.2. Call up the Supervisor menu ..... 44
  - 10.3. Amend supervisor PIN .....44

10.4.	Acquire device settings .....	45
10.4.1.	Switch on/switch off documentation .....	45
10.4.2.	Disable entry for date and time .....	45
10.4.3.	Managing data backup .....	45
10.4.4.	Acquire the settings for the maintenance appointment .....	46
10.4.5.	Disable emergency entry .....	46
10.4.6.	Disable the "Reset factory settings" function .....	46
10.4.7.	Switch on/switch off Bluetooth® .....	46
10.4.8.	Set format and units .....	47
10.4.9.	Set the system language .....	47
10.4.10.	Switch on/switch off energy display .....	47
10.5.	Settings for the fusion sequence .....	47
10.5.1.	Switch on/switch off operator pass .....	47
10.5.2.	Switch on/switch off traceability .....	48
10.5.3.	Set query for information data .....	48
10.5.4.	Preset query for the ID data .....	49
	10.5.4.1. Switch on/switch off query for sorting and picking number .....	49
	10.5.4.2. Switch on/switch off query for seam number .....	49
	10.5.4.3. Switch on/switch off query for GPS data .....	49
10.5.5.	Switch on/switch off cooling time .....	50
10.6.	Reset supervisor settings .....	50
11.	Error Messages .....	50
11.1.	Error messages, fault messages on the display .....	51
11.2.	Information and warning information on the display .....	53
12.	Transport and storage .....	54
13.	Care and maintenance .....	54
13.1.	Device maintenance .....	54
13.2.	Maintenance, testing and inspection intervals .....	54
13.3.	Warranty / FRIAMAT GarantiePLUS .....	55

13.4. Service Hotline .....55

14. Disposal ..... 55

15. Authorised service stations .....55

16. Technical Data .....56

# 1. About this document

## 1.1. Objective and target group of these instructions

These instructions describe all the necessary work steps, measures and precautions in order to ensure safe and professional handling of the product.

These instructions are intended for the following target group:

- People who will transport, commission and operate the product
- Operators and/or owners

## 1.2. About these operating instructions

---

### **i** INFO

- Read these operating instructions carefully before assembly and use.
  - Observe all applicable documents.
  - The operator must keep these operating instructions for the lifetime of the product.
  - Follow the described sequence of operations.
  - If there is a change of ownership, pass on these instructions with the unit.
- 

## 1.3. Symbols used

The following flags and symbols are used in this document:

### **▲ DANGER**

This warning describes an immediate threatening danger.

- ▶ Failing to heed it can result in death or extremely serious injuries.

### **▲ WARNING**

This warning describes a possibly threatening danger.

- ▶ Failing to heed it can result in death or extremely serious injuries.



## **⚠ CAUTION**

This warning describes a possibly threatening danger.

- ▶ Failing to heed it can cause slight or minor injuries.

## **HINT**

This warning describes a danger that can result in damage to property.

- ▶ Measures for avoiding damage to property are described here.

## **i INFORMATION**

This notice provides information about the following subjects:

- Usage tips
- Additional information

### **1.4. Representation for the menu navigation**

The navigation to the menu items is shown in abbreviated form in the following chapters:

[Menu] > [Name of the menu item].

#### **Example**

Call up the menu item:

Main menu > basic settings > date and time

Execute the following steps in order to navigate to the menu item for date and time:

1. Press the menu function key.  
The main menu will be displayed.
2. Utilise the direction keys to navigate to the menu item for basic settings in the main menu.
3. Press the confirmation function key or OK key.  
The menu items under basic settings will be displayed.
4. Navigate to the date and time menu items with the direction keys.
5. Press the confirmation function key or OK key.  
The date and time menu will be displayed.

### **1.5. Applicable relevant documents**

The following documents apply in connection with these instructions:

- Mini scanner operating instructions
- 1D/2D scanner operating instructions
- Fittings assembly instructions

## 1.6. Updates to these instructions

The technical information contained in these operating instructions is reviewed regularly to make sure it is up to date. The date of the last revision is specified on the document. Updated instructions are available online at <http://www.aliaxis.de/en/services/downloads>

We would also be pleased to send you a printed version.

## 2. Safety

The device corresponds to the state of the art and is built according to recognised safety standards and equipped with the necessary protective devices. The device has been tested for function and safety before delivery.

There is a hazard of danger to the health of the operator in the event of incorrect operation or misuse. Material damage to the device or to other material assets of the operator can additionally occur or the performance of the device can be reduced.

### 2.1. Designated, intended use

The FRIAMAT fusion unit has been designed for a maximum fusion voltage of 48 V and is intended for fusion the following fittings:

- FRIALEN safety fittings with pressure pipes made of PE-HD (SDR 17-7)
- FRIALEN large pipe technology with pressure pipes made of PE-HD (SDR 17-7)
- FRIAFIT fittings with pipes made of PE-HD (SDR 17-33)
- Fittings from other manufacturers with a barcode which fulfils one of the following requirements:
  - 24-digit (according to ISO 13950: 2007-03)
  - 2D barcodes (according to ISO 12176-5)

The FRIAMAT fusion unit has been designed for industrial applications. This comprises the voltage power supply with generators and standard mains voltage.

Designated intended use also includes compliance with the following instructions:

- Notes and information in these operating instructions
- Power specifications and technical data of the fusion unit (refer to Chapter [16. Technical Data, P.56](#))
- Power specifications and technical data for the fittings which are to be fused (refer to Chapter [16. Technical Data, P.56](#))
- General and manufacturer-specific processing, workmanship provisions and regulations for fusion fittings
- Valid provisions and regulations on accident prevention, environment and disposal

- Relevant safety provisions
- All country-specific standards, laws, guidelines and directives

## 2.2. Non-permitted utilisation

Do not utilise the following fusion units or fittings:

- Damaged fusion units
- Fusion units whose lead seal has been broken open
- Fittings without a barcode
- Generators which do not comply with the EMCG law

## 2.3. Bluetooth® function (FRIAMAT prime)

The FRIAMAT fusion unit is equipped with a Bluetooth® interface. Utilising the Bluetooth® is currently only permitted in the following countries:

Belgium	Luxembourg
Bulgaria	Malta
Denmark	Norway
Germany	The Netherlands
Estonia	Austria
Finland	Poland
France	Portugal
Greece	Romania
Great Britain	Sweden
Hong Kong	Switzerland
Ireland	Slovakia
Iceland	Slovenia
Italy	Spain
Croatia	Czech Republic
Latvia	Hungary
Liechtenstein	Cyprus
Lithuania	

## 2.4. Structural alterations to the product and spare parts

Conversions, alterations and modifications to the device are not permitted for safety reasons.

All warranty claims will become invalid for FRIAMAT fusion units whose lead seals have been broken.

## 2.5. Obligations of the owner or operator

- To always ensure that the personnel fulfil the following requirements:
  - Personnel are trained in the use of, and handling, the device.
  - Personnel have read and understood the instructions and safety information.

- Make these instructions available to the personnel.

## 2.6. Obligations of the operator

The operator is responsible in the area of operation with regard to any third parties.

## 2.7. Staff training

People working with this device require the following knowledge:

- Contents of these instructions
- Handling the device (after training)

## 2.8. Standards and guidelines

The device complies with the following standards and directives:

Directive 2014/35/EU	EU Low-voltage Guideline
Directive 2014/30/EU	EU EMC Guideline
Directive 2011/65/EU	EU Directive RoHS 2 (Regulation on the Restriction of Hazardous Substances in Electrical Devices and Electronic Equipment)

Additional harmonised standards:

- DIN EN 60335-1 / 2012-10
- DIN EN 61000-6-2 / 2006-03
- ISO 12176-2 (2008)
- DIN EN 60335-2-45 / 2012-08
- DIN EN 61000-6-4 / 2020-09
- DIN EN 61000-3-3 / 2009-06

## 2.9. Safety measures at the installation location

- Always protect the connecting cable and fusion cable against sharp edges.
- Protect the device against heavy mechanical loads.
- Never immerse the device in water. The device is splash-proof.

## 2.10. Behaviour in case of emergency

- Switch the fusion unit off with the main switch.
- Disconnect the fusion unit from the power supply.

## 2.11. Safety measures for operating modes

### 2.11.1. Mains supply operation

- When utilising outdoors: Equip the plug sockets with a residual current protection device (RCPD).
- Follow the regulations regarding a residual current protection device.

### 2.11.2. Generator operation

- Always ensure that the generator is one which is approved for commercial utilisation and applications on construction sites.
- Only utilise generators which operate at frequencies within the range of 44 – 66 Hz.
- Always follow the generator operating instructions.
- Always follow the DVGW Work Sheet GW308 and VDE 0100 Part 728 and country-specific regulations and guidelines for the utilising generators.
- Utilise a minimum of a 16 A fuse (slow-blow) as generator fuse/mains supply fuse.
- Never operate with any additional loads on the same generator during fusion.

### Nominal generator power

The required nominal generator power always depends on the following factors:

- Power requirement for the largest fitting which is to be utilised
- Connection conditions
- Environmental circumstances
- Generator type and/or its regulating, control characteristics

Since generators of different model series often indicate different regulating or control characteristics, the suitability of a certain generator cannot be guaranteed, even when the generator achieves the required nominal power according to the technical data sheet.

In case of doubt e.g. with new procurement, please contact our Service Hotline (refer to Chapter [13.4. Service Hotline, P.55](#)).

### 2.11.3. Extension Cables

- If extension cables are utilised, then always ensure that the cable cross-section is sufficient for the respective application:

Cable length	Cable cross section
Up to 50 m	2.5 mm <sup>2</sup>
Up to 100 m	4 mm <sup>2</sup>

- Only utilise the extension cable when it is fully unwound and stretched out.

## 2.12. Residual risks

### 2.12.1. Energised parts

#### Electric shock caused by contact with energised parts

- Do not open the FRIAMAT fusion unit.
- Never leave the device unattended during the fusion procedure.
- Always have any housings, connecting cables and extension cables, which indicate damage, exchanged immediately. Do not continue to operate the device in such cases.
- Always disconnect the mains cable before executing any repair work or maintenance work.
- Always only have any servicing, maintenance and repairs executed by authorised Aliaxis Deutschland GmbH service stations.
- Only connect the device to the approved operating voltage which is specified on the rating plate.
- If required, provide a residual current protection device (RCPD).
- Never remove, bridge or disable safety devices.
- Remedy any faults detected immediately.

### 2.12.2. Fire hazard and explosion hazard

#### Fire hazard and explosion hazard caused by ignition of highly flammable materials or explosive atmosphere.

- Always keep the device away from flammable liquids/gases.
- Never utilise in potentially explosive atmospheres (e.g. in areas where flammable gases, solvent vapours or combustible dusts can occur).
- Never leave the device unattended during the fusion procedure.

## 2.13. Property damage

Dust, dirt and moisture can damage sensitive parts on the device.

- Always protect the tip of the reader wand against dirt and damage.
- Always protect the scanner's reading window against dirt and scratches.
- Always ensure that the protective cap for the data interface is positioned in place.

## 3. Product description

### 3.1. Function description

The fitting parameters will be transmitted to the fusion unit by reading the barcode in with a reader wand or a barcode scanner. Based on this data, the microprocessor-controlled device is able to regulate and control the energy metering fully

automatically and determines the fusion time, taking into account the ambient temperature.

### 3.2. Device structure



Image 1: Description for components based on a example for FRIAMAT prime

Position	Designation
1	Main switch
2	Fusion cable with reader wand or barcode scanner
3	Front film with display and function keys
4	Service interface (USB) with protection cap
5	Ventilation slits (air intake)
6	Adapter pouch
7	Mains supply cable
8	Ventilation slits (exhaust air outlet)

### 3.3. Function keys



Image 2: Description for the operating and control components based on a example for FRIAMAT prime

Position	Designation	Description
1	Function keys	Access to function key symbols which are shown on the display
2	Direction keys	Movement of the cursor in the menu in the directions for left, right, up, down
3	OK key	Confirms a procedure
4	START key	Starts the fusion procedure Confirms the messages which are shown on the display
5	STOP key	Aborts the fusion procedure Exit the menu item Abort an input procedure (without saving it)



### 3.4. Display












#### 3.4.1. Display structure










Image 3: Description for the display based on a example for FRIAMAT prime

Position	Designation	Description
1	Function status symbols	<ul style="list-style-type: none"> <li>Functions which are available at this point in time</li> <li>Notice for next maintenance</li> </ul>
2	Display for environmental information	<ul style="list-style-type: none"> <li>Important environmental information (date, time, ambient temperature, voltage and frequency).</li> </ul>
3	Number of protocol entries (FRIAMAT prime)	<ul style="list-style-type: none"> <li>This count number corresponds to the number of protocol entries and indicates the current number of protocol records for the fusions.</li> </ul>
4	Main window	<ul style="list-style-type: none"> <li>All entries and information within the individual menus</li> </ul>
5	Function key symbols	<ul style="list-style-type: none"> <li>Symbols for functions which will be activated when the corresponding blue function keys are pressed. The displayed symbols switch over depending on the menu selection, (refer to Chapter 3.4.2. Function key symbols, P.18)</li> </ul>

### 3.4.2. Function key symbols

Symbol	Name	Description
<b>FRIAMAT basic / FRIAMAT prime</b>		
	Menu	Call up the main menu
	Entry input/ emergency input	Calls up a virtual keyboard Manual input possibility for a barcode e.g. when this cannot be read
	Confirmation	According to the context involved: OK, confirm, acquire, save, select a menu item
	Abort	Terminate an input procedure Close a dialogue without saving it
	Back	Back to menu, in one process, in one input (without amendments)
	Continue	Continue in a process, next step or next input
	Delete back	Delete the previous character in the Virtual keyboard (emergency input)
<b>FRIAMAT prime</b>		
	ID data	For calling up the input mask for ID data, picking and sorting number, seam number and GPS data
	Recycling bin	Delete the picking and sorting number
	Information data	For calling up the information data mask and entering information text Enter information text, comment and subcontractor
	details / search	For calling up detailed information or for search terms (e.g. e.g. country of operation)

### 3.4.3. Function status symbols

Symbol	Status
<b>FRIAMAT basic / FRIAMAT prime</b>	
	Maintenance appointment: Notice for the next maintenance due (in days)
<b>FRIAMAT prime</b>	
	Documentation is switched on
No 	Entry for seam number is possible
No 	Entry for pipe number is possible
	Entry for pipe length is possible
USB 	USB stick is connected
	Bluetooth® coupling is active

### 3.5. Rating plate

The rating plate contains the following details:

- Device-specific information regarding the product
- Unique device number

### 3.6. Reading device

#### 3.6.1. Scanner

The mini-scanner reads in 1D barcodes.

The 1D/2D scanner (optional) reads in 1D barcodes and 2D barcodes according to ISO 12176-5.

### 3.6.2. Reader wand

The reader wand reads in 1D barcodes.

### 3.7. USB data interface with protective cap

The USB data interface serves as a service interface for software updates and for data transfer (with FRIAMAT prime). The protection cap protects the USB data interface against dirt, soiling and moisture.

### 3.8. Temperature probe

The temperature probe located on the fusion cable records the ambient temperature during the fusion procedure. The device can determine the fusion time in conjunction with the fitting parameters.

### 3.9. Acoustic signal

The device confirms certain operating sequences with a signal tone. These signals have the following meanings:

Number	Meaning
Once	Reading in the barcode is successful
Twice	Fusion procedure is completed
Three times	Voltage supply is too low or too high
Five times	Error message: <ul style="list-style-type: none"><li>Observe display indication</li></ul>

The signal tone volume can be set in the main menu (refer to Chapter 8.2.3. [Set signal tone volume, P.31](#)).

### 3.10. Fan

The fan enables reliable operation and working conditions in continuous use and when fusion large dimensions. The fan is switched on and switched off depending on the temperature detection inside the device.

The fan switches on at the following times:

- Depending on the device status after it has been switched on
- During a fusion
- Between fusions
- After a fusion

Always leave the device switched on after a fusion so that the fan can reduce the temperature of the fusion unit. This applies in particular to series fusions, machining or processing of fittings with high power requirements.

### 3.11. FRIAMAT preCHECK function

#### Fusion (standard procedure)

Before each fusion, the device will execute the FRIAMAT preCHECK function. The device utilises the fitting parameters, the current device status and the ambient temperature in this process in order to calculate whether the next fusion can be executed completely to the end. The fusion can only be started after the FRIAMAT preCHECK function. Performance-related fusion interruptions are therefore prevented.

#### Multiple-phase fusion with 2D barcodes (ISO 12176-5)

One refers to multiple-phase fusion when 2 to 9 fusion phases are executed. This means that up to 9 fusions can be executed on one fitting/part/ component without having to implement a break. Multiple fusions/fusion phases can be executed without having to read out the barcode again with the 2D barcode.

When utilising the 2D barcode with multi-phase fusions:  
The FRIAMAT preCHECK function is **switched off**.

When utilising the 2D barcode with only one fusion:  
The FRIAMAT preCHECK function is switched on.

---

## **i** INFO

### **Fusion termination during multiple-phase fusion due to strong heating**

In case of multiple-phase fusion without FRIAMAT preCHECK function, the device can heat up considerably at very high continuous power. The fusion process is usually interrupted by the device in order to prevent damage to the device due to overheating. Such a fusion process is then not concluded. The fusion process must be repeated after the fusion joint has cooled down again completely.

- Only utilise the device in a cooled down status. This generally prevents the fusion from breaking off.
- Always follow the fitting manufacturer's processing and machining instructions when repeating fusion processes.

---

### 3.12. Bluetooth® interface (FRIAMAT prime)

The Bluetooth® interface establishes the connection to a smartphone and the FRIAMAT App or Workflow App.

### 3.13. Maintenance Interval

The maintenance interval stored in the device (as-delivered status: 12 months) will only be activated with the first fusion procedure.

The leading maintenance appointment is shown in the display and can differ from the service sticker which is attached to the device.

For additional information regarding the subject of maintenance intervals, refer to Chapter [13.2. Maintenance, testing and inspection intervals, P.54](#).

### 3.14. Device registration, customer portal and software update

---

#### **I** INFO

At [www.aliaxis.de](http://www.aliaxis.de) the footer under the heading "GTC" / "Data protection" contains the following terms and conditions and notices and they can be viewed and printed out in their currently valid version:

- General Terms and Conditions of Use and Data Protection Notice for the Customer Portal
- Special Terms and Conditions of Use for the "FRIAMAT Software Update" module

---

#### Device Registration and Customer Portal

The device can be registered independently of the activation dialogue (refer to Chapter [7.2. Activating and registering the device, P.29](#)) in the device display via the customer portal of Aliaxis Deutschland GmbH ([www.aliaxis.de/portal](http://www.aliaxis.de/portal)). The device will not be activated during registration and no activation PIN is generated.

#### Software update

The "FRIAMAT Software Update" module provides the possibility to receive new device-specific information and innovations by email for registered fusion units, as well as to download available software updates.

After registration of the device in the "FRIAMAT Software Update" module, update notifications and additional, ongoing device-specific information and innovations for the registered FRIAMAT fusion units will be sent by email from Aliaxis Deutschland and its affiliated companies to the email address which are stored in the user account of the customer portal.

The user can download software updates and install them on the device themself (refer to Chapter [9.5. Install software update, P.41](#)).

### 3.15. Data transfer (FRIAMAT prime)

#### 3.15.1. Output Formats

The following output formats are available:

- PDF
- CSV
- JSON
- FTD (FRIATRACE)

#### 3.15.2. Designating the transferred data

##### Designating the subdirectories

The transferred data will be created in subdirectories on the USB stick according to the following pattern:

F+Device number

Example: FR 20 20 123

Designating the subdirectories: F2020123

##### Designating the data

Data file names will be formed from the current date and a two-digit number counting up from 0.

Example: 2nd printout (02) on 30.10.2021 (2021\_10\_\_N02)

Designating the data: 2021\_10\_30\_\_N02.PDF

#### 3.15.3. Software for additional data processing

PDF data files, CSV data files or JSON data files: e.g. Acrobat Reader<sup>®</sup> or Microsoft<sup>®</sup> Excel

FTD data files: FRIATRACE database software

## 4. User menu

- Call up the user menu via the menu function button (refer to [3.4.2. Function key symbols, P.18](#)chapter).

#### 4.1. Menu tree (FRIAMAT basic)

Menu	Level 1	Level 2	Level 3	Reference
<b>Main menu</b>				
	Basic settings			
		Date and time		8.2.1. Set the date and time, P.30
		*System language*		8.2.2. Select the system language, P.30
		Volume		8.2.3. Set signal tone volume, P.31
		Update		9.5. Install software update, P.41
		Factory settings		8.2.4. Resetting the device to factory settings, P.31
	Information			9.7. View device information, P.42
		Device information		
			Device number	
			SW HMI	
			SW PU	
			Maintenance appointment	
		Device function		
		Licenses		
<b>Menu emergency entry</b>				9.1.3. Enter barcode digits manually (emergency entry), P.36

#### 4.2. Menu tree (FRIAMAT prime)

Some individual menu items can be blocked in the supervisor menu or not visible due to the settings.

Menu	Level 1	Level 2	Level 3	Reference
<b>Main menu</b>				
	Basic settings			
		Documentation		8.3.1. Switch on/switch off documentation (FRIAMAT prime), P.31
		Date and time		8.2.1. Set the date and time, P.30



Menu	Level 1	Level 2	Level 3	Reference
		* System language *		8.2.2. Select the system language, P.30
		Protocol language		8.2.5. Select protocol language (FRIAMAT prime), P.31
		Volume		8.2.3. Set signal tone volume, P.31
		Bluetooth® <sup>1)</sup>		8.3.2. Switch on/switch off Bluetooth® (FRIAMAT prime), P.31
		Coupled Bluetooth® devices <sup>1)</sup>		8.2.7. Manage coupled Bluetooth® devices (FRIAMAT prime), P.31
		Country of operation		8.2.6. Select country of operation (FRIAMAT prime), P.31
		Update		9.5. Install software update, P.41
		Factory settings		8.2.4. Resetting the device to factory settings, P.31
	Fusion sequence <sup>2)</sup>			
		Operator pass <sup>2)</sup>		8.3.4. Switch on/switch off "device disabling" function, P.32
		Traceability		
		Traceability active		8.3.3. Traceability active (FRIAMAT prime), P.32
		Pipe number		8.4.1.1. Pipe number, P.32
		Pipe length		8.4.1.2. Pipe length, P.32
		Fitting ID		8.4.1.3. Fitting ID, P.32
		Information data		
		Information text		8.4.2.1. Information text, P.33
		Comment		8.4.2.2. Comment, P.33
		Scraper device		8.4.2.3. Scraper device, P.33
		Subcontractor		8.4.2.4. Subcontractor, P.33
		ID data		
		Sorting and picking number		8.4.3.1. Sorting and picking number, P.33
		Seam number		8.4.3.2. Seam number, P.33
		GPS data		8.4.3.3. GPS data, P.34

Menu	Level 1	Level 2	Level 3	Reference
	Data <sup>2)</sup>			
		Transmit		8.5.1. Transmit data, P.34
		Delete		8.5.2. Delete data, P.34
	Information			9.7. View device information, P.42
		Device information		
		Device number		
		SW HMI		
		SW PU		
		Maintenance appointment		
		Device function		
	Licenses			
<b>Menu emergency entry</b>				9.1.3. Enter barcode digits manually (emergency entry), P.36
<b>ID data menu</b>				9.2.1. Enter ID data (FRIAMAT prime), P.37
	Sorting and picking number			
	Seam number			
	GPS 1-3			

<sup>1)</sup> Only visible when Bluetooth<sup>®</sup>function is permitted in country of operation.

<sup>2)</sup> Only visible when documentation is switched on and initial data record is saved.

## 5. Setting up and connection

### 5.1. Preparatory activities

Always ensure the following criteria before every use:

- Fusion device is undamaged.
- Planned fusion application corresponds to the intended use of the fusion device.
- All parts are correctly assembled.
- All assembled parts fulfil all the conditions in order to ensure proper operation of the device.
- When utilising outdoors: The fusion unit must be protected against rain and moisture.
- The temperature probe on the fusion cable end piece and the fitting, which is to be fused, are both exposed to the same ambient temperatures.

An unfavourable machining or processing situation is e.g. the fusion cable end piece is located in the blazing sun and the fitting is located in the shade.

- Input voltage corresponds to the input voltage range for which the device is designed for (refer to Chapter 16. [Technical Data, P.56](#)).

## 5.2. Setting up and connecting the device

### ⚠ CAUTION

#### Overheated cable

- ▶ Always unwind the cables (unit connection, fusing cable and extension cables) completely and utilise them as stretched out.

### ⚠ CAUTION

#### Overheated fusing plug connector due to soiled contacts

- ▶ Always inspect the fusing plug connector and contact sockets of the fitting for soiling and clean them when necessary before connecting the fusing plug connector and fitting.
- ▶ Always protect the fusing plug connector against soiling.
- ▶ When a deposit has formed on the fusing plug connector which cannot be removed completely, then always exchange the fusing plug connector.

### HINT

#### Insufficient power supply due to soiled or damaged fusing plug connector

Defective fused joint

- ▶ Only utilise the original fusing plug connector (Article No. 624529).
- ▶ Always ensure that the fusing plug connector is clean and undamaged.

1. Set up the fusion unit on level ground.
2. Prepare the fusion fitting and pipes for the fusion process according to the assembly instructions.
3. Position the contact pins of the fitting in such a way that they are accessible for connecting the fusion plug.
4. For mains supply connection or generator connection:  
Insert mains supply cable plug into the connection socket in order to establish power supply connection.
5. Utilise extension cables when necessary. Always observe the safety precautions when utilising extension cables (refer to Chapter 2.11.3. [Extension Cables, P.13](#)).
6. With generator operation:

- a. Always observe the safety precautions for generation operation (refer to Chapter 2.11.2. [Generator operation, P.13](#)).
  - b. Start up the generator and allow it to warm up for 30 seconds.
  - c. If necessary, adjust the idling voltage and limit it to the voltage which is specified in the technical data.
7. Switch the device on at the main switch.
  8. Connecting the fusion plug to the contact pins of the fitting: Plug in the fusion plug completely, i.e. via the entire length of the internal contact length of the contact plug.

## 6. Switching the device on and off

### Switching on

- Switch the fusion unit on with the main switch.

### Switching off

1. Wait until the device has cooled down when the fan is still running.
2. Switch the device off with the main switch.

## 7. Initial commissioning

### 7.1. Acquire basic settings

1. Switch the fusion unit on with the main switch.
2. Select the system language.
3. Acquire the following settings with FRIAMAT prime:
  - a. Protocol language
  - b. Country of operation

The activation dialogue will be displayed.

---

## **i** INFO

All settings can be amended at any time in the Main Menu > Basic Settings menu item.

---

## 7.2. Activating and registering the device

---

### **i** INFO

#### **Aborting the activation**

Activation can be skipped with the abort key and implemented at a later time. The prompt message will appear again after each switching on process until the activation has been implemented.

---

### **i** INFO

#### **Using the entered personal data**

The personal email address, which has been entered in the activation dialogue of the device, will be utilised and stored by Aliaxis Deutschland in order to send information about the availability of new software updates and device updates to the owner of the email address easily and quickly.

- Please enter an email address which is consistent and does not contain any staff-related data.
- 

### **Prerequisites**

- Internet-capable input device e.g. smartphone.
  - External app for capturing QR codes when a smartphone or tablet is utilised and the operating system is older than Android Version 9.0 / Apple iOS 11.
  - The activation dialogue with the QR Code will be indicated on the display.
1. Navigate to the activation page on the Internet-capable input device:
    - a. Open via the QR Code:  
Capture the QR Code with the smartphone camera.  
Tip on the displayed URL Link on the smartphone.
    - b. Via the input for the URL in the smartphone/on PC:  
Enter the following URL in the browser: <https://aliaxis.de/sw-update>
  2. Enter the device number, company and email address in the input mask.
  3. Confirm the entries.  
A 4-digit activation PIN will be sent to the specified email address.
  4. Enter the 4-digit activation PIN in the device via the display in the activation dialogue.

---

## **i** INFO

### **When changing owners**

- Always inform the new owner about the update options and the use of the 'FRIAMAT Software Update' module in the customer portal at [www.aliaxis.de](http://www.aliaxis.de).
  - Always inform Aliaxis Germany about the change of ownership.
  - Resetting to factory or default settings (refer to Chapter 8.2.4. [Resetting the device to factory settings, P.31](#)) and deleting fusion data when necessary.
- 

## **8. Menu operation**

### **8.1. Operate menu**

#### **8.1.1. Entering via the virtual keyboard or numeric keypad**

1. Select numbers or letters from the displayed numeric keypad or keyboard with the direction keys.
2. Confirm entry with the OK key.

#### **8.1.2. Acquiring entries or settings**

Save entry / amendment	Press confirmation function key.
Abort entry / amendment	Press abort function key.
Delete digit(s)	Press function key for back/delete.
Exit menu / cancel procedure	Press function key for back or STOP key.

### **8.2. Acquire device settings**

#### **8.2.1. Set the date and time**

1. Call up the menu item:  
Main menu > basic setting > date and time
2. Enter date with virtual keyboard.
3. Enter time with virtual keyboard.

#### **8.2.2. Select the system language**

1. Call up the menu item:  
Main menu > basic setting > system language
2. Select the language(s) from the list which should be displayed in the display text.

### 8.2.3. Set signal tone volume

1. Call up the menu item:  
Main menu > basic setting > volume
2. Set signal tone volume to loud or quiet.

### 8.2.4. Resetting the device to factory settings

1. Call up the menu item:  
Main menu > basic setting > factory settings
2. Reset the device to the factory settings.

### 8.2.5. Select protocol language (FRIAMAT prime)

1. Call up the menu item:  
Main menu > basic setting > protocol language
2. Select protocol language from the list.

### 8.2.6. Select country of operation (FRIAMAT prime)

1. Call up the menu item:  
Main menu > basic setting > country of operation
2. Select a country from the list for where the device is to be utilised.

### 8.2.7. Manage coupled Bluetooth® devices (FRIAMAT prime)

1. Call up the menu item:  
Main menu > basic setting > coupled Bluetooth® devices  
All Bluetooth® devices, which were previously coupled with the device, will be shown.
2. Delete the Bluetooth® devices from the list in order to prevent them from reconnecting with the smartphone.

## 8.3. Manage functions (FRIAMAT prime)

### 8.3.1. Switch on/switch off documentation (FRIAMAT prime)

1. Call up the menu item:  
Main menu > basic setting > documentation
2. Switch on or switch off documentation.  
If the function is switched on, then the following symbol will appear in the display:



### 8.3.2. Switch on/switch off Bluetooth® (FRIAMAT prime)

The Bluetooth® function is switched off in the as-delivered status.

1. Call up the menu item:  
Main menu > basic setting > Bluetooth®

- Bluetooth<sup>®</sup> function switched on or switched off.  
If the function is switched on, then the following symbol will appear in the display:



### 8.3.3. Traceability active (FRIAMAT prime)

- Call up the menu item:  
Main menu > fusion sequence > traceability > traceability active
- Switch on or switch off traceability function.  
If the function is switched on, then the following symbol will appear in the display:



### 8.3.4. Switch on/switch off "device disabling" function

- Call up the menu item:  
Main menu > fusion sequence > operator pass
- Switch on or switch off the function.  
If the function is switched on, then the device can only be unlocked by reading in the operator pass.

## 8.4. Manage data capture (FRIAMAT prime)

### 8.4.1. Traceability data

The query for the traceability data during the fusion process can be defined in the traceability menu item.

#### 8.4.1.1. Pipe number

- Call up the menu item:  
Main menu > fusion sequence > traceability > pipe number
- Switch on or switch off the query for an individual pipe number for the pipe which is to be fused.  
If the function is switched on, then the following symbol will appear in the display:



#### 8.4.1.2. Pipe length

- Call up the menu item:  
Main menu > fusion sequence > traceability > pipe length
- Switch on or switch off the query for the pipe length for the pipe which is to be fused.  
If the function is switched on, then the following symbol will appear in the display:



#### 8.4.1.3. Fitting ID

- Call up the menu item:  
Main menu > fusion sequence > traceability > fitting ID



2. Switch on or switch off the query for the fitting identification data.  
When the function is switched on, then the fitting ID will be shown in the display during the fusion process.

## **8.4.2. Information data**

The query for information data during the fusion process can be defined in the information data menu item.

### **8.4.2.1. Information text**

1. Call up the menu item:  
Main menu > fusion sequence > information data > information text
2. Switch on or switch off the query for the information text.

### **8.4.2.2. Comment**

1. Call up the menu item:  
Main menu > fusion sequence > information data > comment
2. Switch on or switch off the query for a comment.

### **8.4.2.3. Scraper device**

1. Call up the menu item:  
Main menu > fusion sequence > information data > scraper device
2. Switch on or switch off query for data (e.g. device number) for implemented scraper device.

### **8.4.2.4. Subcontractor**

1. Call up the menu item:  
Main menu > fusion sequence > information data > subcontractor
2. Switch on or switch off the query for the subcontractor.

## **8.4.3. ID data**

The request for ID data in the ID data menu and during the fusion process can be defined in the ID data menu item.

### **8.4.3.1. Sorting and picking number**

1. Call up the menu item:  
Main menu > fusion sequence > ID data > sorting and picking number
2. Switch on or switch off the query for sorting and picking number.

### **8.4.3.2. Seam number**

1. Call up the menu item:  
Main menu > fusion sequence > ID data > seam number
2. Switch on or switch off the query for the seam number.

### 8.4.3.3. GPS data

1. Call up the menu item:  
Main menu > fusion sequence > ID data > GPS data
2. Switch on or switch off the query for the GPS data.

## 8.5. Manage capture data (FRIAMAT prime)

### 8.5.1. Transmit data

1. Call up the menu item:  
Main menu > data > transfer
2. Select which data should be transferred via the export filter mask.
3. Select output format (refer to Chapter 3.15.1. [Output Formats, P.23](#)).  
A request for connecting a USB stick on the USB connection port will appear in the display.
4. Connect a USB stick.
5. Press confirmation function key.  
Export will be started.  
A progress bar will be displayed.  
The data will be written to a subdirectory in the selected output format (refer to Chapter 3.15.2. [Designating the transferred data, P.23](#)).
6. If necessary, process the data further with appropriate software (refer to Chapter 3.15.3. [Software for additional data processing, P.23](#)).

### 8.5.2. Delete data

1. Call up the menu item:  
Main menu > data > delete data
2. Delete individual or all saved data.

## 8.6. Reading in an operator pass (FRIAMAT prime)

When an operator pass is initially read in, then all fusions performed from this point on will be saved under the code of the operator pass which has been read in. When another operator pass is read in, then the device switches over accordingly.

By reading in the same operator pass again, the device can be subsequently disabled in order to protect it against unauthorised use.

For more information regarding disabling and enabling the device, refer to Chapter 9.3. [Disabling and enabling the device \(FRIAMAT prime\), P.40](#).

## 9. Fusion procedure

### 9.1. Read in barcode

#### 9.1.1. Utilise the reading device

##### 9.1.1.1. Utilising the scanner

### HINT

#### **Soiling and scratching on the reading window**

Barcode cannot be read out anymore when the reading window is soiled or scratched.

- ▶ Always protect the reading window against soiling and scratches.

1. Aim the scanner's reading window onto the fitting's barcode.
2. Press the read-in button.  
A red light band will appear which captures the barcode.
3. Align the scanner to be as close as possible so that the light band crosses the centre of the barcode.  
When an acoustic signal sounds, then the barcode has been read in successfully.  
When no acoustic signal sounds: Repeat the procedure with an altered position of the scanner (distance to the barcode, position of the light band).
4. If the scanner fails: Enter the fusion parameters by using the emergency entry mode (refer to Chapter 9.1.3. Enter barcode digits manually (emergency entry), P.36).

##### 9.1.1.2. Utilise the reader wand

### HINT

#### **Soiling on and/or and damage to the reading wand tip**

Barcode cannot be read out anymore when the tip of the reader wand is soiled or damaged.

- ▶ Always protect the tip of the reader wand against soiling.

1. Place the reader wand at a slight angle and slightly inclined (like a pencil) in front of or behind the barcode of the fitting.  
Reading in can be executed from right to left or vice versa.
2. Move the reader wand quickly over the entire barcode and slightly beyond the edge of it.  
When an acoustic signal sounds, then the barcode has been read in successfully.  
When no acoustic signal sounds:

- a. Repeat the procedure with an amended inclination and speed.
- b. When the repeated reading in is not successful: Enter the fusion parameters by using the emergency entry mode (refer to Chapter 9.1.3. [Enter barcode digits manually \(emergency entry\), P.36](#)).

### 9.1.2. Scan in the barcode with the reading device

## HINT

### Utilising a barcode from another type of fitting

Fusing aborted or faulty fusing result

- ▶ Only read in the barcode which is adhered on the fitting.
- ▶ If the barcode is missing or damaged: Read in the barcode of an identical fitting model (same manufacturer, same batch). In case of doubt: Contact the fitting manufacturer.

1. Read in the barcode with reader wand, mini scanner or 1D/2D scanner (for 2D barcode).  
When scanning was successful, then an acoustic signal sounds and the display "Pipe processed?" appears.

If no acoustic signal sounds:

- a. Repeat the procedure.
- b. Enter barcode digits using the emergency entry mode (refer to Chapter 9.1.3. [Enter barcode digits manually \(emergency entry\), P.36](#)).

For more information about utilising the reading devices (reader wand or scanner), refer to Chapter 9.1.1. [Utilise the reading device, P.35](#).

### 9.1.3. Enter barcode digits manually (emergency entry)

1. Press emergency entry function button.  
No digits will be displayed with initial usage.  
The last barcode, which was entered manually, will be displayed when used again.
2. Enter digits (refer to Chapter 8.1.1. [Entering via the virtual keyboard or numeric keypad, P.30](#)).
3. Save the entry with the confirmation function key  
or  
Acquiring other actions (refer to Chapter 8.1.2. [Acquiring entries or settings, P.30](#)).

If the sequence of digits is correct, then the same display will appear as when the barcode is read in with the reader wand or scanner.

## 9.2. Executing the fusion procedure

### 9.2.1. Enter ID data (FRIAMAT prime)

#### **i** INFO

Entering sorting and picking numbers, seam numbers and GPS data is only possible under the following prerequisites:

- Documentation is switched on.
- Functions for "Sorting and picking number" / "Seam number" / "GPS data" are switched on (refer to Chapter [8.4.3. ID data, P.33](#)).

If required, ID data can be entered in the ID data menu before each fusion:

1. Press ID data function key.
2. Enter ID data (sorting and picking number, seam number or GPS data) for the upcoming fusion.

### 9.2.2. Start fusion

#### **⚠** CAUTION

##### **Abrupt discharge of hot molten plastic**

Burns to the skin and eyes

- ▶ Always retain a distance of one metre from the fusing point during the fusing process.
- ▶ Ensure that joints are not tensioned.

#### **HINT**

##### **Fusing failure due to insufficient power supply**

Defective fused joint

- ▶ Never connect any additional consumers during fusing.

---

## **i** INFO

Aborting the fusion procedure

The fusion procedure can be interrupted at any time by pressing the STOP key. The fusion process can be repeated.

- Let the fusion joint cool down.
- If necessary, remedy the source of the error.
- Always follow the fitting manufacturer's instructions.

---

## **i** INFO

The FRIAMAT preCHECK function is always switched off during multiple-phase fusion.

- Only utilise the device in a cooled down status in order to prevent unwanted fusion interruptions.

- 
1. Enter the ID data when required (refer to Chapter [9.2.1. Enter ID data \(FRIAMAT prime\), P.37](#)).
  2. Read in the fusion barcode for the fitting.
  3. When traceability is activated: Enter traceability data (refer to Chapter [9.2.4. Enter Traceability data \(FRIAMAT prime\), P.39](#)).
  4. Confirm the "pipe processed?" display with the START key or with the CONTINUE key.  
The fitting data will be displayed.
  5. Inspect and confirm the fitting data.
  6. When information data query is switch on: Enter information data (refer to Chapter [9.2.3. Enter information data \(FRIAMAT prime\), P.39](#)).
  7. Press the START key to start the fusion procedure.

The following indications appear in the display during the fusion procedure:




Display	Procedure
"Testing and inspecting"	<ul style="list-style-type: none"> <li>▪ The ambient temperature will be measured and the resistance of the connected fitting must be tested.</li> <li>▪ Testing the connected fitting and the FRIAMAT preCHECK function will be executed.</li> <li>▪ If the test result is positive, then fusion starts automatically.</li> </ul>
Fusion progress (details in seconds)	Fusion will be executed.
"Fusion successful" with "Fusion target value" and "Fusion time actual" display	Fusion procedure is ended.

### 9.2.3. Enter information data (FRIAMAT prime)

#### Prerequisite

- Fusion barcode is read in.
  - The "pipe processed?" query will be shown in the display.
1. Enter the information data (e.g. information text, comment, subcontractor) with the virtual keyboard.
  2. Read in the barcode of the scraper device or enter it manually via the function key (entry/ emergency entry key) (refer to Chapter 9.1.3. Enter barcode digits manually (emergency entry), P.36).

### 9.2.4. Enter Traceability data (FRIAMAT prime)

	<ul style="list-style-type: none"> <li>▪ Read in the fusion barcode for the fitting.</li> </ul>
	<ul style="list-style-type: none"> <li>▪ Read in traceability barcode from Component 1.</li> <li>▪ Enter pipe number.</li> <li>▪ Enter pipe length.</li> </ul>
	<ul style="list-style-type: none"> <li>▪ Read in traceability barcode from Component 2.</li> <li>▪ Enter pipe number.</li> <li>▪ Enter pipe length.</li> </ul>

### 9.2.5. Conclude the fusion procedure

#### Prerequisite

- Fusion procedure is ended.

- The display shows "Fusion successful" with "Fusion time target" and "Fusion time actual".
1. Note the fusion parameters on the pipe/fitting in order to prevent double fusions.
  2. Confirm the display indication with the OK key (alternatively START key, STOP key).  
The fusion procedure is concluded.  
The device is ready for the next fusion.

### **With generator operation**

After completion of the fusion work:

1. Disconnect the mains supply cable plug of the generator.
2. Switch off the generator.

### **9.3. Disabling and enabling the device (FRIAMAT prime)**

The device is equipped with the following disabling possibilities to protect it against unauthorised use:

- Manual disabling  
By reading in the same operator pass again, the device can be manually disabled.
- Automatic disabling  
The device will be automatically disabled when an operator pass is read in and a date amendment occurs; this means that the device will be disabled on the next day.

When a device is disabled, then the following message appears in the display:

"!!! ALWAYS READ IN A VALID OPERATOR PASS!!!".

#### **9.3.1. Disable the device manually**

1. Read in the current operator pass.  
The "DISABLE DEVICE?" query will be shown.
2. The following actions are possible:
  - a. Confirm the query: Press confirmation function key.
  - b. Abort procedure: Press abort function key.

#### **9.3.2. Enable the device**

1. Read in the operator pass.  
The valid operator pass will be shown in the display.
2. Confirm the details and information in the display with the confirm function key.



## 9.4. Coupling up the smartphone (FRIAMAT prime)

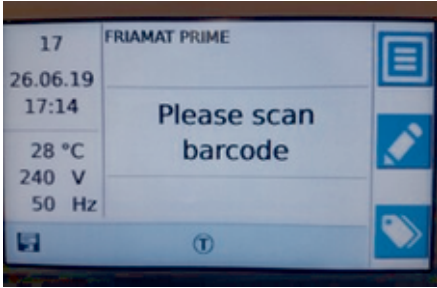


Image 4:

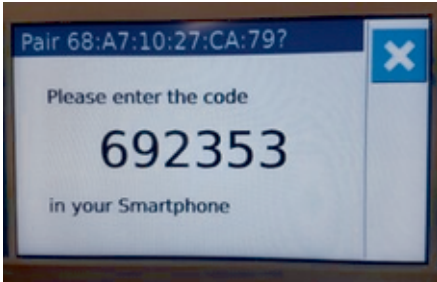


Image 5:

### Prerequisites

- Bluetooth® function is activated (refer to Chapter 8.3.2. [Switch on/switch off Bluetooth® \(FRIAMAT prime\), P.31](#)).
- FRIAMAT App is installed on the smartphone.
- The device is located in input mode (refer to figure).

1. Start the FRIAMAT App.
2. Start pairing in the app (refer to the FRIAMAT App operating instructions).
3. When initially pairing with the smartphone:  
Enter the 6-digit PIN code in the smartphone within 30 seconds, which will be subsequently shown in the display of the device.

Successful pairing will be confirmed by the device:

- Display for the function status symbol, Bluetooth® in main menu
- 2 short acoustic signals

The coupled smartphone will be displayed in the coupled menu item. Bluetooth® device (refer to Chapter 8.2.7. [Manage coupled Bluetooth® devices \(FRIAMAT prime\), P.31](#)).

## 9.5. Install software update

### **i** INFO

When the update cannot be installed on the device, then immediately contact the authorised service station or the local service partner or Aliaxis Deutschland (refer to Chapter 15. [Authorised service stations, P.55](#)).

### Prerequisites

- A commercially available computer with USB port and Internet access

- USB stick which is formatted in FAT 32 with up to 256 GB
1. Call up the customer portal via a browser: [www.aliaxis.de/portal](http://www.aliaxis.de/portal)
  2. Navigate to the "FRIAMAT Software Update" module in the customer portal.
  3. Download the update.  
Every update comprises a data package with several files in which the following information is provided:  
Instructions for executing the update, information about system prerequisites  
hardware prerequisites for downloading and transferring
  4. Always follow the instructions for executing the update.
  5. Always ensure the system and hardware prerequisites.
  6. Copy the data files from the computer to a USB stick.
  7. Calling up the menu item in the display:  
Main menu basic setting, update
  8. Connect a USB stick.
  9. Follow the instructions for the update.
  10. Follow the instructions on the display.
  11. After a successful update, please switch the device OFF and ON again.

## 9.6. Let the sequential number be displayed (FRIAMAT prime)

- Press ID data function key.  
The display shows the sequential number for the next fusion which is to be executed.

This number is assigned to the respective active sorting and picking number. The sequential number starts with 1 for the 1st fusion. It is automatically incremented by the device. The number cannot be amended.

If a sorting and picking number has been utilised, then all fusions will be assigned to the same sequential number, which also counts up.

## 9.7. View device information

Information about the device is displayed under information via the following menu items:

Menu item	Display
Device information	<ul style="list-style-type: none"> <li>▪ TYPE</li> <li>▪ DEVICE NUMBER</li> <li>▪ SW HMI</li> <li>▪ SW PU</li> <li>▪ MAINTENANCE APPOINTMENT</li> </ul>
Device function	<ul style="list-style-type: none"> <li>▪ Device functions</li> <li>▪ Functions which the device is prepared for</li> </ul>
Licenses	<ul style="list-style-type: none"> <li>▪ License information</li> </ul>

# 10. Supervisor menu (FRIAMAT prime)

The supervisor menu is not displayed to the user on the construction site. Accessing the SUPERVISOR menu is only possible with the SUPERVISOR pass.

Settings can be implemented on the device which will affect device characteristics and/or properties and the device functions. Device functions can be specifically enabled, released or disabled for the user. Processes can be specified on the construction site in this manner.

## 10.1. Menu tree

Menu	Level 1	Level 2	Reference
<b>Basic settings</b>			
	Functions		
		Documentation	10.4.1. Switch on/switch off documentation, P.45
		Date and time	10.4.2. Disable entry for date and time, P.45
		Data backup	10.4.3. Managing data backup, P.45
		Maintenance appointment	10.4.4. Acquire the settings for the maintenance appointment, P.46
		Emergency entry	10.4.5. Disable emergency entry, P.46
		Factory settings	10.4.6. Disable the "Reset factory settings" function, P.46
		Bluetooth®	10.4.7. Switch on/switch off Bluetooth®, P.46
	Display		
		Mode	10.4.8. Set format and units, P.47
		System language	10.4.9. Set the system language, P.47
		Energy display	10.4.10. Switch on/switch off energy display, P.47
<b>Fusion sequence</b>			
	Operator pass		10.5.1. Switch on/switch off operator pass, P.47
	Traceability		10.5.2. Switch on/switch off traceability, P.48
	Information data		10.5.3. Set query for information data, P.48

Menu	Level 1	Level 2	Reference
	ID data		10.5.4. Preset query for the ID data, P.49
		Sorting and picking number	10.5.4.1. Switch on/switch off query for sorting and picking number, P.49
		Seam number	10.5.4.2. Switch on/switch off query for seam number, P.49
		GPS data	10.5.4.3. Switch on/switch off query for GPS data, P.49
	Cooling time		10.5.5. Switch on/switch off cooling time, P.50
<b>Reset settings</b>			10.6. Reset supervisor settings, P.50
<b>PIN</b>			10.3. Amend supervisor PIN, P.44

## 10.2. Call up the Supervisor menu

1. Read out the Supervisor pass.
2. Enter the 4-digit PIN code.
3. The following actions are possible:
  - a. Confirm the entry: Press confirmation function key.
  - b. Amend entry: Press entry function key.
4. Press confirmation function key.  
The Supervisor menu will be displayed.

## 10.3. Amend supervisor PIN

The factory default supervisor PIN is "0000".

1. Navigate to the PIN menu item in the supervisor menu.
2. Press confirmation function key.
3. Press entry function key.
4. Use the direction keys to enter the new 4-digit PIN code.  
The old PIN code will be displayed above.
5. The following actions are possible:
  - a. Confirm the entry: Press confirmation function key.
  - b. Amend entry: Press entry function key.
6. Note down the new PIN code and retain it as not accessible with the SUPERVISOR pass.

---

## **i** INFO

If the PIN code or SUPERVISOR pass is lost, then please contact the Service Hotline (refer to Chapter [13.4. Service Hotline, P.55](#)).

---

### **10.4. Acquire device settings**

The Supervisor menu is used to set default settings for the user menu.

The pre-settings which have been implemented in the user menu can no longer be amended with the "disable" setting.

#### **10.4.1. Switch on/switch off documentation**

1. Call up the menu item:  
Basic settings > functions > documentation
2. The following settings are possible:

On	Switch on "Documentation" function.
Off	Switch off "Documentation" function.
Disabling	Disable the documentation menu item in the user menu. The user cannot amend the setting which was implemented by the supervisor.

#### **10.4.2. Disable entry for date and time**

1. Call up the menu item:  
Basic settings > functions > date and time
2. The following setting is possible:

Disabling	Disable the date and time menu item in the user menu. The user cannot amend the setting which was implemented by the supervisor.
-----------	---

#### **10.4.3. Managing data backup**

1. Call up the menu item:  
Basic settings > functions > data backup
2. The following settings are possible:

Disable transfer	Disable the transfer menu item in the user menu. The user cannot transfer any data.
Disable deletion	Disable the deletion menu item in the user menu. The user cannot delete any data.
Deletion after print out/issue is possible	The delete menu item is available in the user menu when the data has been previously transferred.

#### 10.4.4. Acquire the settings for the maintenance appointment

1. Call up the menu item:  
Basic settings > functions > maintenance appointment
2. The following settings are possible:

On	The "Maintenance appointment exceeded" warning note will be displayed.
Off	The "Maintenance appointment exceeded" warning note will not be displayed.
0 - 99	Behaviour with an exceeded maintenance appointment: If the maintenance appointment is exceeded, then fusion can only be allowed for a set period of time. The time period can be set from 0 to a maximum of 99 days during which the device will still be working after the maintenance appointment has been exceeded.  After the maintenance appointment has been exceeded, then the time during which the device will still be working is shown in the display (a spanner with the number of days).

#### 10.4.5. Disable emergency entry

1. Call up the menu item:  
Basic settings > functions
2. Utilise the direction key to navigate to the emergency entry menu item.
3. Confirm the selection.  
A tick will appear before the menu item.  
The emergency entry menu is disabled for the user.  
The user cannot enter the barcode manually.

#### 10.4.6. Disable the "Reset factory settings" function

1. Call up the menu item:  
Basic settings > functions
2. Utilise the direction key to navigate to the factory settings menu item.
3. Confirm the selection.  
A tick will appear before the menu item.  
The factory settings menu item is disabled for the user.  
The user cannot reset the device to the factory settings.

#### 10.4.7. Switch on/switch off Bluetooth®

1. Call up the menu item:  
Basic settings > functions > Bluetooth®
2. The following settings are possible:

On	Bluetooth <sup>®</sup> , switch on.
Off	Bluetooth <sup>®</sup> , switch off.
Disabling	Disable the Bluetooth <sup>®</sup> menu item in user menu. The user cannot amend the setting which was implemented by the supervisor.

#### 10.4.8. Set format and units

1. Call up the menu item:  
Basic setting > display > mode
2. The following settings are possible:
  - a. Select international date format and time format.
  - b. Select the temperature unit.

#### 10.4.9. Set the system language

1. Call up the menu item:  
Basic settings > display > system language
2. Select language from the list.  
If a language is set by the supervisor, then the \*System language\* menu item is locked in the user menu.  
The user cannot amend the setting which was implemented by the supervisor.

#### 10.4.10. Switch on/switch off energy display

1. Call up the menu item:  
Basic settings > display > energy display
2. Switch on or switch off the display of the energy input after fusion has been completed successfully.

### 10.5. Settings for the fusion sequence

#### 10.5.1. Switch on/switch off operator pass

1. Call up the menu item:  
Fusion sequence > operator pass
2. The following settings are possible:

On	Switch on the "working with operator pass" function.
Off	Switch off the "working with operator pass" function.
Disabling	Disable the operator pass menu item in the user menu. The user cannot amend the setting which was implemented by the supervisor.

With switched on function:  
Specify the conditions when the operator pass must be read in again:

- After a date change (activated by default)
- Every time the machine is switched on
- Before every fusion

### 10.5.2. Switch on/switch off traceability

1. Call up the menu item:  
Fusion sequence > traceability
2. The following settings are possible for requesting traceability data:

On	Switch on query for traceability.
Off	Switch off query for traceability.
Disabling	Disable the traceability menu item in the user menu. The user cannot amend the setting which was implemented by the supervisor.

The following settings are possible when the query for traceability data is switched on:

Pipe number On / Off	Switch on or switch off the query for an individual pipe number for the pipe which is to be fused.
Pipe length On / Off	Switch on or switch off the query for the pipe length for the pipe which is to be fused.
Fitting ID On / Off	Switch on or switch off the query for the fitting identification data.

### 10.5.3. Set query for information data

1. Call up the menu item:  
Fusion sequence > information data
2. The following settings are possible for querying the information data:

Information text On / Off	Switch on or switch off the query for the information text.
Comment On / Off	Switch on or switch off the query for a comment.
Scraper device On / Off	Switch on or switch off query for data (e.g. device number) for implemented scraper device.
Subcontractor On / Off	Switch on or switch off the query for the subcontractor.



Disabling	Disable the information data menu item in the user menu. The user cannot amend the setting which was implemented by the supervisor.
-----------	--

#### 10.5.4. Preset query for the ID data

##### 10.5.4.1. Switch on/switch off query for sorting and picking number

1. Call up the menu item:  
Fusion sequence > ID data > sorting and picking number
2. The following settings are possible for querying the sorting and picking number:

On	Switch on the query for sorting and picking number.
Off	Switch off the query for sorting and picking number.
Disabling	Disable the sorting and picking number menu item in the user menu. The user cannot amend the setting which was implemented by the supervisor.

If the "sorting and picking" function is switched on, then the set conditions for when the commission number must be entered:

- Every time the fusion unit is switched on
- Before every fusion

##### 10.5.4.2. Switch on/switch off query for seam number

1. Call up the menu item:  
Fusion sequence > ID data > seam number
2. The following settings are possible for querying the seam number:

On	Switch on the query for the seam number.
Off	Switch off the query for the seam number.
Disabling	Disable the seam number menu item in the user menu. The user cannot amend the setting which was implemented by the supervisor.

##### 10.5.4.3. Switch on/switch off query for GPS data

1. Call up the menu item:  
Fusion sequence > ID data > GPS data
2. The following settings are possible for querying GPS data:

On	Switch on query for GPS data.
Off	Switch off query for GPS data.
Disabling	Disable the GPS data menu item in the user menu. The user cannot amend the setting which was implemented by the supervisor.

### 10.5.5. Switch on/switch off cooling time

1. Call up the menu item:  
Fusion sequence > cooling time
2. The following settings are possible for querying the cooling time:

On	Switch on the query for the cooling time.
Off	Switch off the query for the cooling time.
Disabling	Disable the cooling time menu item in the user menu. The user cannot amend the setting which was implemented by the supervisor.

The plug contacts (Contact 4) must be in contact with the fitting during the entire cooling time displayed.

### 10.6. Reset supervisor settings

The menu item for reset settings will reset all the settings which were made by the supervisor to those which were set in the delivery status.

---

## INFO

Resetting in the supervisor menu will not delete any fusion data from the memory.

---

## 11. Error Messages

Error messages, fault messages or warnings will be shown in the device display.

If an error message, fault message or warning is displayed, which is not described below and cannot be explained and/or remedied on the basis of the plain text description in the display, then always contact the Service Hotline.

- In order to display the plain text description (FRIAMAT prime): Press the upper function key.

## 11.1. Error messages, fault messages on the display

No.	Text in display	Meaning / causes	Assistance
01	Wrong barcode	Incorrect / false barcode	<ul style="list-style-type: none"> <li>Utilise new barcode of same batch.</li> <li>Correct manually entered barcode.</li> </ul>
02	Temperature out of range	Surrounding temperature exceeds the permissible range	<ul style="list-style-type: none"> <li>Implement measures in order to ensure the surrounding temperature e.g. create a tent over, or shield, the fusion area.</li> </ul>
03	Resistance outside of tolerance	Electrical resistance of the fitting exceeds the tolerance	<ul style="list-style-type: none"> <li>Inspect contacting for tight fit, soiling or dirt.</li> <li>Clean the contacts.</li> <li>Exchange the fitting.</li> </ul>
04	Fitting's wire turn short circuited	Short circuit in the wire winding of the fitting	<ul style="list-style-type: none"> <li>Exchange the fitting and return it to the fitting manufacturer for inspection.</li> </ul>
05	Fitting's wire turn interrupted	Current flow interrupted	<ul style="list-style-type: none"> <li>Inspect the fusion plug connection on the fitting.</li> <li>Exchange the fitting and return it for examination.</li> </ul>
06	Voltage outside of tolerance	Impermissible deviation for fusion voltage	<ul style="list-style-type: none"> <li>Notify the authorised service station.</li> </ul>
08	Operating voltage out of range	<p>Operating voltage during fusion is outside the permissible range</p> <p>Extension cable too long or cross-section too small</p>	<ul style="list-style-type: none"> <li>Inspect voltage and connection conditions of the generator.</li> </ul>
09	Frequency out of range	Frequency during fusion is outside the permissible range	<ul style="list-style-type: none"> <li>Inspect generator voltage frequency.</li> </ul>
10	Fusion stop	Fusion aborted by pressing the STOP button	–

No.	Text in display	Meaning / causes	Assistance
12	Device overheated	Protection function which prevents device overheating	<ul style="list-style-type: none"> <li>Let the device cool down. The fans assist in lowering the device temperature when the device is switched on.</li> </ul>
13	Operating voltage failure	Supply voltage interrupted (e.g. power failure during fusion) or too low	<ul style="list-style-type: none"> <li>Inspect connection conditions.</li> </ul>
14	Power too low	Power consumption of the fitting is very small or too low: The device cannot provide such small power.	<ul style="list-style-type: none"> <li>Contact the Service Hotline.</li> </ul>
15	Power exceeded	Power consumption of the fitting exceeds the capacity of the device	<ul style="list-style-type: none"> <li>Contact the Service Hotline.</li> </ul>
17 – 19	System error	–	<ul style="list-style-type: none"> <li>Contact the Service Hotline.</li> </ul>
23	Generator error	Generator not suitable for the fusion operation	<ul style="list-style-type: none"> <li>Contact the Service Hotline.</li> </ul>
25	Cooling time interrupted	When removing the plug contacts (Contact 4) during the cooling time, the countdown was canceled.	–
30	Fan is blocked or defective	–	<ul style="list-style-type: none"> <li>Contact the Service Hotline.</li> </ul>
32	Temperature sensor fault	One of the temperature sensors in the device is defective	<ul style="list-style-type: none"> <li>Contact the Service Hotline.</li> </ul>

No.	Text in display	Meaning / causes	Assistance
34	Temperature limit reached	One of the temperature sensors notifies a high heating up level in the device	<ul style="list-style-type: none"> <li>Let the device cool down. The fans assist in lowering the device temperature when the device is switched on.</li> </ul>
50	USB interface fault	with FRIAMAT prime: Data transfer not possible	<ul style="list-style-type: none"> <li>Contact the Service Hotline.</li> </ul>
70	Communication fault	Disrupted data transfer within the device	<ul style="list-style-type: none"> <li>Contact the Service Hotline.</li> </ul>

## 11.2. Information and warning information on the display

Text in display	Note, information / assistance
Attention! Double fusion!	<p>An additional fusion has been started on the same fitting.</p> <p>When a fitting should be double fused:</p> <ul style="list-style-type: none"> <li>Disconnect the contact plugs of the fusion unit from the fitting after the first fusion is completed.</li> <li>Allow the fitting to cool down (refer to the fitting manufacturer's machining and processing instructions).</li> </ul>
Let the device cool down	<p>Protection function which prevents device from overheating.</p> <ul style="list-style-type: none"> <li>Let the device cool down.</li> <li>Leave the device switched on so that the fan can assist with cooling.</li> </ul>
Fusion stop	Fusion was aborted by pressing the STOP button.
End of fusion	Fusion has been completed.
Checks	Inspect the fitting data and FRIAMAT preCHECK function.
Voltage ... V; Frequency ... Hz	<ul style="list-style-type: none"> <li>Re-regulate the generator.</li> <li>Acknowledge with the STOP button.</li> </ul>
Maintenance date exceeded	<ul style="list-style-type: none"> <li>Have the device maintained (Aliaxis Deutschland GmbH or authorised service station).</li> </ul>
FRIAMAT preCheck deactivated	The FRIAMAT preCheck function has been switched off when utilising the 2D barcode according to ISO 12176-5 with multiple-phase fusions.

## 12. Transport and storage

The device is delivered in a sturdy transport crate.

- Always store and transport the device in this transport crate in order to protect it against moisture.

Permissible temperature range: -20 °C ... +70 °C.

## 13. Care and maintenance

### 13.1. Device maintenance

- The fusion unit must be maintained at least once a year by Aliaxis Deutschland GmbH or one of the authorised service stations.

According to the international valid standard ISO 12176-2 Plastics pipes and fittings - Equipment for fusion jointing polyethylene systems - Part 2: Electrofusion, in this case Clause 7.1, an electrofusion device must only maintain the required operating accuracy at maximum and minimum ambient temperature for at least 12 months without the requirement for adjustment of the control unit.

In order to also ensure, beyond these 12 months, that the operating accuracy is maintained during the entire warranty period (refer to Chapter [13.3. Warranty / FRIAMAT GarantiePLUS, P.55](#)) and it is also consistently given beyond that, therefore the FRIAMAT fusion unit must always be serviced or maintained at least once a year.

It must be inspected within the framework of this maintenance work for whether the FRIAMAT fusion unit still fulfils the required operating accuracy or it must be, when necessary, re-calibrated.

### 13.2. Maintenance, testing and inspection intervals

What?	When?	Who?
Cleaning the reader wand or barcode scanner	Daily	Operator
Controlling for damage	Daily	Operator
Inspect and test function	Before every use	Operator
Inspect contacts, if necessary clean or exchange them	Before every use	Operator

What?	When?	Who?
Device maintenance	Annually	<ul style="list-style-type: none"> <li>▪ Aliaxis Deutschland GmbH</li> <li>▪ Authorised service stations</li> </ul>

### 13.3. Warranty / FRIAMAT GarantiePLUS

The warranty period for the device is 24 months.

Aliaxis Deutschland GmbH additionally offers German and Austrian purchasers the FRIAMAT GarantiePLUS (FRIAMAT 3-year guarantee) for new devices. The guarantee conditions and further information can be found at [www.aliaxis.de/plus](http://www.aliaxis.de/plus).

### 13.4. Service Hotline

Please contact our Service Hotline for troubleshooting questions or areas of application which deviate from these instructions.

Telephone number: +49 621 486-1533

## 14. Disposal

The European Directive 2002/96/EC (WEEE – Waste Electrical Devices and Electronic Equipment) regulates the disposal of used electrical and electronic products. The WEEE Directive was implemented in 2005 with the ElektroG for the German disposal market. Accordingly, used electrical devices and electronic equipment must always be disposed of correctly and/or recycled properly.



- Always dispose of the device in accordance with European Directive 2002/96/EC (WEEE – Waste Electrical Devices and Electronic Equipment).
- Always observe additional country-specific provisions, regulations, standards and directives.

Possible locations, bodies for proper disposal:

- Aliaxis Deutschland GmbH
- Authorised service stations

## 15. Authorised service stations

Aliaxis Deutschland GmbH  
Steinzeugstraße 50  
68229 Mannheim  
Tel.: 0621 486-2336  
Fax: 0621 486-1837

Current overview for service stations (throughout Germany):

<https://www.aliaxis.de/de/services/geraeteservice>

Please contact our Service Hotline for service stations [13.4. Service Hotline, P.55](#).

## 16. Technical Data

		FRIAMAT basic	FRIAMAT prime
Input voltage range		AC 190 V – 250 V	
Frequency range		44 Hz...66 Hz	
Current consumption		AC 16 A maximum	
Power		3.5 kW	
Generator nominal power for fittings	d 20 – d 160	~ AC 2.4 kW	
	d 180 – d 900	~ AC 5.0 kW	
Device fuse		16 A sluggish	
Housing		Protection category IP 54 / DIN EN 60529 Protection Class I / DIN EN 60335-1	
Connection cable		5 m with contour plug	
Fusion cable		4 m with fitting connection plug Ø 4 mm	
Code type		Barcode 2/5 overlapped (interleaved) according to ANSI HM 10.8 M-1983 and ISO CD 13950	Barcode 2/5 overlapped (interleaved) according to ANSI HM 10.8 M-1983 and ISO CD 13950
		2D code (QR; Aztec; Data Matrix) according to ISO 12176-5	Barcode 128 a/b/c according to ISO 12176-4 2D code (QR; Aztec; Data Matrix) according to ISO 12176-5
Working temperature range		-20 °C...+50 °C**	
Fusion current monitoring		Short circuit maximum 110A Short circuit 1.70 x I nominal Interruption 0.25 x I nominal	
Fusion voltage		Maximum DC 48 V	



	<b>FRIAMAT basic</b>	<b>FRIAMAT prime</b>
Interface	USB	USB Bluetooth® Low Energy V4.2 (CE, FCC, IC certified)
Protocol format	–	PDF, CSV, FTD, JSON
Protocol memory	–	20,000 protocols
Display languages	In alphabetical order; Bulgarian, Chinese, Croatian, Czech, Danish, Dutch, English, Estonian, Finnish, French, German, Hebrew, Hungarian, Italian, Latvian, Lithuanian, Polish, Portuguese, Romanian, Russian, Slovak, Slovenian, Spanish, Swedish, Turkish	
Dimensions (W x D x H)	260 x 500 x 340 mm	
Weight	Approximately 12.8kg	
Scope of delivery	Operating manual Transport crate	
Overvoltage classification	Overvoltage Category II	
Approval / Quality	CE, ISO 9001, WEEE Reg. No. 49130851, RoHS, REACH	

\* Subject to technical alterations.

\*\* Always observe the information relating to the working temperature range when fusion fittings from other manufacturers.

**Aliaxis Deutschland GmbH**

Infrastructure

Steinzeugstraße 50

68229 Mannheim, Germany

T +49 621 486-2238

info.de@alixis.com

**www.alixis.de**

