

BÖLLHOFF



ONSERT® Portable Mini

Portable setting device for the attachment
of ONSERT® fasteners

Translation of the original instructions

Technical Documentation

Part 1 of 3

Item code: 48509900002

Rev. 2 01.2024 ONSERT® Portable Mini

To avoid serious injury or death, follow the safety instructions in this manual.

This manual addresses the operating company, operating personnel as well as maintenance personnel of the setting system.

The user of this manual must be able to read and understand the language of this manual.

The user of this manual must know the safety instructions and must have understood them before work is carried out on the setting system.

Table of contents

1	Validity of the instructions	5	7	Faults, causes and remedial measures	26
1.1	Delivery scope.....	5	7.1	Safety information to be observed in the event of a fault.....	26
2	Symbols used in the instructions	6	7.2	Warnings and fault messages	26
2.1	Signal words.....	6	8	Maintenance	27
2.2	Hazard symbols.....	6	8.1	Safety information for maintenance and repair	27
2.3	Symbols for personal protective equipment	6	8.2	Charging the battery	27
2.4	Notice symbols.....	6	8.3	Cleaning the device	27
2.5	Information symbols.....	6	8.4	Removing adhesive smudges	27
2.6	Designations, representations, item numbers.....	6	8.5	Measuring the luminous intensity	28
2.7	Other emphases	6	8.6	Installing a firmware update	28
3	Usage and functional principle	7	9	Shutdown	30
3.1	Intended use.....	7	10	Packing, transport and storage	31
3.2	Structure of the setting device	8	11	Disposal	32
3.3	Functional principle	8	12	Annex	33
3.4	Technical data	9	12.1	LED codes	33
4	Safety information	10	12.1.1	LED codes control unit housing	33
4.1	Organisational measures.....	10	12.1.2	LED codes charger.....	33
4.2	Personnel qualifications	10	12.2	Declaration of conformity	35
4.3	General safety information for power tools.....	11			
4.4	Dangers when operating the device.....	12			
4.5	Protective devices	13			
4.6	Safety signs on the device	13			
5	Preparations prior to commissioning	14			
5.1	Information on using battery and charger	14			
5.2	Inserting the battery	14			
5.3	Fitting the light source.....	15			
5.4	Measuring the luminous intensity.....	16			
5.5	Replacing the exchange unit.....	17			
5.6	Installing the software	17			
5.7	Setting the joining parameters	17			
6	Operation	19			
6.1	Software	19			
6.2	Setting an ONSERT®.....	24			
6.3	Joint quality	25			
6.3.1	Joint check.....	25			
6.3.2	Faults in the joint, causes and remedial measures.....	25			

Table of figures

1	Validity of the instructions.....	5	8	Maintenance.....	27
	Fig. 1-1: ONSERT® Portable Mini setting device	5		Fig. 8-1: Charging the battery	27
3	Usage and functional principle	7		Fig. 8-2: Measuring the luminous intensity	28
	Fig. 3-1: Device structure	8		Fig. 8-3: Connecting the device without battery to a PC via USB cable	28
4	Safety information	10		Fig. 8-4: Firmware screen	29
	Fig. 4-1: Position of the protective device	13	9	Shutdown	30
	Fig. 4-2: Safety signs on the device	13		Fig. 9-1: Removing the battery.....	30
5	Preparations prior to commissioning.....	14	12	Annex.....	33
	Fig. 5-1: Inserting the battery.....	14		Fig. 12-1: LED codes at the control unit housing	33
	Fig. 5-2: Removing the battery	15		Fig. 12-2: LED codes charger.....	34
	Fig. 5-3: Disassembling the upper section of the housing	15			
	Fig. 5-4: Removing the protective screen	15			
	Fig. 5-5: Removing the spring.....	15			
	Fig. 5-6: Detaching the threaded pin	15			
	Fig. 5-7: Removing the light source	16			
	Fig. 5-8: Inserting and fastening the light source.....	16			
	Fig. 5-9: Assembling the spring and the protective screen	16			
	Fig. 5-10: Assembling the upper section of the housing	16			
	Fig. 5-11: Replacing the exchange unit.....	17			
	Fig. 5-12: Connecting the device to a PC via USB cable	17			
	Fig. 5-13: Tool status screen	18			
6	Operation	19			
	Fig. 6-1: Software settings.....	19			
	Fig. 6-2: Tool status screen	20			
	Fig. 6-3: Firmware screen.....	22			
	Fig. 6-4: Additional information screen.....	23			
	Fig. 6-5: Applying adhesive.....	24			
	Fig. 6-6: Inserting ONSERT®.....	24			
	Fig. 6-7: Applying the device	24			
	Fig. 6-8: Spotlighting the ONSERT®	25			
	Fig. 6-9: Lifting off the device.....	25			
	Fig. 6-10: Joint check.....	25			
7	Faults, causes and remedial measures.....	26			
	Fig. 7-1: Fault indication	26			

1 Validity of the instructions

These instructions are valid for the setting device described below; it is suitable for manual mobile application:

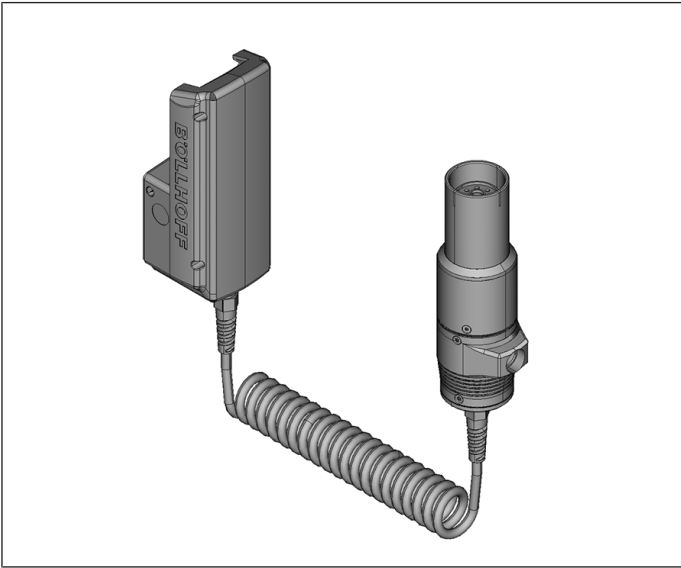


Fig. 1-1 ONSERT® Portable Mini setting device

1.1 Delivery scope

The scope of delivery includes the following components:

- carrying case
- setting device: ONSERT® Portable Mini
- battery
- control unit housing
- battery charger
- light source
- exchange units for M5/D5 and M6/D6
- attachment for light intensity meter DELOLUXcontrol
- dispensing gun for 30 ml Semco cartridges
- dispensing nozzles
- UV safety glasses
- master plate for positioning a fastener
- USB flash drive with ONSERT® software
- USB cable
- instructions

2 Symbols used in the instructions

In these operating instructions, text passages of particular importance are highlighted and described below with signal words and symbols.

2.1 Signal words

DANGER

DANGER

... indicates a danger which, if not avoided, will result in serious injury or death.

WARNING

WARNING

... indicates a danger which, if not avoided, may result in serious injury or death.

CAUTION

CAUTION

... indicates a danger which, if not avoided, may result in minor or moderate injury.

2.2 Hazard symbols



Hazardous voltage!

This symbol indicates a risk of death or injury from hazardous voltage when handling the system.



UV radiation!

This symbol indicates a risk of death or injury from UV radiation when handling the system.

2.3 Symbols for personal protective equipment



Wear hand protection!

Wearing hand protection is absolutely necessary for tasks marked with this symbol.



Wear eye protection!

Wearing eye protection is absolutely necessary for tasks marked with this symbol.



Wear protective clothing!

Wearing protective clothing is absolutely necessary for tasks marked with this symbol.

2.4 Notice symbols

NOTICE

NOTICE

... indicates important information (e.g. material damage), but does not indicate dangers.

2.5 Information symbols



Info!

Information marked with this symbol helps you to carry out tasks quickly and safely.

2.6 Designations, representations, item numbers

In the following, the setting device ONSERT® Portable Mini is referred to as "device".

The figures help you to better understand facts and processes. The representations in the figures may differ slightly from the actual appearance of your system.

(1)

Numbers in brackets are item numbers referring to figures on the same page.

(A)

Capital letters in brackets found in the text symbolise procedures displayed in figures on the same page.

2.7 Other emphases

SCREEN

References to screens always appear in italic capital letters in the text.

>>Button<<

Pressing a button is always indicated in the text as follows:
>>Button<<.

3 Usage and functional principle

3.1 Intended use

The device is only intended for the application of ONSERT® fasteners to suitable materials. The materials must be suited for both the adhesive DELO-Photobond® and exposure to UV/blue light. Materials which are not definitely suitable for the application of ONSERT® fasteners must not be used.

If you are not sure whether your materials are suitable for the application of ONSERT® fasteners, contact Böllhoff Produktion GmbH for sampling of the materials. Upon sampling, parameters for the intended use are defined which are to be observed when using the device.

Only use original ONSERT® tacks and original DELO-Photobond® adhesives.

The device is not designed for operation in potentially explosive atmospheres.

The device must be used according to the technical data.

Foreign batteries must neither be used with the device nor charged using the charger.

Unauthorised structural modifications, additions or conversions to the device are prohibited. The same applies for alterations to and interference with software or firmware.

The observance of these instructions is also part of the intended use.

Any use other than the intended use is considered misuse.

Böllhoff Produktion GmbH cannot be held liable for any damage resulting from non-designated use.

3.2 Structure of the setting device

The device consists of the following main components:

- protective screen (1)
- upper section of the housing (2)
- release button (3)
- lower section of the housing / handle (4)
- light source with integrated exchange unit (5)
- spiral cable (6)
- USB connection (7)
- control unit housing (8)
- battery (9)
- LED (10):
 - for information on LED codes please refer to chapter 12.1.1, page 33
- LED (11):
 - for information on LED codes please refer to chapter 12.1.1, page 33

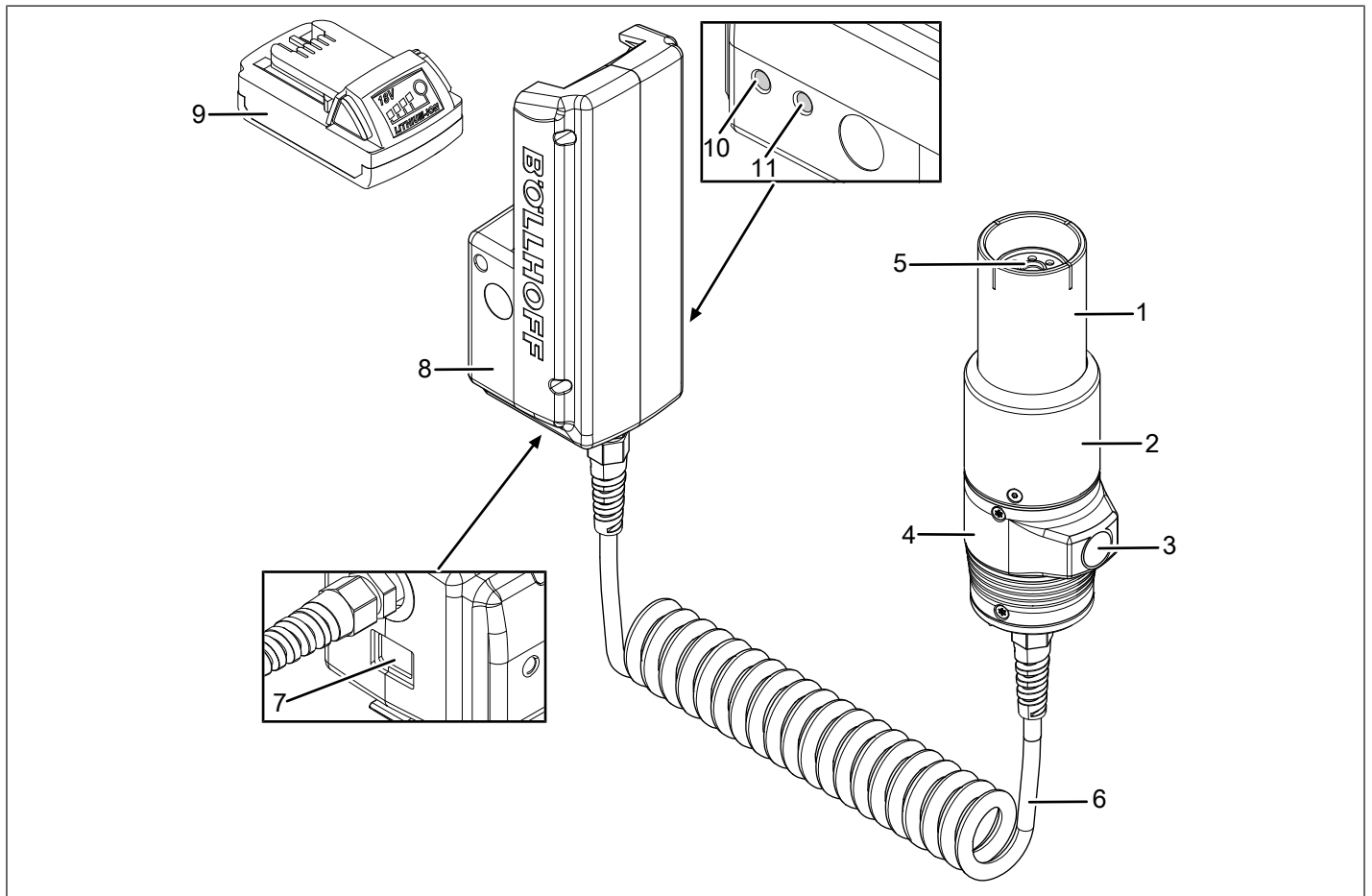


Fig. 3-1 Device structure

3.3 Functional principle

The portable setting device glues ONSERT® fasteners onto workpieces or surfaces. The connection between workpiece and ONSERT® fasteners is made using a light-curing adhesive.

The adhesive is applied to an ONSERT® by hand and the ONSERT® stuck into the exchange unit after having pulled back the protective screen. After the positioning process the protective screen is moved forwards up to the mechanical stop so that ONSERT® and light source are positioned inside the housing.

The device is positioned on the joining point and pushed down evenly on the workpiece. In doing so, the protective screen is pressed into the upper section of the housing. Before starting the joining process, the protective screen must be located at the mechanical stop. The proper position is detected by a limit switch and indicated at the control unit housing: the green LED goes out.

Actuating the release button starts the joining process. The light source switches on for a specified exposure time and the adhesive hardens. An acoustic signal is emitted once the light source has switched off.

The ONSERT® is now firmly bonded with the workpiece and the device can be removed.

Which exposure time and luminous intensity is required depends on the used adhesive and the material of the workpiece. These parameters can be set on a PC using the supplied software and transferred to the device via USB cable.

3.4 Technical data

Tab. 3-1 Technical data

dimensions	setting device (without battery) width x height x depth, approx.	270 x 80 x 80 mm
	control unit housing width x height x depth, approx.	230 x 70 x 60 mm
	battery width x height x depth, approx.	125 x 55 x 80 mm
	carrying case width x height x depth, approx.	535 x 427 x 160 mm
Weight	entire device incl. housing, head and spiral cable (without battery)	1.04 kg
	battery 2.0 Ah ^b	0.55 kg
Power supply	Electric connection	230/18 V 50/60 Hz
	battery	18 V DC
	battery charging time	approx. ≤ 40 min
	battery storage	≤ 30 % charging capacity
Noise emission^a	at a distance of 1 m	< 70 dB(A)
Vibration emission value	total vibration value ^a a _h of the handle as well as measurement uncertainty K	0 m/s ²
protection class		III
protection type		IP 40
System requirements	PC	≥ 300 Mhz ≥ 128 MB RAM USB 2.0
	operating system	Windows XP or higher
Automatic switch-off when not in use		120 s
Ambient temperature	during operation	The permissible ambient temperatures must be checked depending on the application and the adhesive used.
	during storage	

a The vibration and noise emission values may vary depending on how the device is used. After estimating the actual use conditions, it may be necessary to specify further safety measures to protect the operator.

b ampere-hour

Notes regarding the specified total vibration value and the noise emission:

- The specified total vibration value and the specified noise emission value have been measured in accordance with standardized test procedure and can be used for comparing one power tool to another.
- The specified total vibration value and the specified noise emission value can also be used for a preliminary load assessment.

4 Safety information

4.1 Organisational measures

The instructions must always be at hand at the device's site of use.

Personnel entrusted with work must have read and understood the instructions and in particular the "Safety information" chapter before commencing work.

⚠ WARNING



Risk of injury!

There is a risk of injury when working with the device.



- Always wear safety glasses, protective gloves and tight-fitting work clothing.



Spare parts must comply with the technical requirements specified by Böllhoff Produktion GmbH. Original spare parts can be relied upon to do so.

Adhere to the inspection intervals specified in the instructions!

The environment in which the device is used shall be kept clean and orderly. Limitations of the operating personnel's freedom of movement can lead to faults and accidents.

The device is to be protected against any influences that cause corrosion or that act upon the components in any other way, damages them or limits their functionality and stability.

4.2 Personnel qualifications

Only personnel trained or under supervision who know and understand the instructions and the dangers of the device may work with the device. The personnel's responsibilities for operation, maintenance and repair tasks are to be clearly assigned by the operating company.

Do not allow persons to be trained or instructed or persons taking part in a general training course to work on or with the device without permanent supervision by an experienced person.

The individual tasks at the device require differing personnel qualifications, as listed in the table below. The different qualifications are based on the following skills and knowledge:

- Operators must be able to set up and operate or to change the set-up of the device and to recognize potential damage and hazards at the device.
- In addition to the skills and knowledge of an operator, setters must be able to create and edit files containing joining parameters using the ONSERT® software and to transfer them onto the device. This also requires knowledge on the evaluation of adhesive hardening, which varies depending on the application.

Read the table as follows, for example:

"Mounting the exchange unit requires the qualification of an operator."

"Troubleshooting, repair and maintenance work must be performed by a service technician from Böllhoff Produktion GmbH."

Tab. 4-1 Overview of the minimum required personnel qualifications

Tasks	Operator	Setter	Böllhoff service technician
Operation	X		
Cleaning	X		
mounting of the exchange unit	X		
fitting the light source	X		
measuring the luminous intensity	X		
creation and transfer of joining parameters		X	
troubleshooting according to chapter 7, page 26		X	
troubleshooting, repair and maintenance			X

4.3 General safety information for power tools

⚠ WARNING

Read all safety warnings, instructions, illustrations and specifications provided with this power tool.

Failure to follow all instructions listed below may result in electric shock, fire and/or serious injury.

Keep all warnings and instructions for future reference.

The term power tool in the warnings refers to your mains-operated (corded) power tool or battery-operated (cordless) power tool.

Occupational safety

- **Keep your working area clean and well lit.** Clutter or dark areas invite accidents.
- **Do not operate power tools in potentially explosive atmospheres, such as in the presence of flammable liquids, gases or dust.** Power tools create sparks which may ignite the dust or fumes.
- **Keep children and bystanders away while operating a power tool.** Distractions can cause you to lose control.

Electrical safety

- **Power tool plugs must match the outlet. Never modify the plug in any way. Do not use any adapter plugs with earthed (grounded) power tools.** Unmodified plugs and matching outlets will reduce risk of electric shock.
- **Avoid body contact with grounded surfaces such as pipes, heaters, stoves and refrigerators.** There is an increased risk of electric shock if your body is earthed or grounded.
- **Do not expose power tools to rain or wet conditions.** Water entering a power tool will increase the risk of electric shock.
- **Do not abuse the cord. Never use the cord for carrying, pulling or unplugging the power tool. Keep the cord away from heat, oil, sharp edges or moving parts.** Damaged or entangled cords increase the risk of electric shock.
- **When operating a power tool outdoors, use an extension cord suitable for outdoor use.** Use of a cord suitable for outdoor use reduces the risk of electric shock.
- **If operating a power tool in a damp location is unavoidable, use a residual current device (RCD) protected supply.** Use of an RCD reduces the risk of electric shock.

Personal safety

- **Stay alert, watch what you are doing and use common sense when operating a power tool. Do not use a power tool while you are tired or under the influence of drugs, alcohol or medication.** A moment of inattention while operating power tools may result in serious personal injury.
- **Use personal protective equipment. Always wear eye protection.** Protective equipment such as a dust mask, non-skid safety boots, hard hat or hearing protection used for appropriate conditions will reduce personal injuries.
- **Prevent unintentional starting. Ensure the switch is in the off-position before connecting to power source and/or battery pack, picking up or carrying the tool.** Carrying power tools with your finger on the switch or energising power tools that have the switch on invites accidents.

- **Avoid an abnormal posture. Keep proper footing and balance at all times.** This enables better control of the power tool in unexpected situations.
- **Wear suitable clothing. Do not wear loose clothing or jewellery. Keep your hair and clothing away from moving parts.** Loose clothes, jewellery or long hair can be caught in moving parts.
- **Do not let familiarity gained from frequent use of tools allow you to become complacent and ignore tool safety principles.** A careless action can cause severe injury within a fraction of a second.

Power tool use and care

- **Do not force the power tool. Use the correct power tool for your application.** The correct power tool will do the job better and safer at the rate for which it was designed.
- **Do not use the power tool if the switch does not turn it on and off.** Any power tool that cannot be controlled with the switch is dangerous and must be repaired.
- **Disconnect the plug from the power source and/or remove the battery pack, if detachable, from the power tool before making any adjustments, changing accessories, or storing power tools.** Such preventive safety measures reduce the risk of starting the power tool accidentally.
- **Store idle power tools out of the reach of children and do not allow persons unfamiliar with the power tool or these instructions to operate the power tool.** Power tools are dangerous in the hands of untrained users.
- **Maintain power tools and accessories with reasonable care. Check for misalignment or binding of moving parts, breakage of parts and any other condition that may affect the power tool's operation. If damaged, have the power tool repaired before use.** Many accidents are caused by poorly maintained power tools.
- **Keep cutting tools sharp and clean.** Properly maintained cutting tools with sharp cutting edges are less likely to bind and are easier to control.
- **Use the power tool, accessories and tool bits etc. in accordance with these instructions. Take into account the working conditions and the work to be performed.** Use of the power tool for operations different from those intended could result in a hazardous situation.
- **Keep handles and grasping surfaces dry, clean and free from oil and grease.** Slippery handles and grasping surfaces do not allow for safe handling and control of the tool in unexpected situations.

Battery tool use and care

- **Recharge only with charger specified by the manufacturer.** A charger that is suitable for one type of battery pack may create a risk of fire when used with another battery pack.
- **Use power tools only with specifically designed battery packs.** Use of any other battery packs may create a risk of injury and fire.
- **When battery pack is not in use, keep it away from other metal objects, like paper clips, coins, keys, nails, screws or other small metal objects, that can make a connection from one terminal to another.** Shorting the battery terminals together may cause burns or a fire.

- **Under abusive conditions, liquid may be ejected from the battery; avoid contact. If contact accidentally occurs, flush with water. If liquid contacts eyes, additionally seek medical help.** Liquid ejected from the battery may cause irritation or burns.
- **Do not use a battery pack or tool that is damaged or modified.** Damaged or modified batteries may exhibit unpredictable behaviour resulting in fire, explosion or risk of injury.
- **Do not expose a battery pack or tool to fire or excessive temperatures.** Exposure to fire or temperatures above 130 °C may cause an explosion.
- **Follow all charging instructions and do not charge the battery pack or tool outside the temperature range specified in the instructions.** Charging improperly or at temperatures outside the specified range may damage the battery and increase the risk of fire.

Service

- **Have your power tool serviced by a qualified repair person using only identical replacement parts.** This will ensure that the safety of the power tool is maintained.
- **Never service damaged battery packs.** Service of battery packs should only be performed by the manufacturer or authorized service providers.

4.4 Dangers when operating the device

The device is only to be used:

- as intended;
- in perfect technical condition;
- by safety-conscious persons who are fully aware of the risks involved in operating the device.

If you recognize faults which can compromise safety, do not use the device.

⚠ DANGER



Intense UV/blue light!

During operation the light source generates intense UV/blue light (wavelength 395~410 nm). On a long-term basis wavelengths of 450 nm to 470 nm are also possible. Emerged UV radiation can be deflected by surrounding objects. There is a risk of eye injury and sunburn.

- Never directly look into the bright light source without protection!
- Never aim the device at people!
- When applying fasteners to translucent or reflecting material, make sure that no one is located in the range of the UV/blue light.
- Wear UV safety glasses when working on the device.

⚠ WARNING

Fall hazard!

A poor posture or fasteners lying around present a risk of falling.

- Keep the environment in which the device is used clean and orderly.
- When operating the device make sure to keep your balance and a secure position.
- Be prepared to counter movements of the device or workpiece.

⚠ CAUTION

Risk of injury!

Risk of injury due to fatigue and strain resulting from repeated movements in an ergonomically unfavourable posture.

- Ensure a comfortable posture and secure handling when operating the device.
- Change your posture during lengthy tasks.

4.5 Protective devices

The protective devices serve health and safety of the personnel working on or with the device and also protect the device against damage. If you detect damage at the protective devices, do not use the device!

Position of the protective device

The device is equipped with the following protective devices:

- protective screen (1) with limit switch

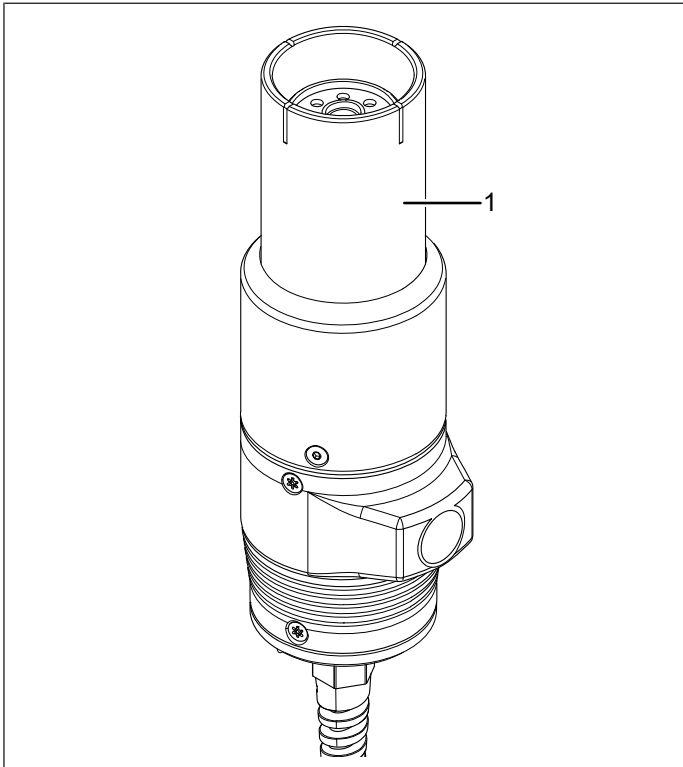


Fig. 4-1 Position of the protective device

The protective screen prevents the lateral emission of UV/blue light. Owing to the integrated limit switch, the light source can only be switched on when the protective screen is located at the mechanical stop, thus ensuring that the light source is positioned inside the housing. Due to surface irregularities there can be a slight blue gleam around the protective screen.

4.6 Safety signs on the device

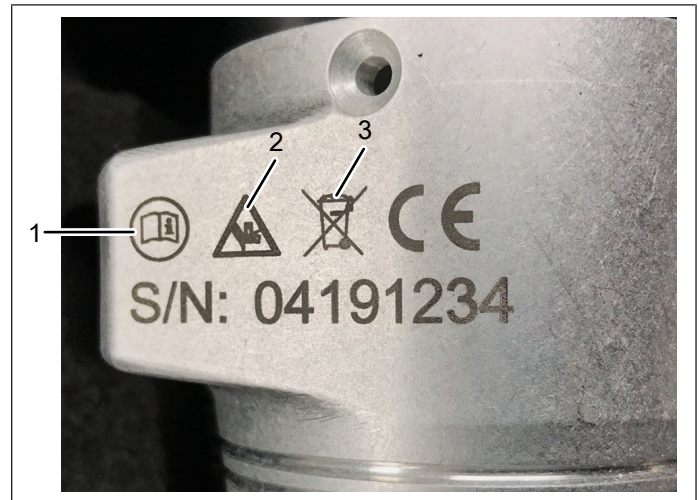


Fig. 4-2 Safety signs on the device

Tab. 4-2 Safety signs on the device

No.	Meaning
1	This symbol indicates that the instructions must be observed.
2	This symbol indicates a risk of hand injuries when operating the device.
3	See chapter 11, page 32.

5 Preparations prior to commissioning

5.1 Information on using battery and charger

The charger is designed for 230 V AC / 50–60 Hz. New batteries are delivered partially charged and need to be charged completely before first use. For charging, the charger's plug is inserted in the socket and the battery in the charger. The charging time of a 2 Ah battery amounts to approx. 40 minutes. The current battery level will be indicated by the LED on the charger.

NOTICE

Charging the battery!

The battery can be damaged in case of improper charging.

- Remove the charger's mains plug before inserting or removing the battery.
- Never charge the battery at ambient temperatures below 10 °C or above 40 °C.
- Please observe the general safety information regarding battery tool use and care in accordance with chapter 4.3, page 11.

When storing the battery for an extended period of time, the state of charge needs to be checked at regular intervals. 30 % is an ideal battery level. The battery should be recharged at least every 12 months in order to prevent a deep discharge which can destroy the battery.

After work an empty battery should never be stored without recharging for more than a month to prevent a deep discharge which can destroy the battery.

You can check the current battery level by pressing the button on the battery. The battery can remain in the device for this check, but the device must have been switched off at least 1 minute beforehand (otherwise the indication will be inaccurate). The number of LEDs lighting up signify the state of charge. One flashing LED indicates a remaining power reserve of maximally 10 %. This indication should only be used to determine the power reserve.

5.2 Inserting the battery

⚠ WARNING



Electrical shock hazard!

Risk of injury due to electric shock when touching live parts.

- Prior to use, check the battery for visible damage.
- If you detect any damage, do not use the battery!

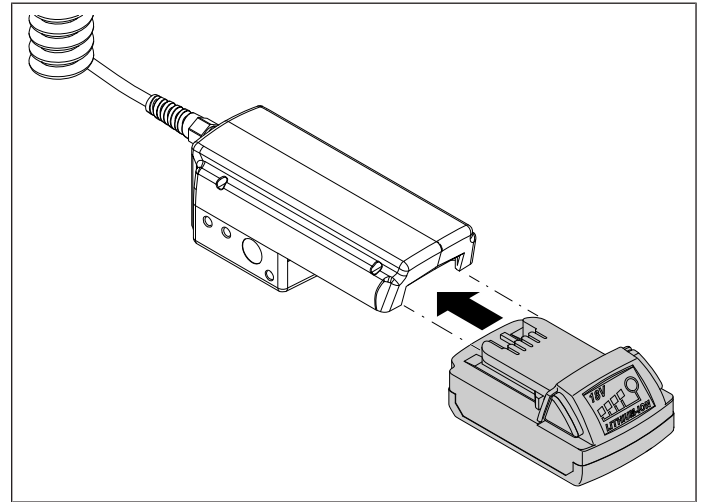


Fig. 5-1 Inserting the battery

5.3 Fitting the light source

Different light sources are used depending on the application.

Prerequisite

- You have the qualification as "Operator" (see chapter 4.2, page 10).

1. Remove the battery from the control unit housing.

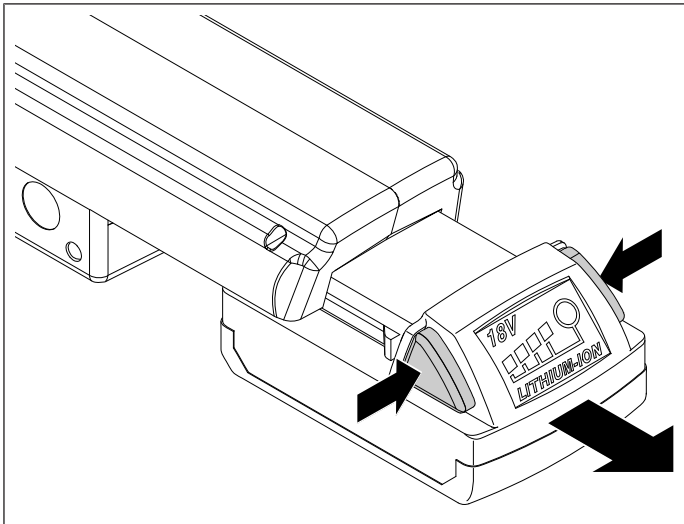


Fig. 5-2 Removing the battery

2. Use a hexagon wrench to loosen the screws at the upper section of the housing.
3. Remove the upper section of the housing.

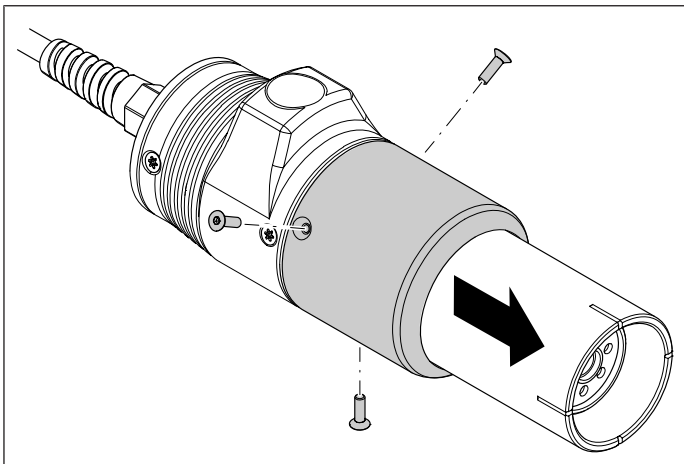


Fig. 5-3 Disassembling the upper section of the housing

4. Remove the protective screen.

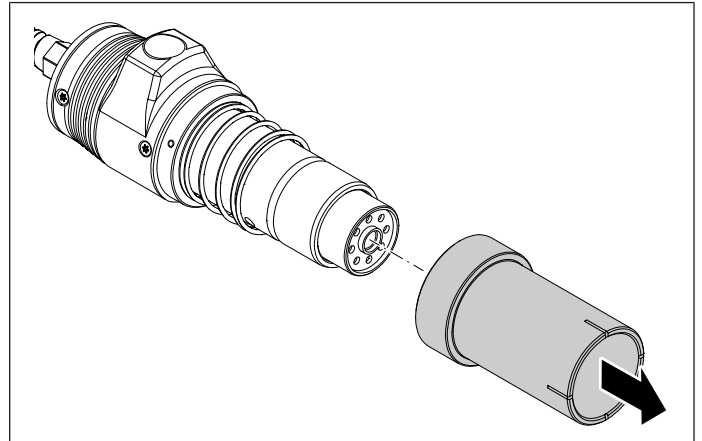


Fig. 5-4 Removing the protective screen

5. Remove the spring.

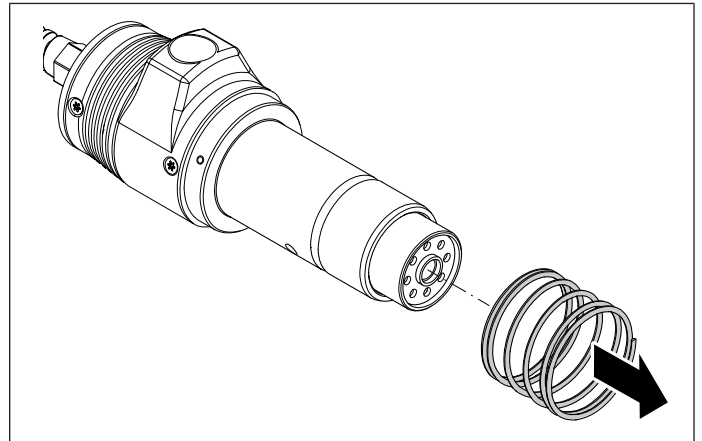


Fig. 5-5 Removing the spring

6. Detach the threaded pin by use of a slotted screwdriver. If you cannot remove the threaded pin from the bore hole, use a hexagon wrench to push it out from the other side.

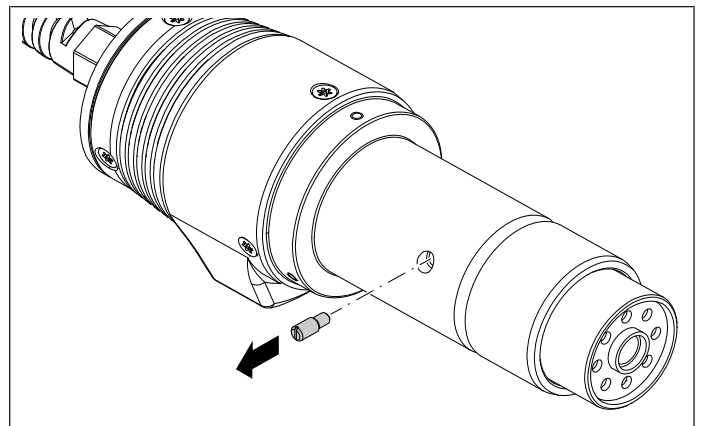


Fig. 5-6 Detaching the threaded pin

7. Remove the light source.

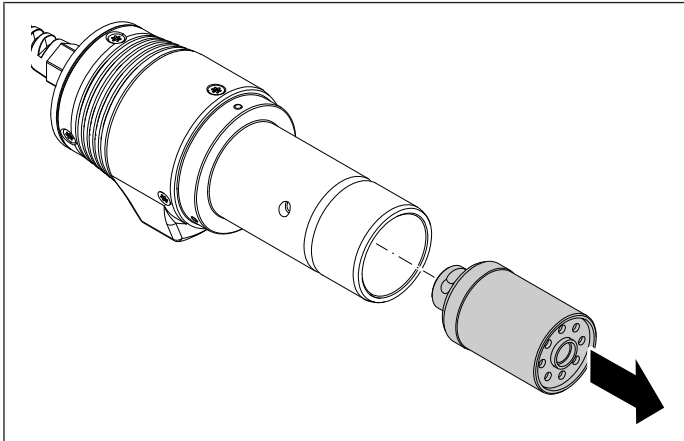


Fig. 5-7 Removing the light source

8. Insert the desired light source.

9. Rotate the light source so you can screw in the threaded pin.

10. Screw the threaded pin back in.

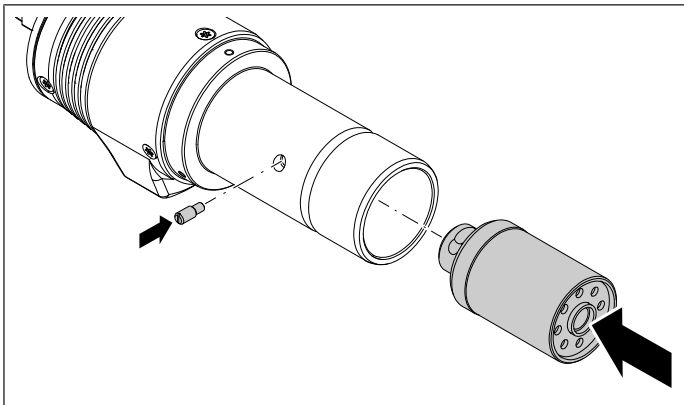


Fig. 5-8 Inserting and fastening the light source

11. Reattach the spring and the protective screen to the device.

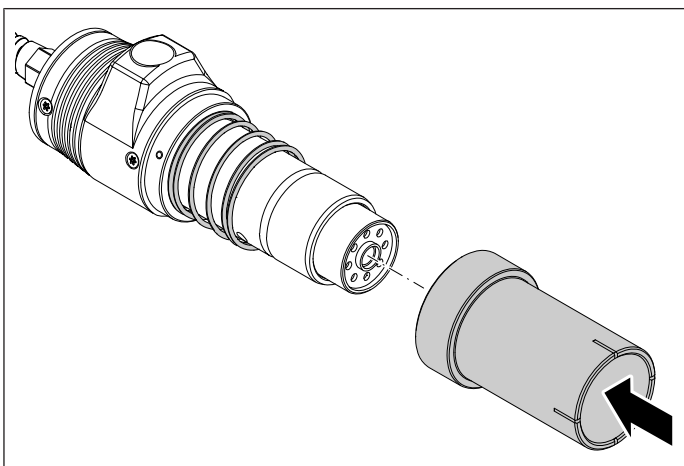


Fig. 5-9 Assembling the spring and the protective screen

12. Assemble the upper section of the housing by guiding it over the protective screen, aligning it to the threaded holes and screwing it down on the lower section of the housing.

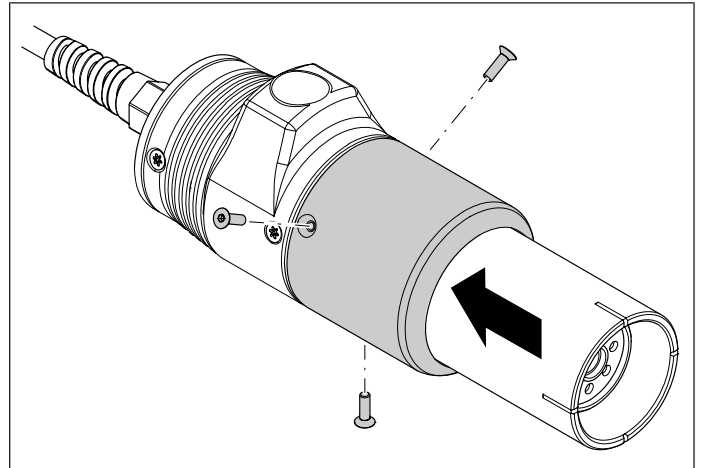


Fig. 5-10 Assembling the upper section of the housing

5.4 Measuring the luminous intensity

For initial commissioning of the device or a new light source the luminous intensity must be measured. The value thus determined serves as reference for all later measurements. To determine the luminous intensity please proceed as described in chapter 8.5, page 28.

5.5 Replacing the exchange unit

Depending on the size and shape of the ONSERT®, a different exchange unit has to be attached to the light source. The exchange unit is screwed in with an M6 thread and, depending on the geometry, can be dis-/assembled manually or by means of a hand tool.

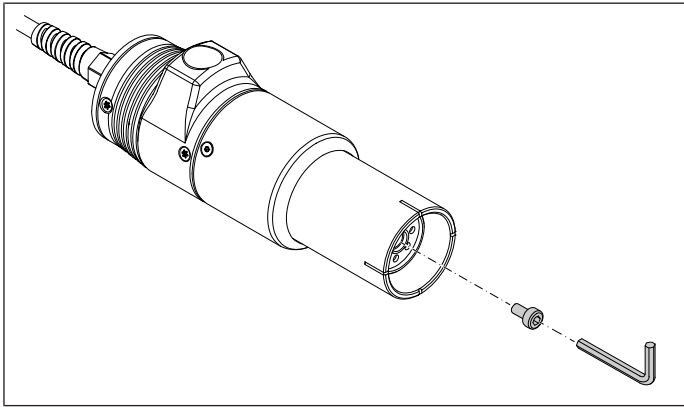


Fig. 5-11 Replacing the exchange unit

5.6 Installing the software

Prerequisites

- You have the qualification as "Setter" (see chapter 4.2, page 10).
 - You have the permission or rights to install software on the PC. Contact your IT management, if required.
1. Connect the supplied USB flash drive to a PC.
 - ⇒ A pop-up menu opens.
 2. Launch the installation file OnsertPortableMini.msi.
 3. Follow the menu's instructions to install the software on your PC.
 - ⇒ The software can now be started.

5.7 Setting the joining parameters

NOTICE

Reduced strength of the joints owing to an insufficient luminous intensity.

At a luminous intensity of < 50 % it cannot be ensured that the adhesive bond will hold.

- Set the luminous intensity to a level ranging between 50 % and 100 %.
- Measure the luminous intensity at regular intervals and replace the light source, if required.



Info!

The default settings are as follows:

Luminous intensity: 90 %

Exposure time: 4500 ms

If the light source loses capacity, increase the luminous intensity as a first measure before mounting a new light source.

Prerequisites

- You have the qualification as "Setter" (see chapter 4.2, page 10).
 - The light source is assembled.
 - The luminous intensity has been measured and documented.
 - The exchange unit is assembled.
 - The software is installed.
1. Switch the device on by actuating the release button (1).
 - ⇒ The LED (2) is illuminated in green.
 2. Start the ONSERT® software on the PC.
 3. Connect the device to the PC using the supplied USB cable.

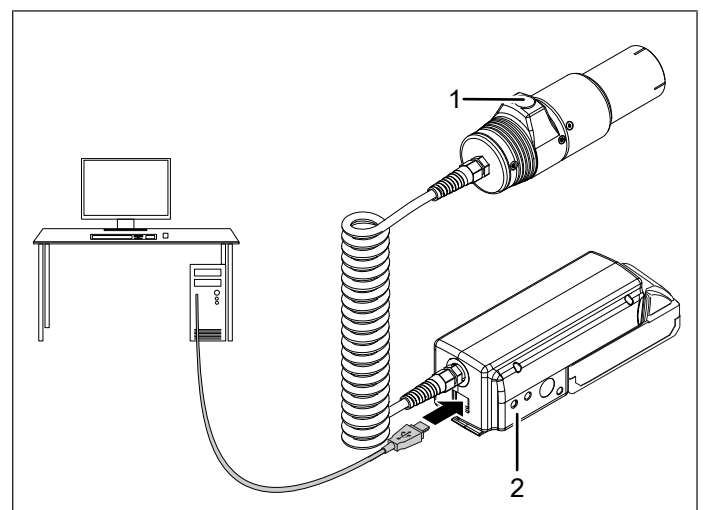


Fig. 5-12 Connecting the device to a PC via USB cable

4. Open the *TOOL STATUS* screen.
 - ⇒ A green dot will be displayed in the status bar at the bottom if the device is connected to the PC.
5. Enter the desired parameters for luminous intensity and exposure time.
6. Transfer the joining parameters to the device by use of >>Set data<<.
 - ⇒ A window pops up informing you that the process of writing data has been completed.
7. Press the >>OK<< button to confirm this message.
 - ⇒ The joining parameters have been set.

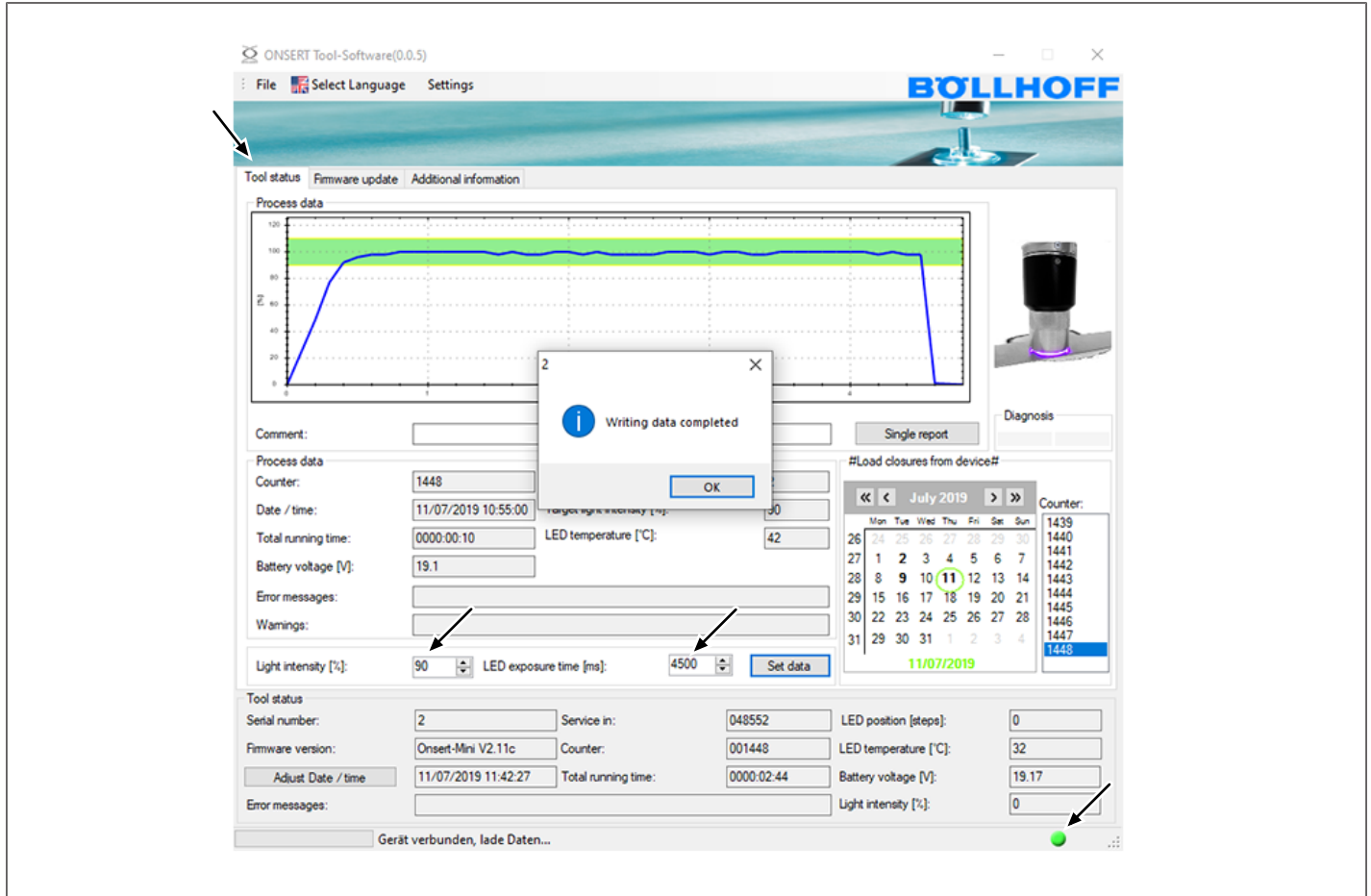


Fig. 5-13 Tool status screen

6 Operation

6.1 Software

Described below are the functions of the software.

Software settings

In each screen the settings can be adjusted via the tabs at the top.

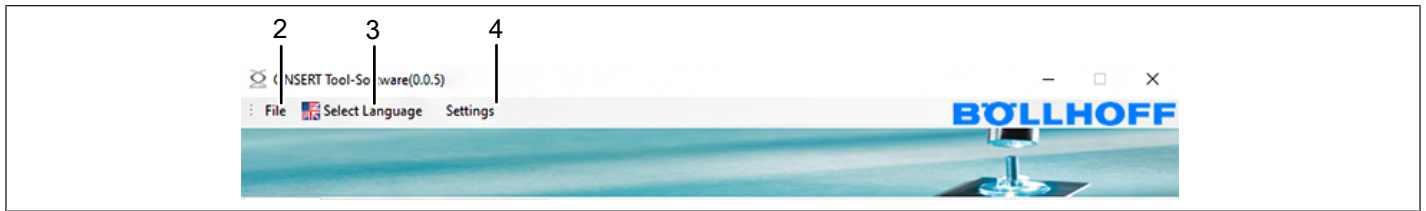


Fig. 6-1 Software settings

Tab. 6-1 Software setting

No.	Button / field	Meaning
2	File	... manufacturer / service level and close program
3	Select language	Select display language
4	settings	Selection of the LED temperature in °C or °F

Tool status screen

This screen displays the process data of the individual joining processes and the tool status.



Info!

This screen and the measurement data can only be accessed if the device is connected. Switch the device on and start the program on the PC before you connect device and PC using the USB cable.

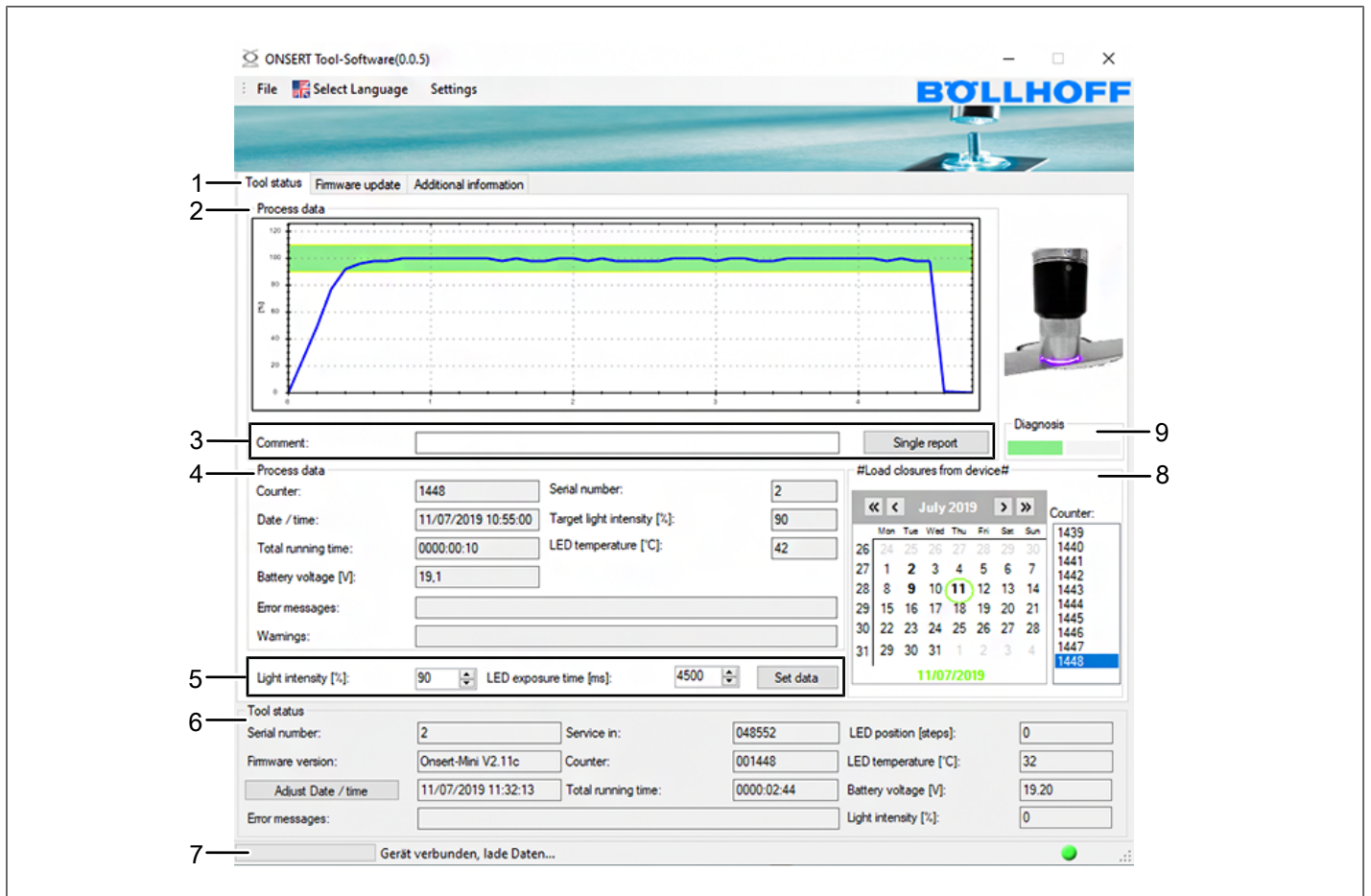


Fig. 6-2 Tool status screen

Tab. 6-2 Tool status screen

No.	Button / field	Meaning
1	Screen selection	Switches between the screens.
2	Process data chart	Indicates the process curve for the selected joining process: luminous intensity [%] over an exposure time of [s]
	Green range	Tolerance range for luminous intensity
	Blue curve	Actual curve
3	Single report	Prints a single report for the selected joining process with comment field.
4	Process data	Actual values and information on the selected joining process
	Counter	Selected joining process
	Date / time	Date and time of the joining process
	Total running time	Total running time of the selected joining process
	Battery voltage	Maximum battery voltage in V
	Error messages	See chapter 7, page 26
	Warnings	See chapter 7, page 26
	Serial number	Serial number of the device
	LED target value	Target value for the luminous intensity in %
	LED temperature	Maximum temperature of the light source in °C or °F
5	Joining parameters	Transfer of the target values for luminous intensity [%] and exposure time [ms] (see chapter 5.7, page 17)
6	Tool status	Actual values and information on the connected device
	Serial number	Serial number of the device
	Firmware version	Firmware version on the device
	Adjust date / time	Adopts the current system time for the program
	Error messages	Current error message (see chapter 7, page 26)
	Service in	See chapter 8, page 27
	Counter	Joining processes performed with the device
	Total running time	Total running time of the light source
	LED temperature	Current temperature of the light source in °C or °F
	Battery voltage	Current battery voltage in V
	Luminous intensity	Current luminous intensity in %
7	Status bar	Current information regarding the connection and processes
8	Load closures from device	Selection of recorded joining processes
	Calendar	Selection of the days on which joining processes were carried out: bold = process data available; blue = selected; green = today
	Counter	Selection of a joining process that has been performed using the connected device. The process data will be displayed for the selected counter reading.
9	Diagnosis	By lighting up in green the diagnosis box indicates the functioning of the actuated limit switch (left) and release button (right). Actuate limit switch and release button separately for the diagnosis.

Firmware screen

In this screen you can update the firmware (FW) of the device.

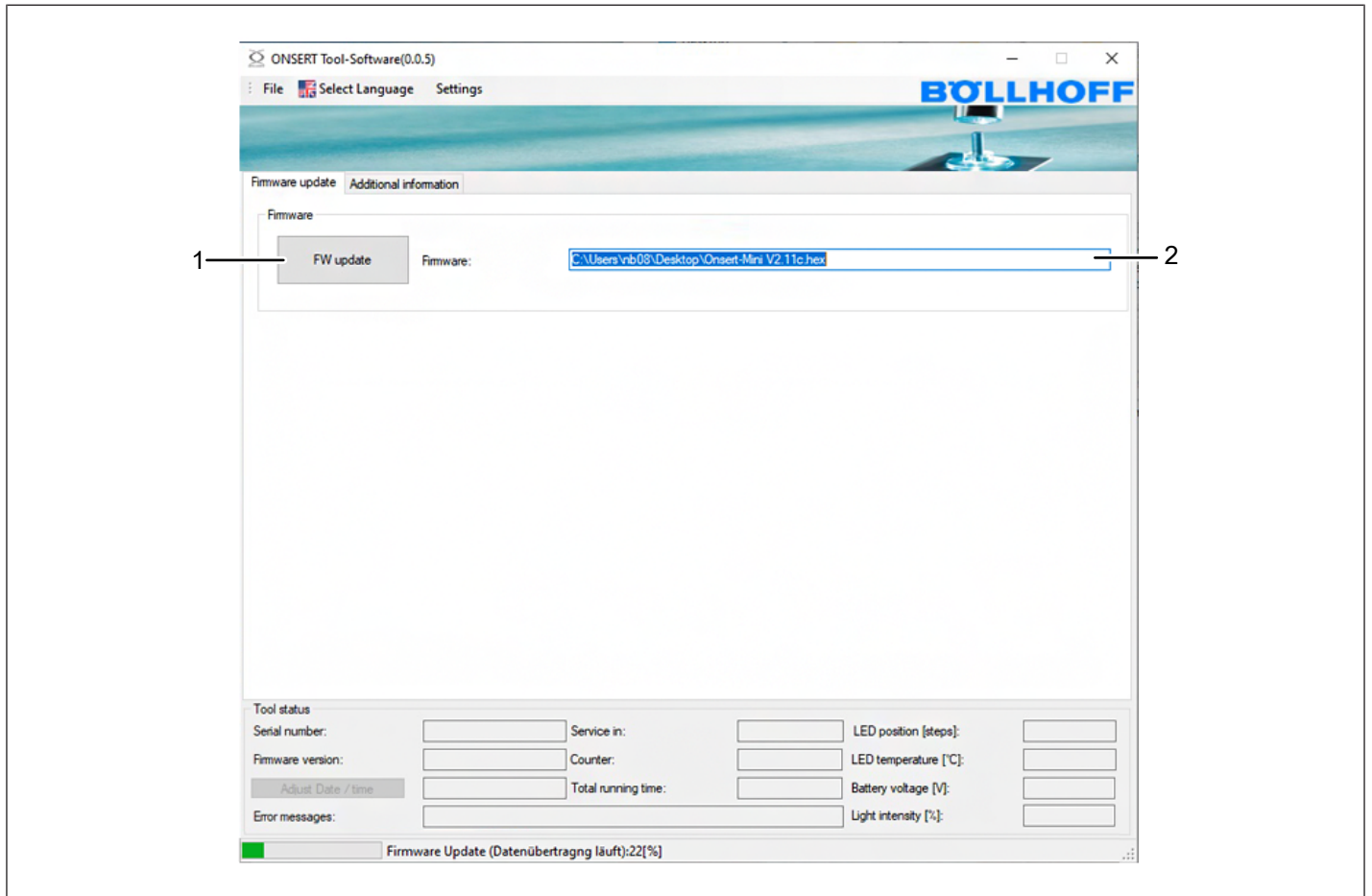


Fig. 6-3 Firmware screen

Tab. 6-3 Firmware screen

No.	Button / field	Meaning
1	FW update	Transfer of firmware (see chapter 8.6, page 28)
2	Firmware	Link (path) to firmware (file extension *.hex)

Additional information screen

In this screen the instructions (1) are available for download as PDF file in the respective languages.

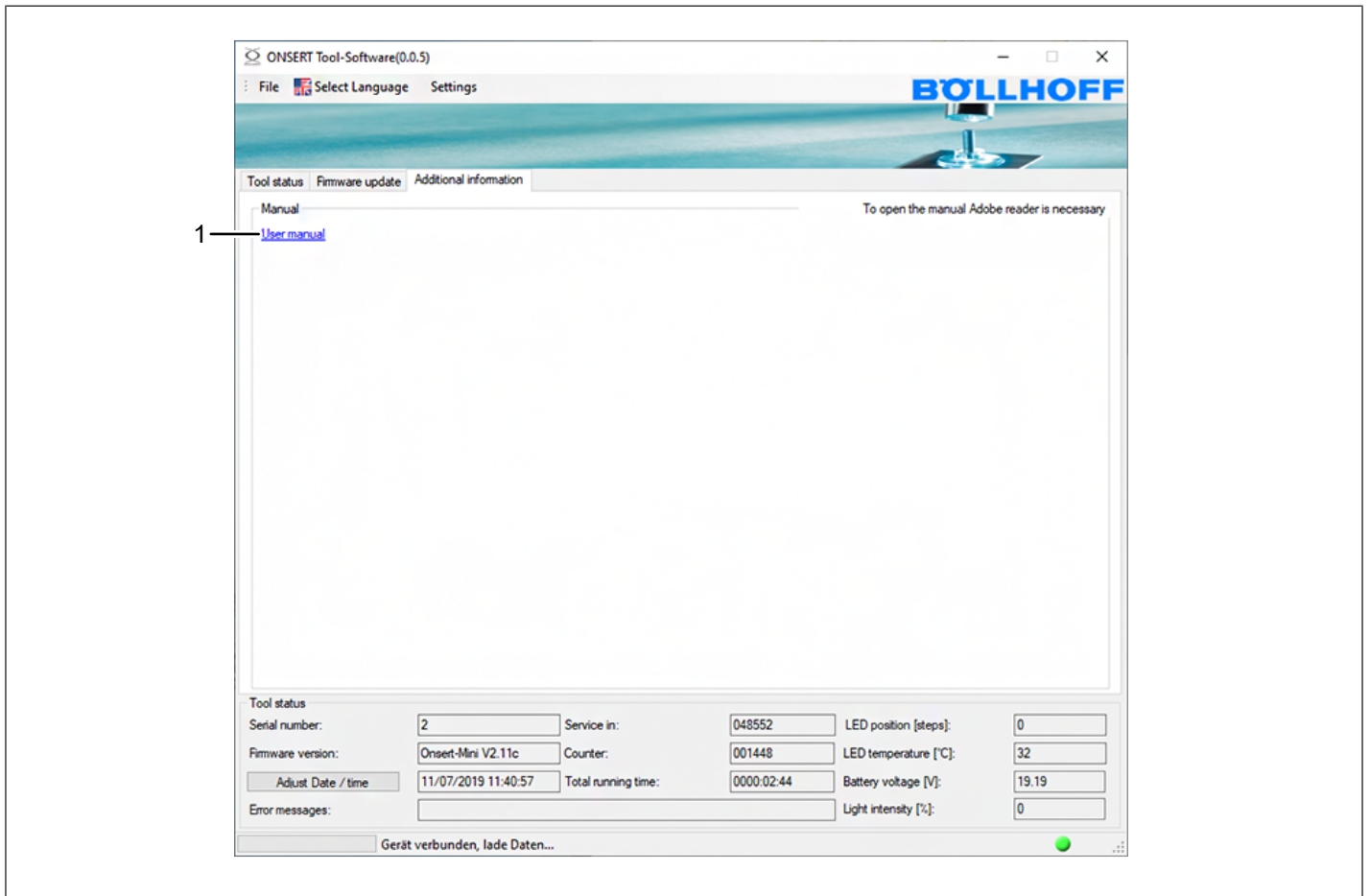


Fig. 6-4 Additional information screen

6.2 Setting an ONSERT®



Info!

Using the supplied master plate you can mark the exact position of the ONSERT® on the workpiece.

⚠ WARNING



Risk of injury!

There is a risk of injury when working with the device.



■ Always wear safety glasses, protective gloves and tight-fitting work clothing.



1. Make sure that the contact surfaces of both workpiece and ONSERT® are clean and dry.
2. Apply a drop of adhesive to the centre of the ONSERT®.

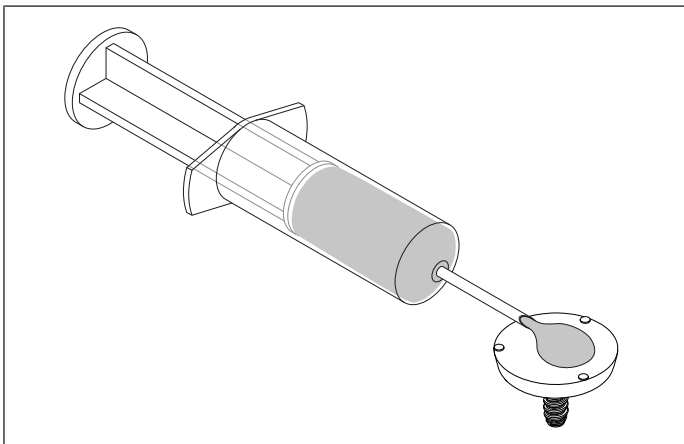


Fig. 6-5 Applying adhesive

3. Pull back the protective screen.
4. Put the ONSERT® into the exchange unit.

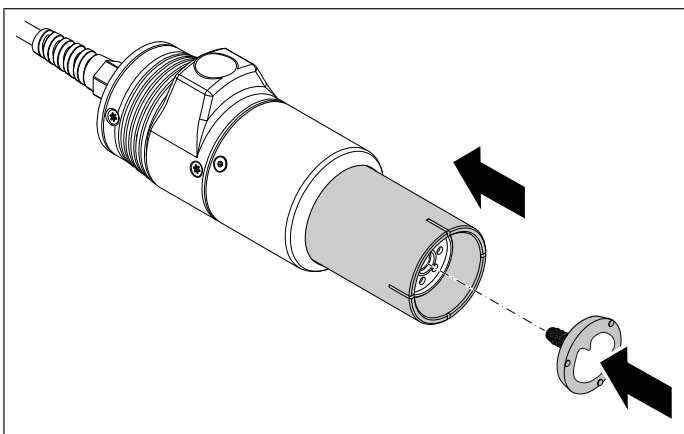


Fig. 6-6 Inserting ONSERT®

5. Position the device evenly on the joining point.
6. Push the protective screen down all the way to the mechanical stop.
 - ⇒ The green LED (1) at the control unit housing goes out.

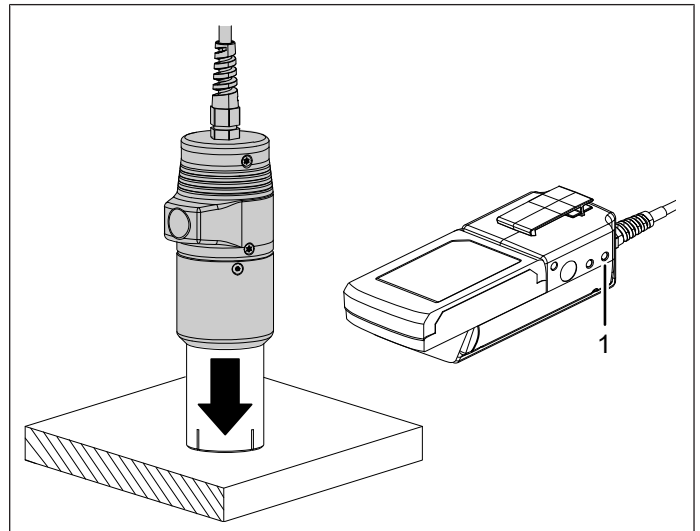


Fig. 6-7 Applying the device

⚠ DANGER



Intense UV/blue light!

During operation the light source generates intense UV/blue light (wavelength 395~410 nm). On a long-term basis wavelengths of 450 nm to 470 nm are also possible. Emerged UV radiation can be deflected by surrounding objects. There is a risk of eye injury and sunburn.

- Never directly look into the bright light source without protection!
- Never aim the device at people!
- When applying fasteners to translucent or reflecting material, make sure that no one is located in the range of the UV/blue light.
- Wear UV safety glasses when working on the device.

7. Press and hold the release button.
 - ⇒ The light source is switched on and spotlights the adhesive.
 - ⇒ After the specified exposure time the light source switches itself off and an acoustic signal is emitted.
 - ⇒ The adhesive has hardened and the ONSERT® is now connected to the workpiece.

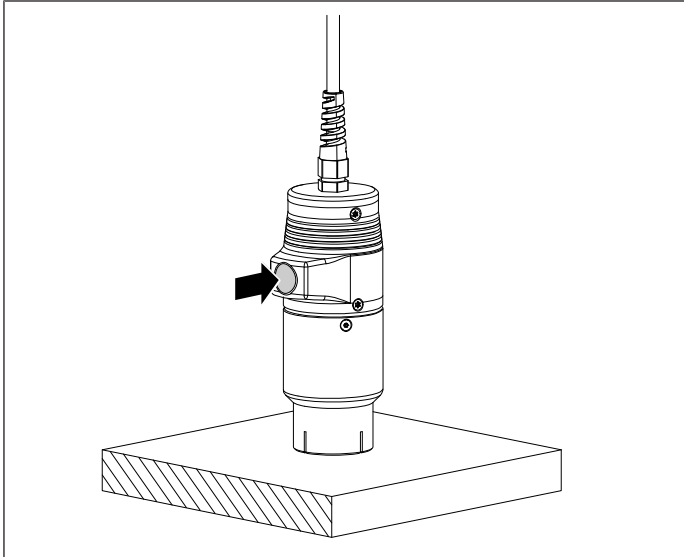


Fig. 6-8 Spotlighting the ONSERT®

8. Pull the device off the ONSERT®.

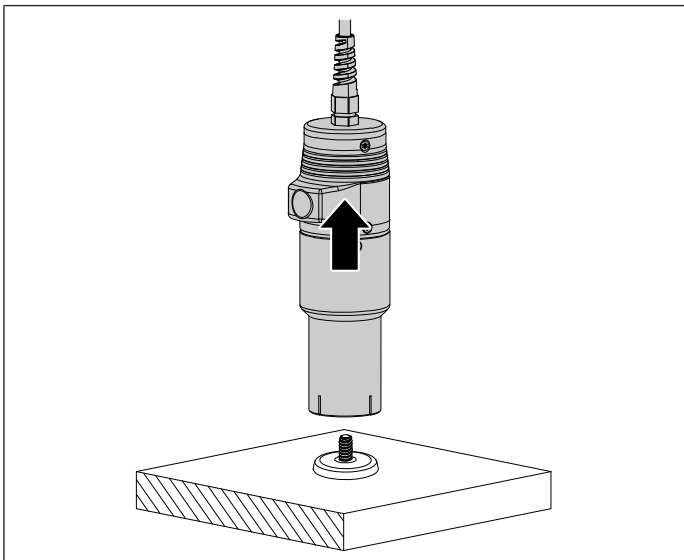


Fig. 6-9 Lifting off the device

9. Check the joint in accordance with chapter 6.3, page 25.

6.3 Joint quality

6.3.1 Joint check

Carry out regular visual inspections of the joint. To do so, inspect several joints consecutively.

A correct joint must meet the following criteria:

- The ONSERT® is positioned evenly on the workpiece surface.
- The adhesive is spread evenly over the entire head.
- The adhesive has hardened evenly.
- The workpiece was neither deformed nor damaged during the setting process.

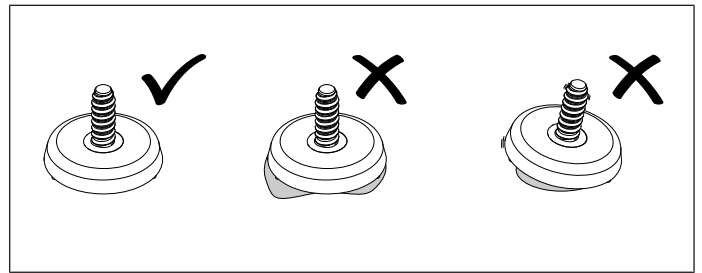


Fig. 6-10 Joint check

6.3.2 Faults in the joint, causes and remedial measures

If you doubt the joint is correct, systematically compare the parameters of the joining points to the target values or contact the Böllhoff field service in charge or the supervising project manager.

7 Faults, causes and remedial measures

7.1 Safety information to be observed in the event of a fault

Repair tasks must only be carried out by personnel with corresponding qualifications (chapter 4.2, page 10).

In the event of malfunctions, immediately shut down the device. Have the fault remedied immediately!

Prior to starting work, put the device out of operation according to Shutdown. Otherwise, there is a risk of injury!

If you need to loosen screwed connections during maintenance, servicing and repair work, screw them down again after completion of this work and check them for tight fit (observe driving torques if necessary).

7.2 Warnings and fault messages

In the event of a fault, the device is stopped and the LEDs (1, 2) will be illuminated or flash red. A list with all LED codes is provided in the annex (see chapter 12.1, page 33).

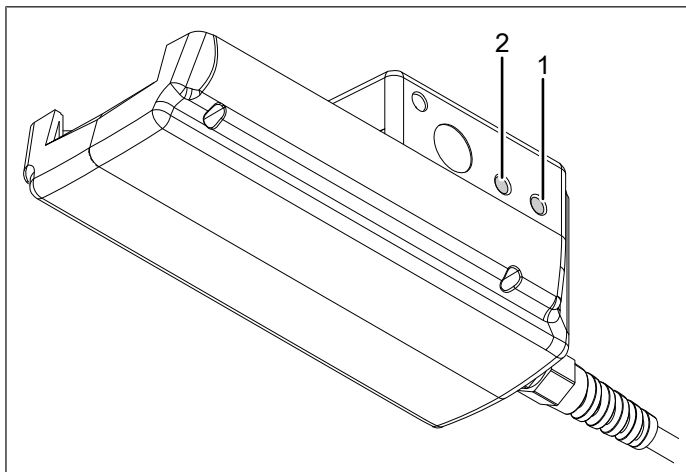


Fig. 7-1 Fault indication

The following table list faults you can remedy yourself whilst observing the safety information provided in chapter 4, page 10.

If faults occur, which you cannot eliminate, please contact the Böllhoff field service in charge or the supervising project manager.

The following warnings and fault messages can be displayed in the *TOOL STATUS* screen (see chapter 6.1, page 19):

Tab. 7-1 Warnings and fault messages

Fault / warning	Cause	Remedial measures
Start temperature	Start temperature exceeded	Allow the device to cool down.
Max. LED current	Max. permissible LED current exceeded	Remove the battery and put it back in. Should the error still be displayed after restart, please contact the Böllhoff field service in charge or the supervising project manager.
LED target value	Target light exposure current not reached	Remove the battery and put it back in. Should the error still be displayed after restart, please contact the Böllhoff field service in charge or the supervising project manager.
Main control	Hardware fault in this power branch	Service measures required. Please contact the Böllhoff field service in charge or the supervising project manager.
LED control	Fault in the LED control (hardware / wiring)	Service measures required. Please contact the Böllhoff field service in charge or the supervising project manager.
Battery signal error	Battery defective	Replace the battery with a spare battery.
Battery voltage too low	Undervoltage	Charge the battery. Should the error still be displayed after restart, replace the battery with a spare battery.
Control time	Joining process aborted before the end of the exposure time	Remove the set ONSERT®. Repeat the joining process in accordance with chapter 6.2, page 24.
Overtemperature	Max. permissible temperature of the light source exceeded	Allow the device to cool down.

8 Maintenance

NOTICE

Servicing after 50,000 joining processes!

The service tasks depend on your use of the device. Please contact responsible Böllhoff project manager to discuss the required measures.

8.1 Safety information for maintenance and repair

Prior to starting work, put the device out of operation according to chapter 9, page 30. Otherwise, there is a risk of injury!

If you need to loosen screwed connections during maintenance, servicing and repair work, screw them down again after completion of this work and check them for tight fit (observe driving torques if necessary).

8.2 Charging the battery

⚠ WARNING



Electrical shock hazard!

Risk of injury due to electric shock when touching live parts.

- Prior to use, check the battery for visible damage.
- If you detect any damage, do not use the battery!

Check the power cable and mains plug for damage. If you detect any damages, do not try to take the charger back into operation. To avoid safety hazards, do not perform any repair work. Send the device to a specialist electrical company or to Böllhoff Produktion GmbH to have the power cable and mains plug replaced.

Foreign batteries must neither be used with the device nor charged using the charger.

Remove the battery from the device and insert it in the charger. It takes approx. 40 minutes until the battery is fully charged.

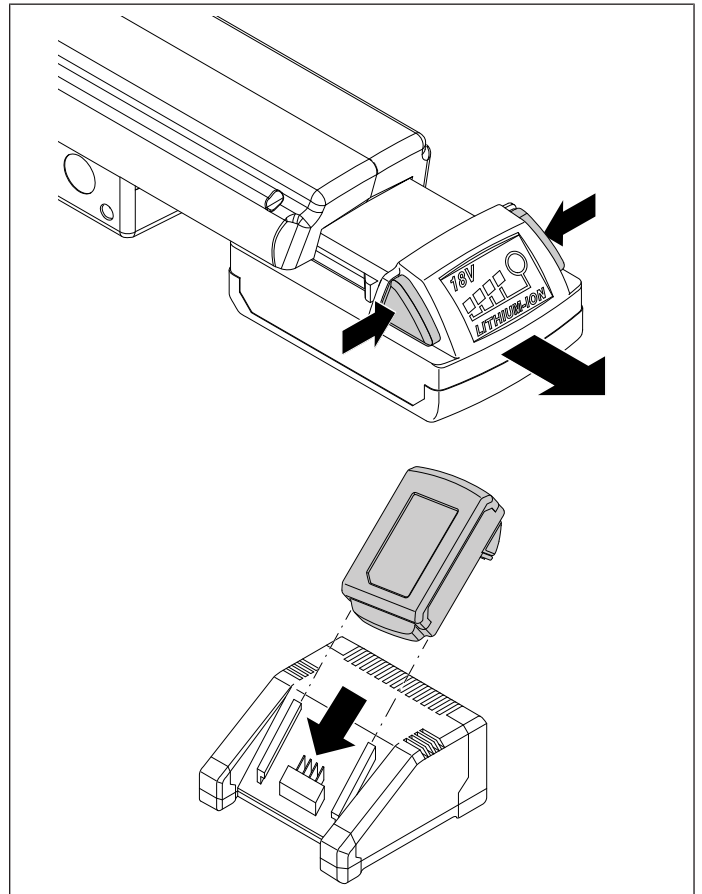


Fig. 8-1 Charging the battery

8.3 Cleaning the device

Clean the device with a soft, damp, lint-free cloth. Make sure that no moisture can penetrate into the housing. Do not use sprays, solvents, alcohol-containing cleaning agents or abrasive cleaners to dampen the cloth, but only clear water.

8.4 Removing adhesive smudges

Use a cleaning agent suitable for the used adhesive to remove smudges. Information regarding the safe handling of the cleaning agent can be obtained from the cleaning agent's safety data sheet.

Hardened adhesive at the protective screen can only be removed mechanically, e.g. by use of a manual deburring tool.

Use DELOTHEN EP cleaner for non-hardened adhesive.

8.5 Measuring the luminous intensity

⚠ DANGER



Intense UV/blue light!

During operation the light source generates intense UV/blue light (wavelength 395~410 nm). On a long-term basis wavelengths of 450 nm to 470 nm are also possible. Emerged UV radiation can be deflected by surrounding objects. There is a risk of eye injury and sunburn.

- Never directly look into the bright light source without protection!
- Never aim the device at people!
- When applying fasteners to translucent or reflecting material, make sure that no one is located in the range of the UV/blue light.
- Wear UV safety glasses when working on the device.

Measuring the luminous intensity can be effected by use of any customary light meter. Due to the variety of influencing factors, the measured absolute values are only comparable in case of lighting with the same sensor positioning and identical settings in the *TOOL STATUS* screen. Described below is the procedure based on light meter DELOLUXcontrol. When using another light meter, make sure that the distance between LED and light meter is identical for every measurement.

Prerequisite

- You have the qualification as "Operator" (see chapter 4.2, page 10).
1. Place the light meter DELOLUXcontrol (1) on a suitable even surface.
 2. Fit the attachment (2) to the light meter DELOLUXcontrol.
 3. Place the device (3) on the attachment and push the protective screen (4) down all the way to the mechanical stop.
 - ⇒ The green LED at the control unit housing goes out.

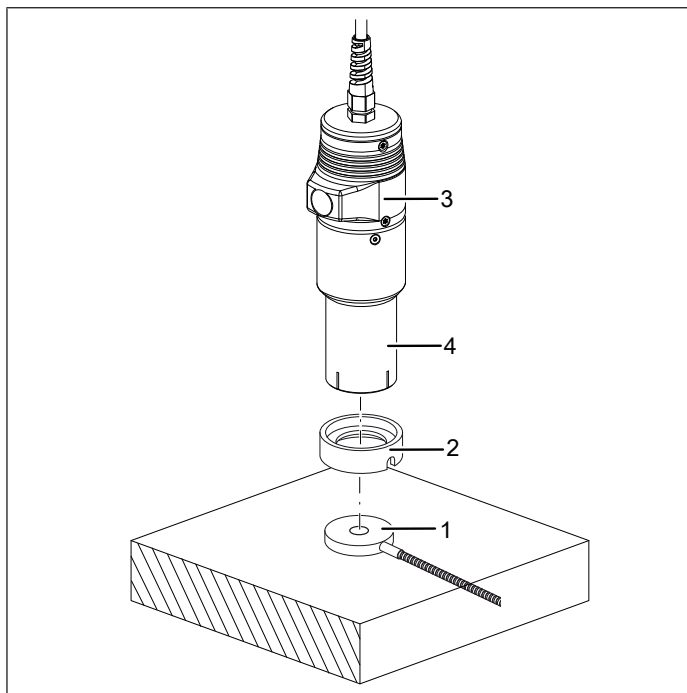


Fig. 8-2 Measuring the luminous intensity

4. Press and hold the release button.
 - ⇒ The light source will be switched on.
5. Read the measured value from the light meter whilst the light source is switched on.
 - ⇒ After the specified exposure time the light source switches itself off and an acoustic signal is emitted.
 - ⇒ When light source is switched off, the light meter will indicate a luminous intensity of "0".
 - ⇒ When the LEDs of the light source have lost 10 % of their initial power, the light source has to be replaced.

8.6 Installing a firmware update

If necessary, Böllhoff Produktion GmbH will send you an email containing a new firmware version as *.hex file.

Prerequisites

- You have the qualification as "Setter" (see chapter 4.2, page 10).
 - The firmware file (*.hex) is saved on your system.
1. Connect the device without battery to the PC using the supplied USB cable.

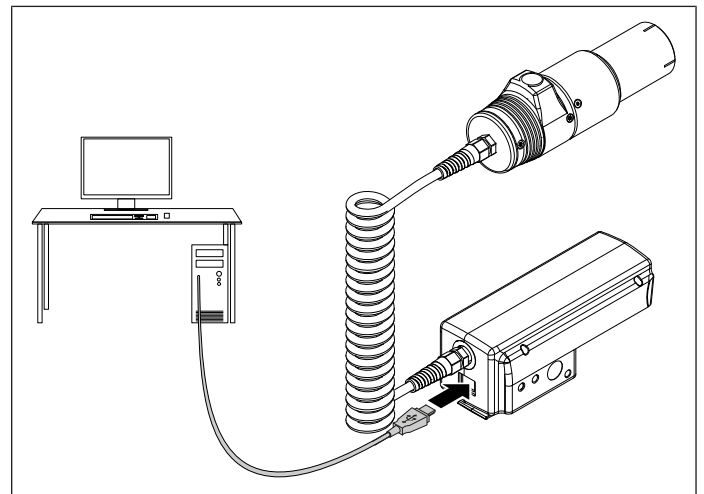


Fig. 8-3 Connecting the device without battery to a PC via USB cable

2. Open the ONSERT® software on the PC.

3. Copy the link (path) to the firmware file into the input field (2).

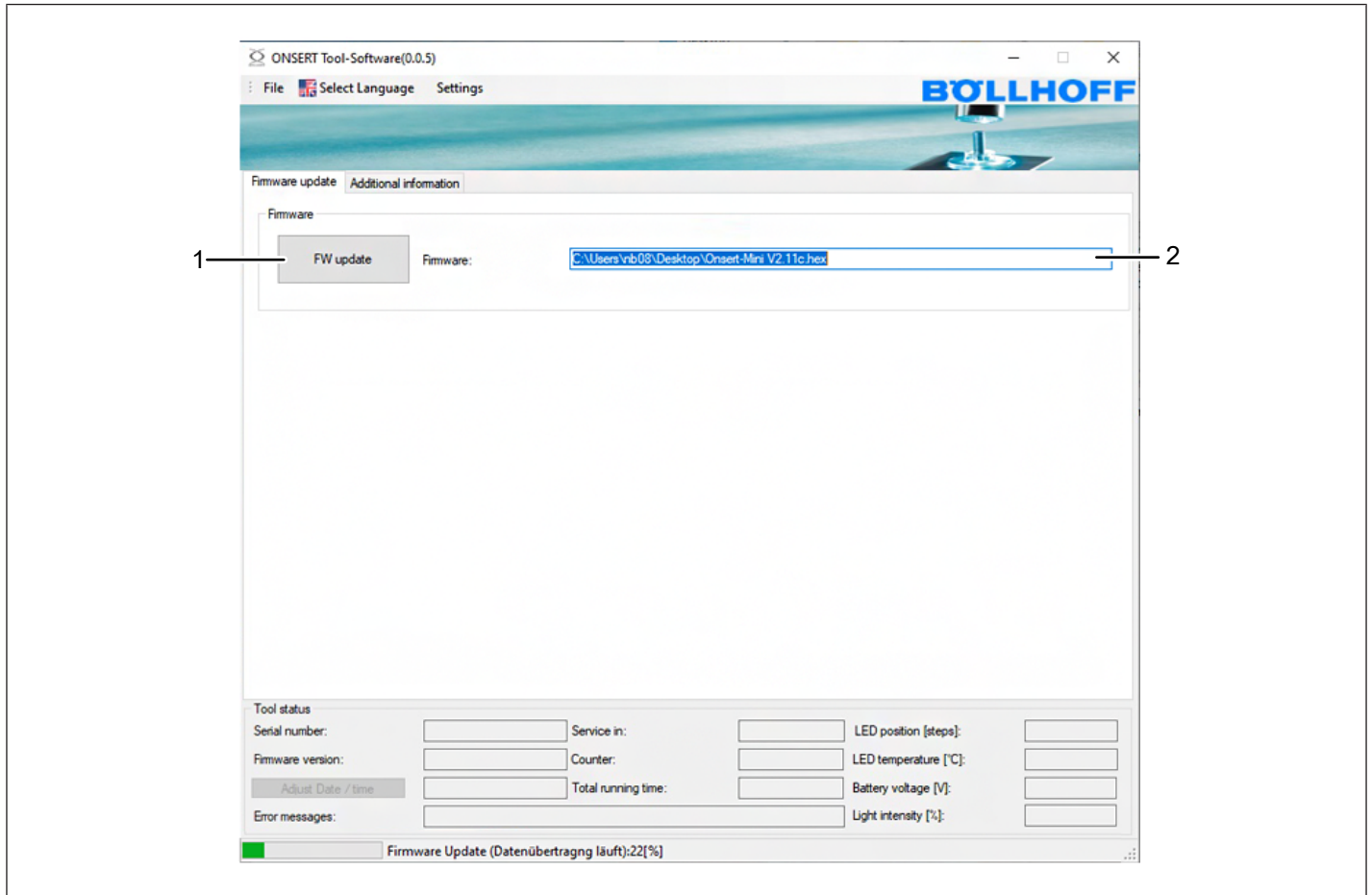


Fig. 8-4 Firmware screen

4. Press and hold the release button at the device.
5. Insert the battery into the control unit housing whilst the release button is pressed.
 - ⇒ The LEDs at the control unit housing are flashing red.
6. Start the firmware update using >>FW update<< (1).
 - ⇒ The firmware update is carried out. Do not disconnect the USB connection and leave the battery in the device.
 - ⇒ The progress will be displayed in the status bar at the bottom.
 - ⇒ Upon completion of the process, the installation will be confirmed.

9 Shutdown

Remove the battery from the device.

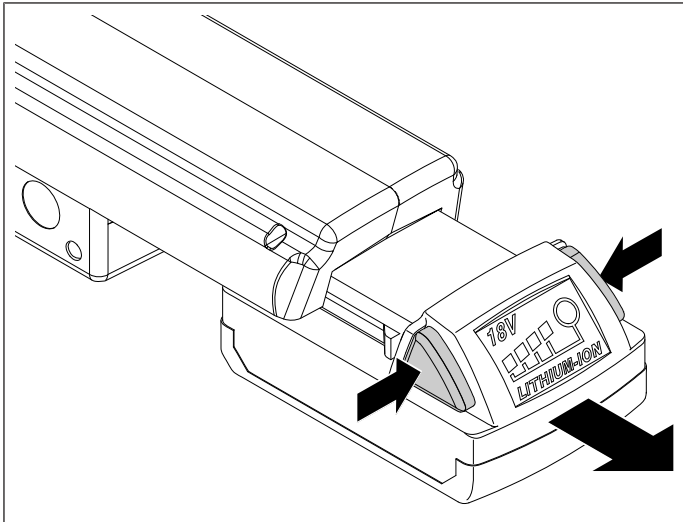


Fig. 9-1 Removing the battery

For packing, transport, storage and disposal of the device please continue reading in chapter 10, page 31 and chapter 11, page 32.

10 Packing, transport and storage

For transport and storage pack the device including accessories into the carrying case.

Store the device in dry surroundings at temperatures between -10 °C and +60 °C. If applicable, observe the storage conditions of the adhesive kept in the case.

Generally store adhesives in dry and light-protected surroundings. More detailed information regarding storage can be gathered from the adhesive's data sheet.

11 Disposal

Observe the applicable national disposal regulations!



The icon with the crossed-out waste bin on waste electrical or electronic equipment stipulates that this equipment must not be disposed of with the household waste at the end of its life. You will find collection points for free return of waste electrical and electronic equipment in your vicinity. The addresses can be obtained from your municipality or local administration. For further return options provided by us please contact Böllhoff Produktion GmbH. The contact details of the device manufacturer are provided on the front page.

The separate collection of waste electrical and electronic equipment aims to enable the re-use, recycling and other forms of recovery of waste equipment as well as to prevent negative effects for the environment and human health caused by the disposal of hazardous substances potentially contained in the equipment.



Li-Ion

In the European Union, batteries and accumulators must not be treated as domestic waste, but must be disposed of professionally in accordance with Directive 2006/66/EC of the European Parliament and of the Council of 6 September 2006 on batteries and accumulators. Please dispose of batteries in a manner appropriate to the relevant legal requirements.

Empty glue cartridges, old adhesive and cloths soiled with adhesive are to be correctly disposed of at special collection stations!

Prior to disassembly, the unit must be shut down (see chapter 9, page 30).

For disposal, disassemble the unit and separate it into its individual material groups:

- plastics
- non-ferrous metals (e.g. copper scrap)
- electric scrap (motors)
- steel

Dispose of all materials according to the national legislation!

To dispose of the packaging material, separate it into the individual material groups:

- plastics
- metal
- wood
- paper/cardboard

12 Annex

12.1 LED codes

12.1.1 LED codes control unit housing

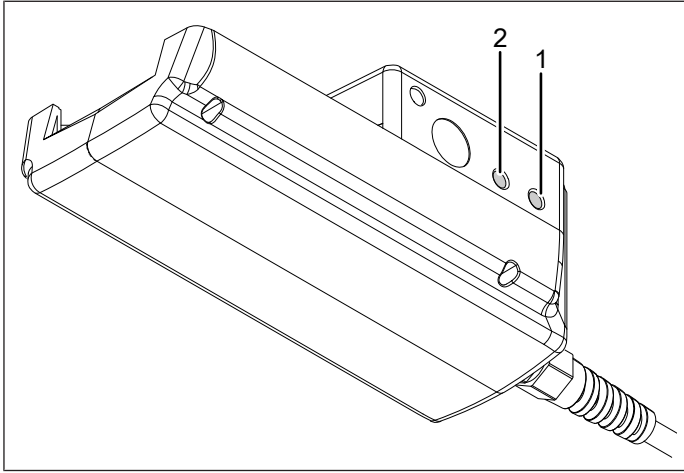


Fig. 12-1 LED codes at the control unit housing

Tab. 12-1 LED codes at the control unit housing

Status / operating condition / error state	LED (1)			LED (2)		
	permanently illuminated	briefly illuminated (approx. 3 s)	flashing	permanently illuminated	briefly illuminated (approx. 3 s)	flashing
Battery is being inserted ON after sleep-mode	green					
Empty battery				red		
Contact pressure light barrier front (goes out once the setting head has been pressed on completely)		green				
Maintenance mode	orange					
Programming mode (see chapter 8.6, page 28)			red			red
Current of LED lamps not OK		red				
Temperature specification for LED lamps not OK			red			
Timing of LED lamps (error will be set back automatically after 5 s)	red					

12.1.2 LED codes charger

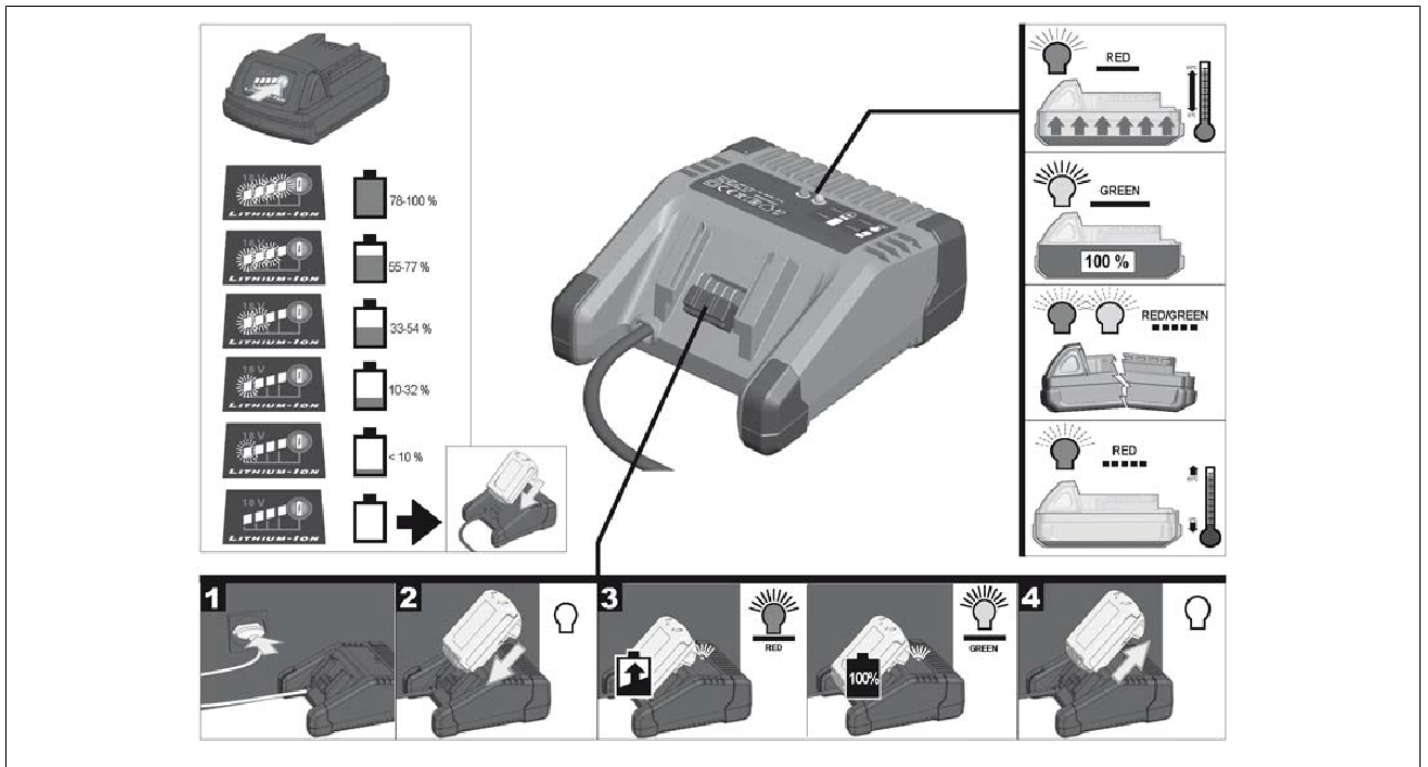


Fig. 12-2 LED codes charger

12.2 Declaration of conformity



**Declaration of conformity
(translation of the original)**

in accordance with the EC Machinery Directive 2006/42/EC, Annex II, Part 1,
Section A

Herewith we declare that the following machinery complies with all provisions of the EC Machinery Directive 2006/42/EC.

Designation of the machinery:	ONSERT® Portable MINI
Machine type:	Portable setting device for the attachment of ONSERT® tacks
Year of construction:	2019
The following EC directives were applied:	Machinery Directive 2006/42/EC as of 17 May 2006 Directive 2014/30/EU on electromagnetic compatibility as of 26 February 2014
The following harmonised standards were applied:	EN 12100: 2010 EN ISO 13849-1:2015 EN 55014-1:2017 EN 61000-6-2:2005 EN 61000-6-3:2007+A1:2011 EN 60529:1991+A1:2000+A2:2013 EN 12198-1:2000+A1:2008 EN 62841-1:2016
Applied national standards and technical specifications:	DIN VDE 0100
Manufacturer:	Joiner's Bench GmbH Adler Straße 17b D – 42859 Remscheid
On behalf of:	Böllhoff Produktion GmbH Archimedesstraße 1 - 4 D – 33649 Bielefeld
Authorised representative of the technical documentation:	Dirk Asmuß
Place, date:	Remscheid, 29/04/2019
Signature: Identification of signer:	 _____
	Luciano Sgarra, Managing Director

BÖLLHOFF

Passion for successful joining.



Böllhoff Group

Innovative partner of fastening technology with assembly and logistics solutions.

The contact details of our worldwide locations can be found at www.boellhoff.com.

Böllhoff Automation GmbH

Archimedesstraße 1–4 | 33649 Bielefeld | Deutschland
Telefon: +49 521 4482-06 | Fax: +49 521 521 4493-64
info@boellhoff.com | www.boellhoff.com

Technical modifications reserved.
Reprint, in extracts or completely, only with explicit authorisation.
Observe protection notice according to ISO 16016.