EN

**Operating instructions
Electrofusion units
FRIAMAT® Prime
FRIAMAT® Basic**

FRIATEC

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1 Preliminary remarks

1.1 Safety instructions and hints

In these operating instructions, the following symbols with warnings are used:

Symbol	Meaning
⚠ **WARNING!**	Danger to people. Failure to comply can result in death or serious injury.
⚠ **CAUTION!**	Danger to people. Failure to comply can result in minor or moderate injury.
NOTE	Danger to objects. Failure to comply can result in objects damage.
INFORMATION	Application hints and other useful information. Failure to comply can not result in personal inury or objects damage.

1.2 Intended use

FRIAMAT fusion units are designed to apply a maximum fusion voltage of 48 V on the following:

• FRIALEN® safety fittings with HDPE pressure pipes (SDR 17-7),
• der FRIALEN® XL large pipe installations with HDPE pressure pipes (SDR 17-7), and
• FRIAFIT® sewage fittings with HDPE sewage pipes (SDR 17-33).

FRIAMAT fusion units can also be used on fittings from other manufacturers when these components bear a 24 digit barcode complying with ISO 13950:2007-03. The power ratings and technical data of both the fittings and the FRIAMAT fusion unit must be observed (see also Section 3.9 "Technical data").

Intended use also includes adherence to:

• all of the instructions in these operating instructions,
• the general and specific processing specifications for electrofusion fittings, and
• the applicable accident prevention regulations, the environmental regulations, the statutory rules, the pertinent safety provisions, and all standards, laws, and directives applying in the country of use.

2   Safety

2.1   Functional reliability

FRIAMAT fusion units are state of the art, built in accordance with the requirements under ISO 12176-2 and the acknowledged safety standards and fitted with the required safety devices. Prior to delivery, FRIAMAT fusion units are tested for correct and safe functioning. Failure to operate or otherwise use the equipment properly will pose a danger to:

• the health of the operator,
• the FRIAMAT fusion unit or other property of the user, or
• the efficiency of work with the FRIAMAT fusion unit.

Safety considerations forbid the following:

• modifications and changes to the FRIAMAT fusion unit and
• working with FRIAMAT fusion units with broken lead seals. Failing to observe the above makes all warranty claims void.

2.2   The operator's obligations

Only trained personnel may work with the FRIAMAT fusion unit. In the work area, the operator is responsible for all third parties. The owner is obliged:

• to make the operating instructions accessible to the operator and
• to ensure that these instructions have been read and understood.

The operating instructions must be kept at all times at the device's place of use (ideally in the mesh pocket on the transport box). They must be accessible to the operator at all times.

2.3 Sources of danger

> ⚠️ **WARNING!**
>
> ⚡ **Electric shock from live parts! Danger of death!**
> - Never leave the FRIAMAT fusion unit unattended.
> - Immediately replace damaged housings, connecting lines, and extension cables. Stop using the FRIAMAT fusion unit.
> - Before all care and maintenance work, pull out the plug connecting the equipment.
> - Maintenance and repair work must be performed by authorised FRIATEC service stations only.
> - Supply FRIAMAT fusion units only with the operating voltage specified on the ratings plate.
> - Fit a residual current protective device (RCD) when this is prescribed.
> - Do not remove or otherwise put safety installations out of operation.
> - Immediately eliminate identified defects.

> ⚠️ **WARNING!**
>
> ⚡ **Danger of fire and explosion from highly flammable materials and potentially explosive atmospheres!**
> - Keep away from flammable liquids and gases.
> - Do not use in potentially explosive atmospheres (e.g. in areas where flammable gases, solvent vapours, or ignitable dusts can accumulate).
> - Never leave the FRIAMAT fusion unit unattended.

2.4 Mains operation

Out of doors (building sites), power outlets must be fitted with residual current protective devices (RCDs). The regulations governing RCDs must be observed here.

> **NOTE**
>
> **Before commencing fusion, check the input voltage. The FRIAMAT fusion unit is designed for an input voltage range of 190–250 V!**

2.5   Generator operation

NOTE
Only those generators must be used that have been designed for industrial use on building sites. The operating instructions for the generator must be observed!

The use of generators must comply with DVGW work sheet GW308, VDE 0100 Part 728, and the specifications and guidelines applying in the country of use.

INFORMATION
The rated power output required from the generator depends on the level needed for the largest fusion fitting, the connection conditions, the ambient conditions, the generator type, and its control characteristics. Generators from different series exhibit highly diverse control characteristics. The suitability of a specific generator, therefore, cannot be safeguarded even when it provides the required rated power output according to its technical data sheet. **In cases of doubt, e.g. when acquiring new equipment, contact our service hotline +49 (0)621 486-1533!**

Use only those generators that operate with frequencies within 44–66 'Hz.

First start the generator, and let it run for half a minute. If necessary, adjust the no-load voltage, limiting it to the voltage specified in the technical data. The generator (mains) fuse must be at least 16 A (slow blow).

NOTE
During fusion, do not operate any other consumer from the same generator!

On finishing fusion work, first pull out the plug connecting the device to the generator, and then switch off the generator.

2.6 Extension cable

When using an extension cable, make sure it has an adequate conductor cross section:

- 2.5 mm^2 up to 50 m in length or
- 4 mm^2 up to 100 m in length.

NOTE
Danger of overheating in the extension cable! The extension cable may be used only when it has been completely unwound and stretched out.

2.7 Opening the device

⚠ **WARNING!**
⚡ **Electric shock from live parts! Danger of death!** - Never open the FRIAMAT fusion unit when it is supplied with operating voltage! - FRIAMAT fusion units may be opened only by specialised personnel from an authorised FRIATEC service station!

2.8 Safety measures at the installation site

The connecting and fusion cables must be protected against sharp edges. Do not expose the FRIAMAT fusion unit to heavy mechanical loads.

FRIAMAT fusion units are splash proof. They may not, however, be immersed in water.

2.9 Emergency

In emergencies, immediately set the main switch to OFF, and disconnect the FRIAMAT fusion unit from the voltage supply.

3   Basic information

3.1   Layout/parts

1 Main switch
2 Fusion cable with reader wand or barcode scanner
3 Front foil with display and function keys (Fig shows FRIAMAT Prime)
4 Ventilation slots (air intake)
5 Data interface with (USB) protective cap
6 Adapter bag
7 Power cable
8 Ventilation slots (air outlet)

3.2   Type plate

The type plate lists the details specific to the FRIAMAT fusion unit and its unique device number. The type plate is found on the rear side of the device, under the adapter bag.

3.3 Reader wand

To read in fusion barcodes and traceability barcodes, place the reader wand under a slight angle (like a pencil) in front of the barcode on the fitting. Now move the reader wand quickly over the whole label and a little beyond. Barcodes can be read in from right to left or vice versa. When the barcode has been read in correctly, the device emits an acoustic signal to confirm this. If the barcode cannot be read in the first time, repeat the procedure, this time under a different angle or at a different speed.

NOTE
Protect the tip of the reader wand from dirt and damage! The condition of the reader wand tip has a direct effect on the legibility of barcodes.

3.4 Barcode scanner

The barcode scanner uses a laser to read in fusion barcodes and traceability barcodes without physical contact. All you need to do is aim at the barcode and press the read button. The barcode is scanned by means of a red light strip that must cross over the whole barcode, whenever possible at the centre. The barcode is not detected properly when the red light strip does not cross the whole barcode.

The optimal read results are obtained when the scanner is positioned at a small distance over the barcode.

Good legibility	Failed to read	Failed to read

Badly printed or slightly damaged barcodes can be read in when the scanner is placed directly on the barcode and then, with the read button pressed, moved away. When the barcode is read in successfully, the device emits an acoustic signal, and a green indicator lamp lights up in the middle of the read barcode.

NOTE
Protect the reading window from dirt and scratches! The condition of the reading window has a direct effect on the capabilities of the FRIAMAT barcode scanner.

3.5 Protective cap for data interface

The USB-A port is found directly behind the protective cap. This data interface functions as a service port and, on the FRIAMAT Prime, is also used to read out and transfer the fusion protocol. The protective cap for the data interface must be screwed on at all times to prevent contaminants and moisture from reaching it.

3.6 Temperature probe

FRIAMAT fusion units can be used only on electrofusion fittings bearing a barcode. When this is read in, the microprocessor controlled FRIAMAT fusion unit regulates and monitors the supplied energy fully automatically and defines the fusion time as a function of the ambient temperature. This ambient temperature is continuously measured by the temperature probe on the fusion cable (silver coloured metal sleeve at the reader wand or scanner bag).

Make sure that both the temperature probe and the fusion fitting are exposed to the same ambient temperatures. Avoid adverse processing situations, e.g. where the probe is exposed to intense sunlight and the fitting is in the shade. The temperature probe must be protected against damage.

3.7 Fan functionality

How the fans function depends on the temperatures measured at the heat sink inside the FRIAMAT fusion unit. The fans switch ON automatically when the heat sink reaches a certain temperature. And this not only during, but also between fusion sessions, or after reactivation, depending on the (previous) load levels. This safeguards reliable operations in continuous duty and during fusion on large dimensions.

INFORMATION

Reduce cooling times!
In particular during series fusion work or work on fittings requiring high power levels, leave the FRIAMAT fusion unit switched ON after each fusion. The fans can then reduce the heat sink temperature.

3.8 Signalling devices

FRIAMAT fusion units confirm certain sequences of operations by emitting an acoustic signal (1, 2, 3, or 5 beeps). These signals mean the following:

1 beep means: Read barcode confirmed.

2 beeps mean: Fusion procedure ended.

3 beeps mean: Supply voltage too low / too high.

5 beeps mean: Error! See display!

INFORMATION
Adjust the volume! The volume of these signals can be set to "high" or "low" in the "Basic Settings" menu. See also Sections 5.3 and 6.2.6.

3.9 Technical details

Technical details*	FRIAMAT Prime	FRIAMAT Basic
Input voltage range	AC 190 V – 250 V	
Frequency range	44 Hz...66 Hz	
Input current	AC 16 A max.	
Output	3.5 kW	
Generator rated output for fittings d20–d160 d180–d900	~ AC 5.0 kW	
Unit fuse	16 A slow blow	
Housing	international protection IP 54 DIN EN 60529 protection class I DIN EN 60335-1	
Connecting cable	5 mm with contoured plug	
Fusion cable	4 m with fittings plug, ø 4 mm	
Barcode type	code 2/5 interleaved according to ANSI HM 10.8 M-1983 and ISO CD 13950/08.94 code 128 according to ISO 12176-4	code 2/5 interleaved according to ANSI HM 10.8 M-1983 and ISO CD 13950/08.94

Technical details*	FRIAMAT Prime	FRIAMAT Basic
Operating temperature range**	-20°C...+50°C**	
Fusion current monitoring	short circuit 110 A short circuit 1.70 x IN interrupt 0.25 x IN	
Fusion voltage	max DC 48 V	
Data transfer interface	USB	no
Service port	USB	USB
Documentation of fusion and traceability data	yes	no
Protocol formats	FRIATRACE format, PDF, CSV	no
Protocol memory	1000 protocols	no
Languages	Bulgarian, Croatian, Czech, Danish, Dutch, English, Estonian, Finnish, French, German, Hungarian, Italian, Latvian, Lithuanian, Polish, Portuguese, Romanian, Russian, Slovakian, Slovenian, Spanish, Swedish, Turkish	
Dimensions W x D x H	260 x 500 x 340 mm	
Weight	approx 12.8 kg	
Accessories	operating instructions, transport box, FRIATEC memory stick, supervisor pass	operating instructions, transport box
Overvoltage classification	Category II	
Certificate/quality	CE, ISO 9001, WEEE Reg. No. DE 49130851, RoHS	

*: Specifications subject to change.
**: Fusion work on fittings from other manufacturers must comply with their respective working temperature ranges!

3.10   Automatic activation of maintenance interval

The maintenance interval stored in the FRIAMAT fusion unit (default: 12 months, see also Section 7.2) is not activated automatically until after the first fusion.

> **INFORMATION**
>
> **The leading maintenance date is always shown on the display and may differ from the details on the service label attached to the FRIAMAT fusion unit!**

3.11   Transport/storage/dispatch

The FRIAMAT fusion unit is delivered in an aluminium transport box. This aluminium transport box keeps it dry and protected against moisture. The aluminium box should always be used to transport the device. The temperature range for storage is -20 °C to +70 °C.

4   "Fusion" sequence

4.1   Siting, connection, and startup

Before every use, you should check that the FRIAMAT fusion unit is not damaged and operates properly within the specifications. All parts must be correctly installed and all conditions fulfilled. Only then can the device operate properly.

The FRIAMAT fusion unit can be sited and operated out of doors when it is protected against rain and moisture.

1. The FRIAMAT fusion unit must be sited on level ground.
2. Prepare the fitting and pipes for fusion in compliance with the assembly instructions.
3. Make sure that the fitting's contact pins are accessible for connection to the fusion plugs.

> **NOTE**
>
> **Danger of overheating in the cables!**
> Before use, all cables must always be unwound completely. This applies to the device, fusion, and extension cables.

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4. Connect the device to the power supply (mains or generator). To do so, insert the device's plug into the socket.
5. If necessary, use an extension cable. Make sure that the conductor cross section is adequate (see also Section 2.6).
6. When operating with a generator, make sure that it is fused with at least 16 A (slow blow, see also Section 2.6).
7. When operating with a generator, first start the generator and let it warm up for 30 s.
8. Switch ON the FRIAMAT fusion unit at its main switch.

NOTE

Danger of scorching!
The contact areas on the fusion plugs and fitting must be clean. Soiled contacts can cause the plug to overheat, damaging it.
• If necessary, wipe clean of any contaminants.
• You must always protect the plugs against soiling.
• When a deposit has formed that cannot be removed completely, the fusion plugs must be replaced.
• First examine the fusion plugs and the fitting's insert contacts for soiling, then connect them.

---

9. Connect the fusion plugs to the contact pins on the fitting.
10. The fusion plugs must be attached completely to the fitting's pins, i.e. over their whole internal contact length.

4.2   Reading in the barcode

1. Read in the barcode: use exclusively the barcode affixed to or provided with the contacted fitting.
2. If the barcode label is missing or damaged, you can use the barcode on an identical fitting from the same manufacturer and the same charge. In cases of doubt, contact the fitting manufacturer's hotline.

NOTE

It is forbidden to read in a replacement barcode on a different fitting!

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3. Read in the barcode with a reader wand or barcode scanner (see also Sections 3.3 and 3.4).
4. A correctly read barcode is confirmed with an acoustic signal.

INFORMATION

When an acoustic signal is not emitted, examine the reader wand or barcode scanner for soiling or damage. If necessary, you can also perform the fusion in emergency input mode (see Sections 5.5 and 6.3)!

4.3 Starting the fusion procedure

⚠ CAUTION!

Danger of burning injury!
In rare cases, hot PE melt can exit when the fusion sequence malfunctions. A safety distance of at least 1 m must be kept from the fusion site.

NOTE

Do not connect any other consumers during fusion!

You can stop the fusion procedure at any time by pressing the (STOP) key ⬛ . Fusion can be resumed after the fusion joint has cooled completely (and all causes of the fault have been eliminated). Observe here the processing instructions from the fitting manufacturer.

Operating steps
1. **"Pipe Processed?"** appears on the display. When applicable, confirm this with the (START) key ⬛ or, on the FRIAMAT Prime, the guide key ⬛ O.K. .
2. Press the (START) key ⬛ to initiate the fusion procedure. The ambient temperature is measured, and the resistance of the connected fitting determined. Fusion begins. The duration of fusion can be followed on the display (the seconds are counted up to the final fusion time).
3. **"End of fusion"** means: Fusion procedure ended. **"t:"** and **"tc:"** mean nominal and actual fusion time and must agree.
4. Note the fusion parameters on the pipe/fitting. This also serves to prevent double fusions.
5. Press the (STOP) key ⬛ to acknowledge the displayed "End of fusion" with "t:" and "tc:". On the FRIAMAT Prime, you can also confirm with the guide key ⬛ O.K. . The fusion procedure has now ended, and the FRIAMAT fusion unit is ready for the next fusion.

5 FRIAMAT Basic

5.1 Function keys explained
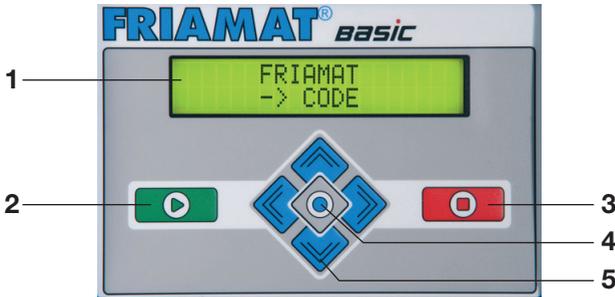
1 Display
The FRIAMAT Basic is fitted with a two-line display.

2 START key
The START key is used to start a fusion procedure, to select sub- or individual menus, and to save settings. This key is also used to confirm messages on the display.

3 STOP key
The STOP key is used to abort a fusion procedure, to close sub- or individual menus, and to cancel an input (without saving).

4 MENU key
The MENU key lies between the direction keys and opens the main menu with the submenus "Basic Settings", "Info", and "Emergency Input". In the event of an error, pressing the MENU key displays it in plain text.

5 Direction keys
The direction keys (UP/DOWN) can be used to navigate through the sub- and individual menus. Where this navigation is possible is shown by the respective symbols on the display (see Section 4.2). The direction keys (LEFT/RIGHT) move the cursor on the display to the left or right when data are being entered, e.g. emergency input, date. The direction keys (UP/DOWN) selects the character (letter, number, special character) at this position.

5.2   Display symbols explained

Symbol	Description
⇕	When this symbol appears in the second display line, the direction keys (◆ ◆ UP/DOWN) can be used to open further menus.

5.3   "Basic Settings" menu

The **"Basic Settings"** menu lets you edit the device settings.

```
TIME
DATE
* LANGUAGE *
VOLUME
```

1. ◉ Press the key.
2. Press the direction keys ◆ ◆ to open the "Basic Settings" submenu.
3. ▣ Press the key.
4. Use the direction keys ◆ ◆ to open the menu for Time, Date, Language, and Volume.
5. ▣ Press the key.
6. Use the direction keys ◆ ◆ and ◆ ◆ to make your changes in this menu.
7. Press the key ▣ to save your changes. Press the key ▣ to cancel without saving.

INFORMATION

Two asterisks appear to the left and right of the top line in the "Language" menu. This lets you find the language settings menu when, for instance, the language was changed by accident.

5.4 "Info" menu

The **"Info"** menu lets you view the device details.

```
TIME/DATE
VOLTAGE/FREQUENCY
TEMPERATURE
DEVICE NUMBER
SOFTWARE VERSION
MAINTENANCE DATE
```

1. ◈ Press the key.
2. Press the direction keys ◈ ◈ to open the "Info" submenu.
3. ▣ Press the key.
4. Use the direction keys ◈ ◈ to open the menu for Time/Date, Voltage/Frequency, Temperature, Ambient Temperature, Device Number, Software Version, Maintenance Date.
5. ▣ Press the key.
6. Press the ▣ or ▣ key to close the menu.

5.5 "Emergency Input" menu

The **"Emergency Input"** menu lets you enter the fusion barcode manually.

1. ◈ Press the key.
2. Press the direction keys ◈ ◈ to open the "Emergency Input" submenu.
3. ▣ Press the key.
4. The display then shows **"Code:"** followed by 24 digits of which the first flashes.

INFORMATION

When this is used for the first time, all digits are set to "0". Afterwards, the last barcode entered manually is always shown!

---

5. Use the direction keys ◈ ◈ and ◈ ◈ to enter the digits from the barcode on the fusion fitting.
6. Press the ▣ key to confirm your input. Press the ▣ key to cancel without saving.

6 FRIAMAT Prime

6.1 Function keys explained
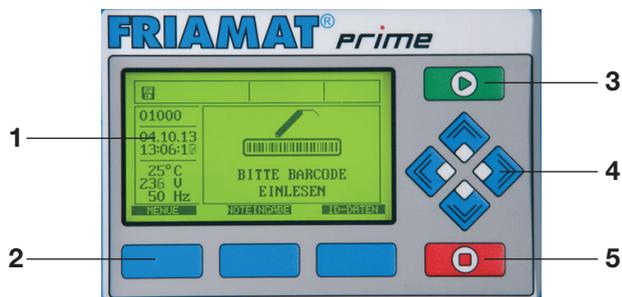
1 Display
The FRIAMAT Basic is fitted with a graphical maxi display.

2 Guide keys
The three blue guide keys let you access the guide key symbols (see Sections 5.2 and 5.3) that are shown directly at the top of the graphical maxi display.

3 START key
The START key is used to start a fusion procedure.

4 Direction keys
The direction keys (◆ ◆ LEFT/RIGHT) move the cursor on the display to the left or right when data are being entered, e.g. emergency input, date. The direction keys (◆ ◆ UP/DOWN) selects the character (letter, number, special character) at this position.

5 STOP key
The STOP key is used to abort the fusion procedure and to cancel inputs (without saving). Cancelling inputs with the STOP key always returns you to the main screen of the graphical maxi display (reset function).

6.2 Display layout (main screen)
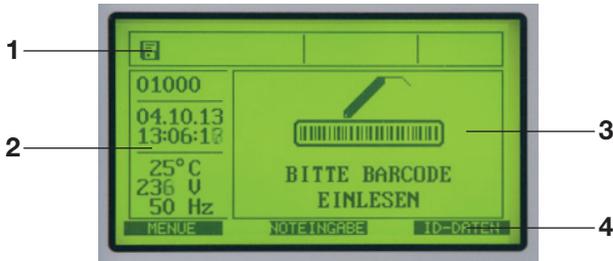
1 Function status symbols
Symbols appear representing the functions that can be activated at this time (e.g. documentation, traceability mode). See also Section 6.4. Also shown is the next due maintenance (see also Section 6.13.1.5).

2 View ambient details
Key ambient details are shown (date, time, ambient temperature, voltage, and frequency).

3 Main window
The main window presents all inputs and details in each of the menus. See also Section 6.1.

4 Guide key symbols
This presents the functions that are activated at each of the blue guide keys. The symbols shown vary depending on the menu selected (see also Section 6.3).

6.3 Function key symbols explained

Symbol	Description
MENUE	This opens the main menu.
SELECT	This opens a submenu.
OK	This confirms the information shown in the main window.
SAVE	This saves the entered data.
CANCEL	This cancels an input without saving. Back to the previous input step.
FORWARD	This takes you to the next input step.
BACK	This takes you back to the previous input step.
ALL	This selects all.
NEW	This lets you enter new values in text fields (e.g. info text, commission number, etc.)
CHANGE	This lets you change menu settings and/or text inputs (e.g. the last ten commission numbers)
SHIFT	In edit mode: this switches between delete and insert.
REMOVE	This deletes one or more characters in text inputs.
ADD	This adds one or more characters in text inputs.
DETAILS	This shows the decrypted traceability barcode.
ID-DATA	This assigns data (commission number, operator pass, serial number, and/or seam number) to the fusion that is now to be started (see also Section 6.4.3).

Symbol	Description
EMERGENCY INPUT	This lets you enter the barcode manually, e.g. when this cannot be read in (see also Section 5.10.4).
INFOTEXT	This lets you add additional text information to the fusion entry (see also Section 6.4.3).

6.4 Function status symbols explained

Symbol	Description
234	Documentation has been activated. The free memory locations are shown.
No	Seam numbers can be entered.
0 … 9999	The serial numbers are presented in ascending order, and not according to commission number.
T	Traceability barcodes can be entered.
No	Pipe numbers can be entered.
	Pipe lengths can be entered.
	Acoustic signals have been deactivated.
USB	FRIATEC memory stick has been connected.
30	Maintenance date: the next due maintenance (in days) is shown.
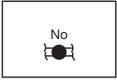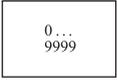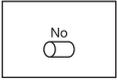
6.5　　　Main window symbols explained

Symbol	Description
✔	A ticked box indicates that this menu item or this function has been activated.
	An empty box indicates that this menu item or this function has not been activated.

6.6　　　"Basic Settings" menu
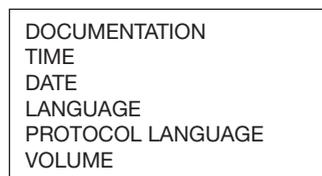
The **"Basic Settings"** menu lets you edit the device settings.

```
DOCUMENTATION
TIME
DATE
LANGUAGE
PROTOCOL LANGUAGE
VOLUME
```

1. Press the � MENU guide key.
2. Press the direction keys ◆ ◆ to open the "Basic Settings" submenu.
3. Press the SELECT guide key.
4. Use the direction keys ◆ ◆ to open the menu for Documentation, Time, Date, Language, Protocol Language, and Volume.
5. Press the SELECT guide key.
6. Use the direction keys ◆ ◆ and ◆ ◆ or the guide key CHANGE to make your changes in this menu.
7. Press the SAVE guide key to save your changes. Press the CANCEL guide key to cancel without saving.

6.6.1 Documentation

> **INFORMATION**
>
> **The FRIAMAT Prime is delivered with deactivated documentation!**

The function **Documentation** stores the fusion parameters. Each of these can be assigned to an commission number and/or an operator pass. The documentation can be activated or deactivated in the **Documentation** submenu.

6.6.2 Time

The "Time" submenu lets you set the current time of day.

6.6.3 Date

The "Date" submenu lets you set the current date.

> **INFORMATION**
>
> **The date can be changed only when fusion is performed for the first time, hence activating the maintenance interval. See also Section 3.10!**

6.6.4 Language

The **"Language"** submenu lets you set the display language.

> **INFORMATION**
>
> **Two asterisks appear to the left and right of the top line in the "Language" menu. This lets you find the language settings menu when the language was changed by accident!**

6.6.5   Protocol language

The **"Protocol language"** submenu lets you set the language for the documentation. The log language can be set independently of the display language.

6.6.6   Volume

The **"Volume"** submenu lets you set the volume to "high" or "low".

6.7   "Emergency Input" menu

The **"Emergency Input"** menu lets you enter the fusion barcode manually. The digits you enter must be taken from the barcode on the fusion fitting.

INFORMATION

When this is used for the first time, all digits are set to "0". Afterwards, the last barcode entered manually is always shown!

---

1. Press the EMERGENCY INPUT guide key.
2. The display then shows **"Code:"** followed by 24 digits (with the first flashing) or the digits from the barcode last entered manually.
3. Use the direction keys ◈ ◈ and ◈ ◈ to enter the digits from the barcode on the fusion fitting.
4. Press the SAVE guide key to save your changes. Press the CANCEL guide key to cancel without saving.

6.8   "Fusion Sequence" menu

INFORMATION

The "Fusion Sequence" menu is first activated and hence shown on the display when documentation has been activated. All submenus are not activated on delivery (default)!

The **"Fusion Sequence"** menu lets you select the information to be assigned to each fusion procedure.

```
COMMISSION NUMBER
OPERATOR PASS
INFO TEXT
COMMENT 1
COMMENT 2
SUBCONTRACTOR
TRACEABILITY
PIPE NUMBER
PIPE LENGTH
GPS DATA
SEAM NUMBER
SCRAPER TOOL
```

1. Press the `MENU` guide key.
2. Press the direction keys ◆ ◆ to open the "Basic Settings" submenu.
3. Press the `SELECT` guide key.
4. Use the direction keys ◆ ◆ to open the menu for commission number, operator pass, Info Text, Comment 1, Comment 2, Subcontractor, Traceability, Pipe Number, Pipe Length, GPS Data, Seam number, Scraper Tool.
5. Press the `SELECT` guide key.
6. Use the direction keys ◆ ◆ and ◆ ◆ or the guide key `CHANGE` to make your changes in this menu.
7. Press the `SAVE` guide key to save your changes. Press the `CANCEL` guide key to cancel without saving.

6.8.1   Commission number

The work with commission numbers can be activated or deactivated at the `CHANGE` guide key. When **"Commission number"** is activated, the commission number "####################" appears on the display's main screen next to **" ➔ CODE"** in the top line.

6.8.2   Operator pass

INFORMATION

The "Operator pass" menu is first activated and hence shown on the display when an operator pass is read in for the first time (and documentation is activated)!

After an operator pass has been read in for the first time, all fusions performed from this time on will be stored under the code for this operator pass. The FRIAMAT Prime is reconfigured accordingly when another operator pass is read in.

Reading in an operator pass opens the **"ID Data"** submenu (see also Section 6.8.1). You can use the direction keys ◆ ◆ to view the settings activated on the FRIAMAT Prime. Press the guide key [OK] to exit the submenu.

The operator pass can be used to lock the FRIAMAT Prime as protection against unauthorised use. The display on a locked FRIAMAT Prime shows the prompt **"PLEASE ENTER VALID OPERATOR PASS!"**.

Locking the device
1. Again read in the current operator pass.
2. Press the [OK] guide key to confirm the prompt **"LOCK DEVICE?"**. Alternatively, you can abort the procedure at the [CANCEL] guide key.
3. The FRIAMAT Prime is also locked automatically when an operator pass has been read in and the date changes, i.e. the FRIAMAT Prime is locked on the next day. In both of these cases (manual or automatic locking), the display shows the prompt **"PLEASE ENTER VALID OPERATOR PASS!"**.

Unlocking the device
1. Read in an operator pass.
2. The valid operator pass appears on the display and must be confirmed with the guide key [OK] .

6.8.3   Info Text

The **"Info Text"** submenu lets you decide whether additional text information can be entered for a fusion.

6.8.4   Comment 1

The **"Comment 1"** submenu lets you decide whether additional text information can be entered for a fusion.

6.8.5   Comment 2

The **"Comment 2"** submenu lets you decide whether additional text information can be entered for a fusion.

6.8.6   Subcontractor

The **"Subcontractor"** submenu lets you decide whether additional text information can be entered for a fusion.

6.8.7   Traceability

The **"Traceability"** submenu lets you enable the FRIAMAT Prime for reading in, processing, and storing traceability barcodes. Enabling this menu also activates the submenus **"Pipe Number"** and **"Pipe Length"**.

6.8.8   Pipe Number

The **"Pipe Number"** submenu lets you decide whether an individual pipe number can be entered for each of the fusion pipes.

6.8.9   Pipe Length

The **"Pipe Length"** submenu lets you decide whether the length can be entered for each of the fusion pipes.

6.8.10   GPS Data

The **"GPS Data"** submenu lets you decide whether the coordinates/location of the fitting can be entered for a fusion.

INFORMATION

A corresponding device is needed to determine the GPS data!

6.8.11   Seam number

The **"Seam number"** submenu lets you decide whether a seam number can be entered for a fusion.

6.8.12   Scraper tool

The **"Scraper Tool"** submenu lets you decide whether the data (e.g. device number) of the scraper tool used to prepare for fusion can be entered for a fusion. The scraper tool must then bear a corresponding barcode.

6.9 **"Data" menu**

> ### INFORMATION
>
> **The "Data" menu is first activated and hence shown on the display when documentation has been activated and the first data record saved!**

The **"Data"** menu lets you define how the fusion and traceability data are transferred from the FRIAMAT Prime to the PC or laptop.

```
TRANSFER
PDF
CSV
DELETE
```

1. Press the ▮MENU▮ guide key.
2. Press the direction keys ◈ ◈ to open the "Basic Settings" submenu.
3. Press the ▮SELECT▮ guide key.
4. Use the direction keys ◈ ◈ to open the menu for Transfer, PDF, CSV, Delete.
5. Press the ▮SELECT▮ guide key.
6. In this menu, use the corresponding guide keys to initiate the data transfer. Press the ▮SELECT▮ guide key to select the data for transfer. Otherwise, you can transfer all of the saved data with the ▮ALL▮ key.
7. Press the ▮OK▮ guide key to confirm the end of data transfer.

6.9.1 Transfer

The **"Transfer"** submenu lets you read out and transfer data from the FRIAMAT Prime. You must use this to transfer data from a memory stick in the FRIAMAT Prime's USB port (see also Section 8.1). The data are saved to an FTD file on the memory stick and can be processed with the FRIATRACE database software on a PC or laptop.

> ### NOTE
>
> **FRIATEC accepts no warranty claims arising from the use of standard USB sticks. Use the FRIATEC memory stick!**

6.9.2 PDF

The **"PDF"** submenu lets you save data to a PDF file on the FRIATEC memory stick. You must use this to transfer data as a PDF file to the memory stick in the FRIAMAT Prime's USB port (see also Section 8.1). The PDF files are written to a subdirectory on the memory stick. This subdirectory is named as follows (here an example): F+device number (e.g. FR 14 81 001): **F1481001**

The file names are made up of the current data and a two digit number incremented from 0. For example, the second printout (02) on 24/01/2014 (130201): **14012402.PDF**

The PDF files can then be printed out with the right software (e.g. Acrobat Reader©) on a PC or laptop.

6.9.3 CSV

The **"CSV"** submenu lets you save data to a CSV file on the FRIATEC memory stick. You must use this to transfer data as a CSV file to the memory stick in the FRIAMAT Prime's USB port (see also Section 8.1). The CSV files are written to a subdirectory on the memory stick. This subdirectory is named as follows (here an example): F+device number (e.g. FR 14 81 001): **F1481001**

The file names are made up of the current data and a two digit number incremented from 0. For example, the second printout (02) on 24/01/2014 (130201): **14012402.CSV**

The CSV files can then be read in and printed out with the right software (e.g. Microsoft© Excel) on a PC or laptop.

6.9.4   Delete

The **"Delete"** submenu lets you delete all of the saved data.

NOTE
Deleted data are irretrievably lost!

6.10   "Info" menu

The **"Info"** menu presents some key details of the FRIAMAT Prime: device number, software version, next maintenance date. You will need these details when contacting the FRIATEC service station, e.g. when problems occur.

1. Press the ⬛MENU⬛ guide key.
2. Press the direction keys ◆ ◆ to open the "Info" submenu.
3. Press the ⬛SELECT⬛ guide key.
4. Press the ⬛OK⬛ guide key to close the menu.

6.11   "Formatting" menu

The **"Formatting"** menu can be used to format USB sticks to FAT 12 or FAT 16.

The FRIATEC memory stick must be used for transferring data from the FRIAMAT Prime. Please bear in mind when using a standard USB stick that this must be formatted to FAT 12 or FAT 16. A FAT 32 or partitioned USB stick (with master boot record) will cause the error message "ERROR 91" to appear on the FRIAMAT Prime. Also, the capacity of the USB stick used must not exceed 2 GB.

NOTE
Formatting deletes all data! Bear in mind that formatting deletes all data on the memory stick.

1. Press the MENU guide key.
2. Press the direction keys ◆ ◆ to open the "Format" submenu.
3. Press the SELECT guide key.
4. Selecting the menu item "MEMORY STICK" opens the prompt "ARE YOU SURE?".
5. Press the OK guide key.
6. Press the OK guide key to acknowledge the message "MEMORY STICK NOW FORMATTED".

NOTE

Use the FRIATEC memory stick!
FRIATEC accepts no warranty claims arising from the use of standard USB sticks.

6.12 Fusion options

6.12.1 ID Data

INFORMATION

The "ID Data" option is first activated and hence shown on the display when documentation has been activated!

"ID Data" are data that can be assigned directly to the fusion that is now to be started: commission number, operator pass, serial number, and seam number. These additional details are described in the following.

INFORMATION

Commission numbers and seam numbers can be entered only when the documentation and the functions "Commission number" (see Section 6.4.1) or "Seam Number" (see Section 6.4.11) have been activated!

6.12.1.1 Commission number

1. Press the ID-DATEN guide key.
2. Use the direction keys ◆ ◆ to select "Commission number".
3. When entering an commission number for the first time, press the CHANGE guide key.
4. The first digit starts to flash. Press the direction keys ◆ ◆ and ◆ ◆ to enter the commission number.
5. Press the SAVE guide key to save your changes. Press the CANCEL guide key to cancel without saving.

When one or more commission numbers have already been entered, you can choose from **"EDIT", "NEW",** and **"SELECT"**.

CHANGE	= This lets you edit the commission number entered last.
NEW	= This lets you enter a new commission number.
SELECT	= This lets you select an commission number from the twenty commission numbers entered last.

6.12.1.2   Operator pass

Pressing the guide key `ID DATA` displays whether and which welder has been registered. If no operator pass has been activated, the window remains unchanged.

The welder cannot be edited manually (via key presses). To register a new welder, you must read in a new operator pass (see Section 6.4.2).

6.12.1.3   Serial number

Pressing the guide key `ID DATA` displays the serial number of the executed fusions. This number is assigned automatically by the device and cannot be changed. Normally the serial number is assigned to the activated commission number.

INFORMATION

The Supervisor function (see Section 6.9) lets you specify other assignments to the commission number (see Section 6.9.2.9)!

6.12.1.4   Seam number

The "Seam number" menu assigns a user defined number (seam number) to the fusion.

1. Press the `ID DATA` guide key.
2. Use the direction keys ◆ ◆ to select "Seam number".
3. To enter a seam number, press the `CHANGE` guide key.
4. The first digit starts to flash. Press the direction keys ◆ ◆ and ◆ ◆ to enter the seam number.
5. Press the `SAVE` guide key to save your changes. Press the guide key to cancel without saving.
6. Press the `OK` guide key to close the menu.

When a seam number has already been assigned, you can choose between **"CHANGE"** and **"NEW"**.

| CHANGE | = This lets you edit the seam number entered last. |
| NEW | = This lets you enter a new seam number. |

6.12.1.5   GPS 1 – 3

> **INFORMATION**
>
> **Data can be entered under GPS 1, GPS 2, and GPS 3 only when this has been activated (see Section 6.4.10)!**

The coordinates/location of the fusion (GPS 1, GPS 2, GPS 3) can be entered in the menu "GPS 1 – 3". The GPS data are made up of three input fields: GPS 1 for the geographical longitude, GPS 2 for the geographical latitude, and GPS 3 for the altitude above sea level. GPS 1 can take a string of thirteen user definable alphanumerics, GPS 2 twelve, and GPS 3 ten.

> **INFORMATION**
>
> **A corresponding device is needed to determine the GPS data!**

1. Press the `ID DATA` guide key.
2. Use the direction keys ◆ ◆ and ◆ ◆ to select "GPS 1", "GPS 2", and "GPS 3".
3. To enter GPS coordinates, press the `CHANGE` guide key.
4. The first digit starts to flash. Press the direction keys ◆ ◆ and ◆ ◆ to enter the GPS coordinates.
5. Press the `SAVE` guide key to save your changes. Press the `CANCEL` guide key to cancel without saving.
6. Press the `OK` guide key to close the menu.

When GPS coordinates have already been entered, you can choose between **"EDIT"** and **"NEW"**.

| CHANGE | = This lets you edit the GPS coordinates entered last. |

| NEW | = This lets you enter new GPS coordinates. |

6.12.2 Traceability Barcodes / Pipe Number / Pipe Length

INFORMATION

Traceability data can be entered only when documentation and the function "Traceability" and/or "Pipe Number" and/or "Pipe Length" has been activated (see Section 5.6.7).

Traceability Barcodes is activated when the fusion barcode on the fusion fitting is read in. The main window prompts you to enter the traceability barcode on the fitting. When this is to be read in (visualised by a ticked box), you are prompted to enter the traceability barcode on Component 1. When the pipe number and/or pipe length is to be entered, this is also displayed for input. Now you are prompted to enter the traceability barcode on Component 2. The pipe number and/or pipe length is entered analogously to the above.

Press the function key OK to acknowledge the prompt **"Pipe Processed?"** when the fusion pipe has been processed properly. Press the ▶ key to start fusion.

INFORMATION

The traceability data are input automatically, i.e. the display presents the entered data in succession until fusion can be started.
You can use the guide keys FORWARD and BACK to switch at any time between the prompts "Fitting", "Component 1", "Component 2", "Pipe Processed?", and "Start". Use the direction keys ◆ ◆ to switch between prompt.

6.12.3   Info Text, Comment 1, Comment 2, Subcontractor

> **INFORMATION**
>
> **Data can be entered under INFO TEXT, COMMENT 1, COMMENT 2, and/or SUBCONTRACTOR only when these have been activated (see Section 6.4.3 to 6.4.6)!**

After the fusion barcode has been read in, "INFO TEXT" appears on the display.

1. Press the INFOTEXT guide key.
2. Use the direction keys ◆ ◆ to select "INFO TEXT", "COMMENT 1", "COMMENT 2", and/or "SUBCONTRACTOR".
3. Press the INPUT guide key.
4. The first digit starts to flash. Press the direction keys ◆ ◆ and ◆ ◆ to enter the data.
5. Press the SAVE guide key to save your changes. Press the CANCEL guide key to cancel without saving.
6. Press the OK guide key to close the menu.

> **INFORMATION**
>
> **The additional text must be entered for each fusion if it is to appear in the log. No additional text is added to the fusion data when the START key is pressed directly after the fitting barcode has been read in.**

6.12.4   Scraper tool

> **INFORMATION**
>
> **Data can be entered under SCRAPER TOOL only when this has been activated (see Section 6.4.12).**

When the data are being entered to start fusion, the prompt **"PIPE PRO-CESSED?"** is followed by the prompt **"SCRAPER TOOL: PLEASE READ IN BARCODE"**. When the scraper tool bears a barcode, this can be read in. The data are then assigned to the fusion in the log.

6.13 SUPERVISOR

The **SUPERVISOR** menu lets you configure the FRIAMAT Prime properties and functions. Device functions can be enabled or locked specifically for the user, and the sequence of operations specified for the building site. A special pass (SUPERVISOR pass) is needed to configure the Supervisor menu.

INFORMATION

The settings and menus locked under SUPERVISOR are no longer displayed for the user on the building site (e.g. when documentation has been activated, yet locked against user access, the "Documentation" menu no longer appears on the display)!

The **"SUPERVISOR"** menu first opens when the barcode is read in on the SUPERVISOR pass. A four digit PIN must be entered here. The default PIN is "0000". The PIN can be changed at any time under the "Supervisor" menu (see Section 6.9.4).

```
BASIC SETTINGS
FUSION SEQUENCE
FACTORY SETTINGS
PIN
DISPLAY (RESISTANCE)
```

1. Read in the SUPERVISOR pass.
2. Enter the four digit PIN. Press the SAVE guide key to confirm the displayed PIN. Press the CHANGE guide key to change the PIN.
3. Press the OK guide key to open the Supervisor menu.

6.13.1 Basic Settings

The **"Basic Settings"** Supervisor menu lets you edit the device settings.

```
DOCUMENTATION
TIME
DATE
DATA PROTECTION
MAINTENANCE DATE
MODE
LANGUAGE
EMERGENCY INPUT
ENERGY DISPLAY
VOLUME
```

1. Press the direction keys ◆ ◆ to open the "Basic Settings" submenu.
2. Press the SELECT guide key.
3. Use the direction keys ◆ ◆ to open the menu for Documentation, Time, Date, Data Protection, Maintenance Date, Mode, Language, Emergency Input, Energy Display, and Volume.
4. Press the SELECT guide key.
5. Use the direction keys ◆ ◆ and ◆ ◆ or the guide key CHANGE to make your changes in this menu.
6. Press the SAVE guide key to save your changes. Press the CANCEL guide key to cancel without saving.

6.13.1.1 Documentation

The documentation can be activated or deactivated in the **"DOCUMENTATION"** submenu. This setting can be locked against user access.

6.13.1.2 Time

The **"TIME"** submenu can be used to protect the time against user changes.

6.13.1.3 Date

The **"DATE"** submenu can be used to protect the date against user changes.

6.13.1.4 Data Protection

The **"DATA PROTECTION"** submenu can be used to protect data against user deletion. Or it can let the user delete the data after they have been printed out or transferred out of the device.

6.13.1.5 Maintenance Date

In the **"MAINTENANCE DATA"** submenu, you can decide whether the warning "Maintenance date exceeded" is to be deactivated or the device no longer executes fusions when this date is exceeded. In the latter case, you can set a period from 0 to max 99 days during which the device continues to operate after the maintenance date has been exceeded. This setting is displayed to the user after the maintenance date has been exceeded (a spanner with the number of days the device will continue to operate).

6.13.1.6 Mode

The **"MODE"** submenu can be used to set various date and time formats as well as temperature units.

6.13.1.7 Language

The **"LANGUAGE"** submenu fixes the language, i.e. the user cannot set another language.

6.13.1.8 Emergency Input

The **"EMERGENCY INPUT"** submenu can disable the option of entering the barcode digits manually.

6.13.1.9 Energy Display

In the **"ENERGY DISPLAY"** submenu, you can decide whether the energy consumed by the fusion procedure is to be displayed or not.

6.13.1.10 Volume

The **"VOLUME"** submenu can be used to set the volume of the acoustic signal (ON/OFF, HIGH/LOW). Also, the selected settings can be locked against user access.

6.13.2 Fusion Sequence

In the **"Fusion Sequence"** Supervisor menu, you can define the data that can be assigned to the fusion that is now to be started.

```
TRACEABILITY
COMMISSION NUMBER NUMBER
INFO TEXT
SEAM NUMBER
SERIAL NUMBER
OPERATORS PASS
PIPE PREPARED? DISPLAY
```

1. Press the direction keys ◆ ◆ to open the "Fusion Sequence" submenu.
2. Press the SELECT guide key.
3. Use the direction keys ◆ ◆ to open the menu for Traceability, Commission number, Info Text, Seam number, Serial Number, Operator pass, and Pipe Processed? Display.
4. Press the SELECT guide key.
5. Use the direction keys ◆ ◆ and ◆ ◆ or the guide key CHANGE to make your changes in this menu.
6. Press the SAVE guide key to save your changes. Press the CANCEL guide key to cancel without saving.

6.13.2.1 Traceability

The option of entering traceability barcodes, pipe numbers, and pipe lengths can be activated or deactivated in the **"TRACEABILITY"** submenu. Also, the selected settings can be locked against user access.

6.13.2.2 Info Text

Text entries can be activated or deactivated in the **"INFO TEXT"** submenu. Also, the selected settings can be locked against user access.

6.13.2.3 Comment 1

Text entries can be activated or deactivated in the **"COMMENT 1"** submenu. Also, the selected settings can be locked against user access.

6.13.2.4 Comment 2

Text entries can be activated or deactivated in the **"COMMENT 2"** submenu. Also, the selected settings can be locked against user access.

6.13.2.5 Subcontractor

Text entries can be activated or deactivated in the **"SUBCONTRACTOR"** sub-menu. Also, the selected settings can be locked against user access.

6.13.2.6 GPS Data

Coordinate entries can be activated or deactivated in the **"GPS DATA"** sub-menu. Also, the selected settings can be locked against user access.

6.13.2.7 Seam number

Entering seam numbers can be activated or deactivated in the **"SEAM NUMBER"** submenu. Also, the selected settings can be locked against user access.

6.13.2.8 Serial number

In the **"SERIAL NUMBER"** submenu, you can decide whether the serial number (assigned by the device) is assigned to the commission number (within the commission number, beginning with "1") or independently of it, i.e. consecutively.

6.13.2.9 Commission number

Work with commission numbers can be activated or deactivated in the **"Commission number"** submenu. In addition, you can specify whether the commission number is to be entered every time the device is switched ON and/or before each fusion. Also, the selected settings can be locked against user access.

6.13.2.10 Operators pass

Work with an operator pass can be activated or deactivated in the **"OPERATOR PASS"** submenu. In addition, when an operator pass has been activated, you can deactivate the default setting that the operator pass must be read in again on a change of date (i.e., in activated mode, the device is first locked the next day until an operator pass has been read in).
In addition, you can also specify whether the operator pass is to be entered every time the device is switched ON and/or before each fusion. Also, the selected settings can be locked against user access.

6.13.2.11 Pipe Prepared? Display

In the **"PIPE PREPARED? DISPLAY"**, you can activate or deactivate the warning shown before fusion starts.

6.13.3   Factory Settings

The **"Factory Settings"** Supervisor menu lets you reset all user settings to their default values (state on delivery).

NOTE

All settings and text entries are irretrievably lost when reset to their default values!

---

1. Press the direction keys ◆ ◆ to open the "Factory Settings" submenu.
2. Press the ⬛ OK ⬛ guide key.
3. Press the ⬛ SELECT ⬛ guide key to reset all settings to their default values, or the ⬛ CANCEL ⬛ guide key to abort.

6.13.4   PIN

In the **"PIN"** supervisor menu, you can change the default value "0000" for accessing the "SUPERVISOR" menu.

1. Press the direction keys ◆ ◆ to open the "PIN" submenu.
2. Press the ⬛ SELECT ⬛ guide key.
3. Press the ⬛ CHANGE ⬛ guide key.
4. Use the direction keys ◆ ◆ and ◆ ◆ to enter the new four digit PIN. The old PIN is shown above.
5. Press the ⬛ SAVE ⬛ guide key to save your changes. Press the ⬛ CANCEL ⬛ guide key to cancel without saving.

INFORMATION

The entered PIN should be noted down and kept in a safe place together with the SUPERVISOR pass. In the event of a lost PIN, contact our service hotline +49 (0)621 486-1533!

6.13.5   Display (Resistance)

In the **"DISPLAY (RESISTANCE)"** Supervisor menu, you can decide whether the actual measured resistance is to be displayed before the start of fusion on the fitting.

1. Press the direction keys ◆ ◆ to open the "Display (Resistance)" sub-menu.
2. Press the ⬛ SELECT ⬛ guide key.
3. Use the direction key ⬛ CHANGE ⬛ to make your changes in this menu.
4. Press the ⬛ SAVE ⬛ guide key to save your changes. Press the ⬛ CANCEL ⬛ guide key to cancel without saving.

7   Warranty/maintenance/disposal

7.1   Warranty

FRIAMAT fusion units come with a 24 month warranty.

7.2   Maintenance and care

In accordance with DVS 2208 Part 1 and BGV A3 ("Electrical systems and equipment"), nonstationary electrical equipment must be subjected to repeat tests **at least once a year**. This maintenance can be performed at FRIATEC or one of its authorised service stations (see Section 8.2).

Also all connection adapters must be submitted for tests on the maintenance dates.

What?	When?	Who?
Clean the wand, and check for damage.	Daily	Operator
Check function.	Before every use	Operator
Check and, if necessary, clean contacts.	Before every use	Operator
Factory maintenance	Yearly	FRIATEC AG or authorised service stations

7.3   Disposal

The European Directive 2002/96/EC on waste electrical and electronic equipment (WEEE) regulates the disposal of used electrical and electronic products. The WEEE Directive 2005 was implemented as the ElektroG on the German disposal sector. Under these laws, waste electrical and electronic equipment must be introduced to a proper disposal or recycling process. FRIAMAT fusion units fall under this European Directive and can be submitted for disposal to FRIATEC AG or one of its authorised service stations.

Further regulations, standards, and directives applying in the country of use must be observed.

8   Error messages / warnings / info

Irregularities during fusion cause error messages or warnings to appear on the display of the FRIAMAT fusion unit.

INFORMATION

On the FRIAMAT Basic, press the Menu key to view the displayed error message in plain text!

INFORMATION

Should the FRIAMAT fusion unit output an error message or warning that is not listed in the following and that cannot be explained or remedied despite the plaintext description, contact our service hotline +49 (0)621 486-1533!

Error messages

No.	Displayed text	Meaning/causes	Remedy
02	Temperature out of range	Ambient temperature outside of permitted range	You may have to tent over or shield the fusion area.
03	Resistance outside of tolerance	Fitting's electrical resistance outside of tolerance.	Check that contacts sit firmly and are clean. If necessary, clean contacts and replace the fitting.
04	Fitting's wire turn short circuited	Short circuit in the fitting's wire turn.	Replace fitting, and send it in for analysis.
05	Fitting's wire turn interrupted	Current flow interrupted	Check the connection between the fusion plug and the fitting. If OK, replace fitting, and send it in for analysis.
06	Voltage outside of tolerance	Deviation in fusion voltage too high.	Notify authorised service station.

No.	Displayed text	Meaning/causes	Remedy
08	Operating voltage out of range	Operating voltage outside of permitted range during fusion.	Extension too long, or cross section too small. Check voltage and connection conditions on the generator.
09	Frequency out of range	Frequency outside of permitted range during fusion.	Check frequency of generator voltage.
10	Fusion stop	Fusion stopped at STOP key.	–
13	Operating voltage failure	Supply voltage interrupted (e.g. power failure during fusion) or too low.	Check connection conditions.
14	Power too low	Fitting's power input is too low. The FRIAMAT cannot provide such a low power.	Contact the FRIATEC service hotline: +49 (0)621 486-1533
15	Power exceeded	The fitting's power input exceeds the capacity of the FRIAMAT.	Contact the FRIATEC service hotline: +49 (0)621 486-1533
23	Generator error	Generator possibly not suitable for fusion.	Contact the FRIATEC service hotline: +49 (0)621 486-1533
xy*	System error		Contact the FRIATEC service hotline: +49 (0)621 486-1533

*: Error messages whose numbers do not appear in the above table.

Warnings/info

Displayed text	Tip/remedy
Attention! Double fusion!	If you intend double fusion on a fitting, you must disconnect the fusion unit's pins from the fitting after the first fusion, and let it cool down (see the processing instructions issued by the fitting manufacturer).
Please read in the fusion barcode first.	Only FRIAMAT Prime: This appears when the fitting's traceability barcode was read in first by accident.
Please read in a valid traceability barcode.	Only FRIAMAT Prime: This appears when the fitting's fusion barcode was read in first by accident.
Please read in a valid operator pass.	Only FRIAMAT Prime: This appears when a operator pass is to be read in (e.g. device locked) and/or a different (incorrect) barcode was read in.
Please read in a valid commission number.	Only FRIAMAT Prime: This appears when an commission number is to be read in (e.g. device configured to read before every fusion) and/or an incorrect value was entered or a different (incorrect) barcode was read in.
Defect/incorrect barcode	Use a new barcode on an identical fitting, or correct the entered code manually.
Device blocked	Only FRIAMAT Prime: When maintenance date exceeded (see Section 6.13.1.5).
Let the device cool down.	Protective function that prevents the device from overheating. Switch OFF the device, and let it cool down until the warning no longer appears after reactivation.
Fusion stop	Fusion stopped at STOP key.
End of fusion	Fusion finished.
Voltage …V; frequency …Hz	Only FRIAMAT Basic: Adjust generator, and acknowledge at STOP key.
Memory empty	Only FRIAMAT Prime: Printout not possible from empty memory.

Displayed text	Tip/remedy
Memory full	Only FRIAMAT Prime: Print out log.
Maintenance date exceeded	Notify authorised service station. Have the device serviced.

9 Annex

9.1 Recommended accessories (options)

Article name	Order no.	Description
Memory stick	624023	For saving and transferring fusion data and writing the print log to a PDF or CSV file (only FRIAMAT Prime).
SUPERVISOR pass	623101	For custom configurations of menu functions (only FRIAMAT Prime).
FRIATRACE IV	613280	For the electronic processing of fusion data (only FRIAMAT Prime).
Operator pass	623101	For identifying the welder and protecting FRIAMAT fusion units from unauthorised access. The details entered on the operator pass (welder's name and number) are transferred to the fusion log (only FRIAMAT Prime).

9.2 Authorised service stations

Please contact the FRIATEC AG service hotline +49 (0)621 486-1533 for service stations worldwide.

9.3 Updates to these operating instructions

The technical information contained in these operating instructions is examined regularly for currency. The date of the last revision is specified on every page.
The latest operating instructions can be viewed on the internet at www.friatools.de. The download section can be accessed via the navigation bar. This provides our updated operating instructions in the form of PDF documents. We shall also be pleased to send you these.

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