



User Manual

DUSTLIGHT MINI

Particulate matter analyser



More information:

buzz@3bz.co.uk
+44 191 829 9930

1	Product and manufacturer	3
1.1	Product.....	3
1.2	Manufacturer.....	3
2	About these operating instructions	4
2.1	Purpose	4
2.2	Availability.....	4
2.3	Warnings	4
3	Basic safety instructions.....	5
3.1	Intended use	5
3.2	Reasonably foreseeable misuse	7
3.3	Tasks and qualifications of staff.....	8
3.4	Notes on occupational health and safety.....	8
4	Description of the DUSTLIGHT MINI	9
4.1	General product description	9
4.2	Operation and utilization	9
4.3	Optical display devices.....	11
4.4	Acoustic warnings	15
4.5	Interfaces.....	15
5	Assembly	16
6	Commissioning and setup	18
6.1	Commissioning the DUSTLIGHT MINI.....	18
6.2	Setting up DUSTLIGHT MINI	18
6.3	Setting up the app	20
7	Operation.....	21
7.1	Warning of residual risks	21
7.2	Charging the DUSTLIGHT MINI	21
7.3	Switch on DUSTLIGHT MINI.....	22
7.4	Switch off DUSTLIGHT MINI	22
7.5	Use DUSTLIGHT MINI	22
8	Maintenance.....	23
8.1	Loss of warranty claims.....	23
8.2	Maintenance and calibration.....	23
8.3	Repair	24
8.4	Troubleshooting.....	25
9	Cleaning.....	27
10	Storage	29
11	Waste disposal.....	30

1 Product and manufacturer

1.1 Product

The following product is described in these operating instructions:

DUSTLIGHT MINI

Model number: 23003.3

Seriennummer: _____

You can enter the serial number here yourself; you will find it on the type shield on the back of the device at this point:



Please always refer to this information when enquiring about warranty and maintenance.

2 About these operating instructions

Please read these operating instructions carefully before commissioning. To ensure proper and safe use of Dustlight, it is essential to follow the descriptions and recommendations in these operating instructions.

2.1 Purpose

These operating instructions contain information on the safe, trouble-free, and economical use of Dustlight. This information is intended for people who carry out tasks in connection with Dustlight.

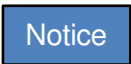
2.2 Availability

The operator shall make these operating instructions or extracts thereof available to persons who carry out tasks with or in connection with Dustlight. The operator shall keep these operating instructions or extracts thereof within easy reach in the immediate vicinity of Dustlight. If the Dustlight is handed over to another person, the operator shall pass these operating instructions on to that person.

2.3 Warnings

These operating instructions contain warnings of residual dangers.

The categorization of the warnings is based on the severity of the damage that can occur if the warnings are ignored and the recommended actions are not followed.

Symbol	Meaning
	Warning: Indicates a potentially hazardous situation. If this is not avoided, death or serious injury may result.
	Consequence of non-compliance: Material damage or environmental damage possible.

3 Basic safety instructions

- Read these operating instructions and those of the associated products carefully before using the product.
- Follow the instructions for use exactly. All users must fully understand the instructions and follow them exactly. The product may only be used in accordance with its intended use.
- Do not dispose of the instructions for use. Storage and proper use by the user must be ensured.
- Local and national regulations concerning this product must be always followed.
- Maintenance work on the device may only be carried out by the manufacturer itself or by specialized personnel trained by the manufacturer. Otherwise, Latai accepts no responsibility for the proper functioning of the product after repair and for the validity of approvals.
- Only original Latai parts and accessories may be used for maintenance work, otherwise the functionality of the product could be impaired.
- Check the appliance before use. Faulty or incomplete products must no longer be used, as must appliances that have been modified. In such cases, contact your local distributor immediately for a repair.
- Although the device is designed for harsh environments such as construction sites, it should be handled with care like all optical and electrical devices. After a fall or other mechanical impact, the device must be checked by the manufacturer or your local distributor.
- If faults or failures occur in the product or product parts, stop using the product immediately and inform your local distributor.
- Store the product only at temperatures between 0°C and 40°C and away from solvents, solvents, exhaust gases or fuels.
- Only use the product indoors. Protect the Dustlight from rain and moisture.
- Do not use the product in potentially explosive atmospheres.
- Do not open the product or throw it into a fire.

Attention laser radiation - Class I	
	This device fulfils the safety requirements of laser class 1 in accordance with IEC 60825-1:2014 and is classified as safe. Do not modify or disassemble the device as this can lead to significant safety risks.

3.1 Intended use.

The DUSTLIGHT MINI is intended exclusively for the following use:

The Dustlight is a device for monitoring the concentration of particulate matter at workplaces and is used exclusively for measuring particulate

matter in the air, visualizing the measured values and recording this data (logging function). It is intended for use in work rooms or other locations in buildings on the premises of a company, on construction sites and at similar workplaces in accordance with the German Workplace Ordinance (ArbStättV).

The device is designed to operate in various environments within specified environmental conditions and within its calibrated measurement ranges. Using the Dustlight outside of these parameters specified in the data sheet or for other measured variables than those intended can lead to inaccurate results and damage the device or its sensors.

The Dustlight is in no way intended for the purpose of process control or as the sole tool for workplace assessment. It only provides supporting information for the assessment of increased particulate matter concentrations and is not based on a gravimetric measuring principle. Therefore, it cannot be used for the comprehensive assessment of workplace conditions. It is a tool to support health and safety in the workplace but should not be used as the sole basis for deciding on safety measures.

If there are contradictory statements about the risk level between the Dustlight and the applicable occupational safety guidelines, the applicable occupational safety guidelines must always be followed. For personal protection, it is recommended to always follow the statement that requires or recommends stricter protective measures (safety principle).

Any use of the Dustlight that goes beyond the intended use is considered improper use. The manufacturer accepts no liability for damage resulting from such use. Intended use also includes observing and complying with all instructions in the documentation supplied with the product.

Any other use is not in accordance with the intended use.

3.2 Reasonably foreseeable misuse

The Dustlight is designed as a particulate matter monitor for use in commercial and industrial environments. While the device is optimized for these environments, we must consider some reasonably foreseeable misuses to ensure the safety and effectiveness of the product. The misuses described below represent some unauthorized uses of the appliance. However, this list is not exhaustive and does not claim to be complete.

Incorrect usage:

Ensure that both the air inlet and outlet are not covered by clothing or other objects at any time. In addition, the air inlet on the front of the DUSTLIGHT MINI should always point in the user's line of vision and be positioned close to the airways.

Dirty or damaged air inlet or air outlet:

The DUSTLIGHT MINI IS EQUIPPED with stainless steel filters at the inlet and outlet to protect the internal air ducting and sensors from coarse and excessive dust. Dirt can change the properties of the filters. If dirt or damage is detected on the filter, stop operating the appliance and replace the damaged, dirty or clogged filter immediately with an original spare part as described in the Maintenance section.

Use in non-target environments:

A foreseeable misuse could be that the Dustlight is used in environments that are outside its specification, such as in areas with excessive humidity, potentially explosive atmospheres or under the influence of splash water.

Overinterpretation of the measured values:

Users may mistakenly assume that the Dustlight can be used for comprehensive workplace assessment or as the sole tool for determining safety measures. However, the device is only intended as a tool for assessing fine dust concentrations. Furthermore, the device alone does not protect against excessive exposure to particulate matter, nor can it clean the air. Appropriate protective measures must always be taken by the person using the device and are their sole responsibility.

Use as an instrument for process control:

Another foreseeable misuse could be that users use the Dustlight for the direct control or regulation of work processes, although it is not intended for this purpose.

Carelessness or lack of concentration:

Users may fail to take the necessary protective measures due to carelessness or lack of concentration, even if the Dustlight indicates high concentrations of particulate matter and issues a warning. Naturally, the

Dustlight cannot check the implementation and effectiveness of suitable personal protective measures.

Incorrect or untrained staff:

The Dustlight is expressly intended only for users of legal age who have been trained in the use of the Dustlight.

3.3 Tasks and qualifications of staff

Work with and on the product may only be carried out by instructed people with the necessary knowledge and experience.

3.4 Notes on occupational health and safety

The operators of the DUSTLIGHT MINI are responsible for implementing the occupational health and safety obligations. The health and safety regulations of the country in which the DUSTLIGHT MINI is used apply.

The obligations include the following points:

- These operating instructions or extracts must be made available to all persons who carry out tasks with or in connection with the DUSTLIGHT MINI
- Provide the applicable documents to these persons.
- Instruction of persons regarding the intended use and misuse
- Instruction of persons regarding protective devices and supplementary protective devices
- Instruction of persons regarding residual risks

This list is not exhaustive and does not claim to be complete.

4 Description of the DUSTLIGHT MINI

This section contains information for a better understanding of the DUSTLIGHT MINI and its functions.

4.1 General product description

The DUSTLIGHT MINI is a fine dust measuring device with a direct and language-neutral display of the current dust level. The device was designed for orientating measurement in working environments where fine dust poses a health risk. The device is designed for portable and mobile use and works with an operating voltage of 5V, which is provided by an internal rechargeable battery. The Dustlight is used to monitor the concentration of fine dust particles in the air and provide users with direct feedback on the air quality in the workplace using a simple colour system in green, yellow and red and the integrated high-resolution colour display. Dustlight provides information about the size distribution of the particles but cannot give details about the material properties of the dust.

The Dustlight is an orientational measurement and does not replace the occupational exposure limit value measurement as part of the risk assessment.

4.2 Operation and utilization

The DUSTLIGHT MINI is intended exclusively for use by the following user groups in the utilization environments and operating modes described. In all other scenarios, it must be assumed that the device is not being used as intended.

Utilization groups:

Commercial and industrial users: The Dustlight is specially designed for use in commercial and industrial working environments. It is aimed at trained professionals who work in areas where it is important to monitor fine dust concentrations, such as on construction sites, in workshops or in industrial production facilities.

Utilization environment:

On roofed areas and in rooms enclosed on all sides: the Dustlight is optimized for use indoors, such as factory halls or workshops.

The device is not intended for use in splash water, including rain, in potentially explosive atmospheres or under extreme environmental conditions. The environment must correspond to the areas specified in the data sheet.

Operating modes:

The operating modes of the Dustlight can be divided into four states:

1. Setup

This mode is used to initialize and calibrate the device before use or after maintenance. This also includes establishing a Bluetooth connection with the Dustlight app.

2. Charging the battery

The Dustlight is connected to the mains via the magnetic charging cable and a USB power supply, and the internal battery is charged. While charging, the device can be in both measuring mode and standby mode.

3. Measuring mode

This is the normal operating mode of the Dustlight after it has been activated via the power button. In this operating mode, the LEDs on the luminous areas light up and the measurement is active. The activation time of the display and the measurement interval are configured by the setting in the app.

4. Standby

In this mode, the Dustlight does not measure, and the display and luminous areas are deactivated. Due to the integrated rechargeable battery, the device's electronics are still energized.

Notice

The Dustlight is not intended for process control or as the sole tool for comprehensive workplace assessment.

Intended use also includes compliance with all safety and operating instructions described in the documentation supplied with the appliance.

The precise definition of these types of use and operating modes is intended to ensure that the Dustlight is only used in suitable environments and by qualified, trained personnel.

Control elements:

The DUSTLIGHT MINI only has a single button as a control element, which is located on the right-hand side of the housing in the upper third. To protect it from dust, the button is integrated into the flexible part of the housing and is haptically labelled with an on/off symbol. The button distinguishes between a single, short press to navigate and a long press (hold down) to switch the device on and off.

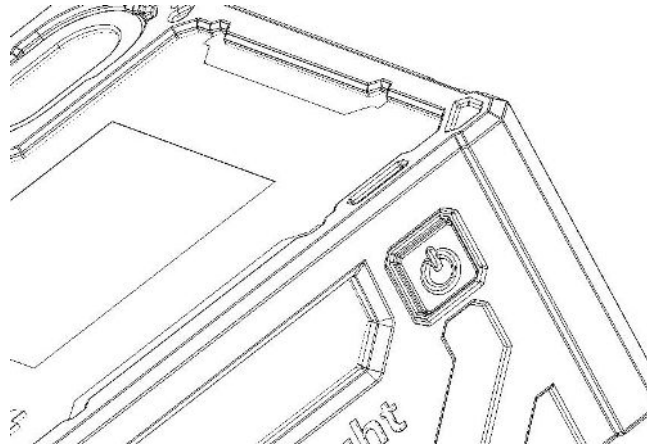


Illustration 1: Button for controlling the DUSTLIGHT MINI

4.3 Optical display devices

The Dustlight has two optical indicators, the luminous areas (1) and the display (2).

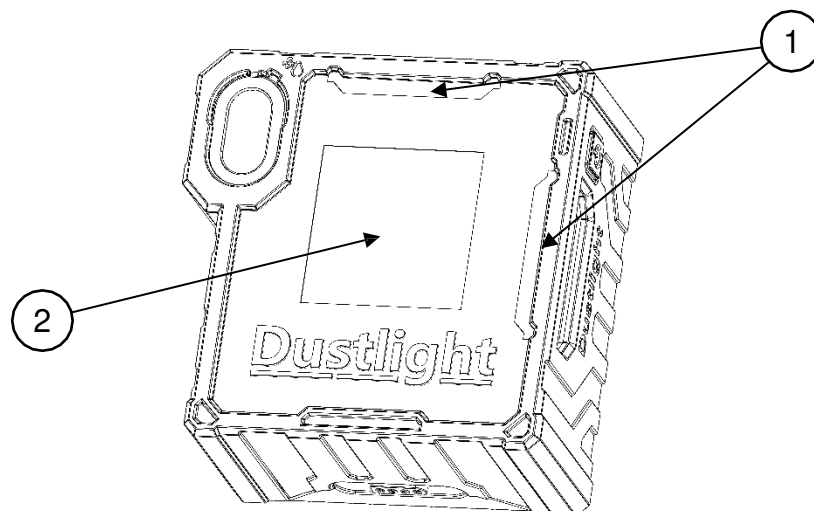


Illustration 2: Front view of the device

The luminous areas are located on the front, top and right-hand side of the device and can cover the RGB colour spectrum. The meaning of the colours in detail is shown in the following table:

Colour		Meaning
Green		The current measured value is below the set limit value, the dust load is in a low range.
Yellow		The first limit value has been reached, there is a clear exposure to fine dust particles. Preventive measures should already be taken here to reduce the release of dust.
Red		The second limit value was exceeded, and the dust concentration is in a range that is harmful to health in the long term. More effective measures should be taken to avoid dust and personal protective equipment should be worn if dust exposure cannot be avoided.
Blue		The device is waiting for confirmation of Bluetooth pairing with a smartphone and the Dustlight app. Please press the button on the Dustlight to confirm the connection.
Purple		There is an error on the device. Please check the display and try to rectify the fault using the help in section 8.4 or contact your local distributor.

The device also has a high-resolution 1.54" LCD colour display. In addition to the start page, the Dustlight has three other displays with different content, which are explained below.

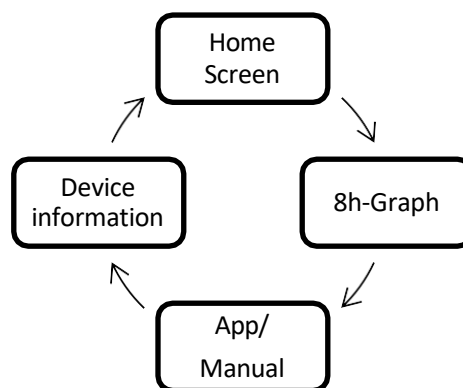
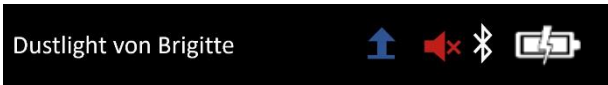


Illustration 3: Menu system of the Dustlight Mini

To switch between the displays, briefly press the side button to move one display to the right. After the fourth display, the first display appears again.

Status bar



1

2

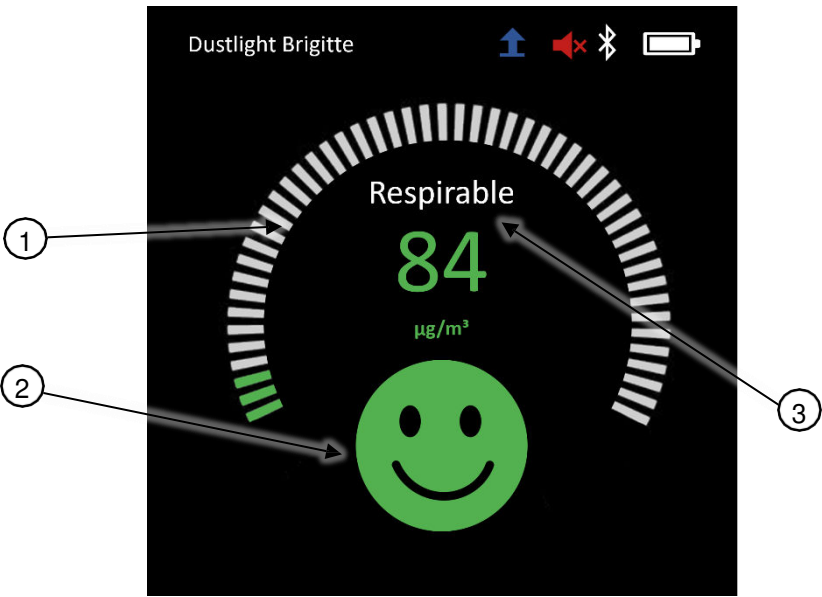
3

4

5

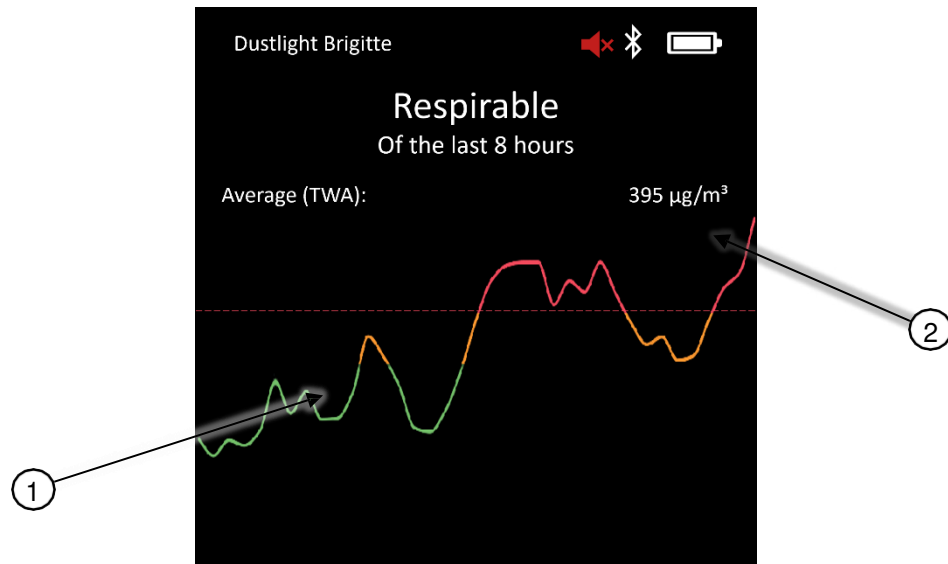
Meaning	
1	Device name
2	Synchronization with the app in progress
3	Acoustic warning is turned off
4	Bluetooth is active
5	Battery charge status, the flash indicates that the battery is currently being charged.

Home page



Meaning	
1	Scale representation of the current particulate matter pollution
2	Graphic display of the current warning level
3	Value of the current A-dust concentration in µg/m³

Course



Meaning	
1	Time course of the measured values
2	Time-weighted average TWA of the last 8 hours

More screens



The QR code displayed can be scanned with a mobile phone (some models require an app for this) and takes you to your Dustlight website. Here you will find further information, the operating instructions, and the download links for the app for Android and iPhone.



The last screen displays device information, including the software version of the Dustlight, the country in which the Dustlight is operated and its applicable limit values for the particulate matter content of the air, which are automatically adopted via the app. The UTC time and date of the device are also displayed. If these deviates too much from the actual time, please synchronize your Dustlight via the app. The values are displayed in the app in your correct time zone.

4.4 Acoustic warnings

The Dustlight features an acoustic warning with a volume of 85 dB at a distance of 10 cm. This can be deactivated via the app if required.

Meaning of the signalling tones	
One short beep	First warning level reached, the device changes from green to yellow and confirms this with a single beep.
Three short beeps	The second warning level is reached and the device changes from yellow to red and confirms this with three short beeps in quick succession.

4.5 Interfaces

The DUSTLIGHT MINI has a four-pin magnetic connection on the underside of the device. This is used to supply the device with power via the pin connector of the original USB charging cable. Due to its design, the connection is protected against dirt, splash water and reverse polarity. The measured values can also be transferred to a connected PC via the USB cable.

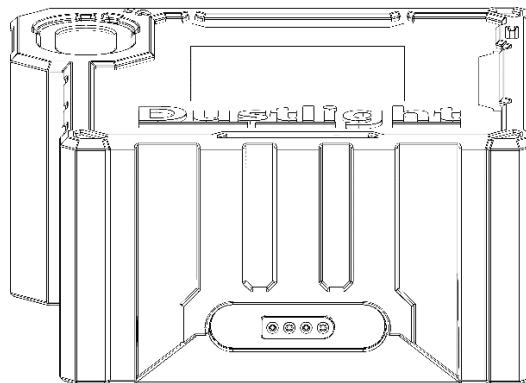


Illustration 4: Charging connector of the DUSTLIGHT MINI

To connect to the free Dustlight app, the device has Bluetooth. Further information on downloading, setting up, pairing, and using the app can be found in section 6.3 App.

5 Assembly

The appliance is delivered ready for use and no further assembly steps are required before commissioning.

The Dustlight is supplied with a plastic clip that can be used to attach it to clothing.

Disassembling the clip

To remove the clip, loosen the Phillips screw on the back of the device in the clip by turning it anticlockwise. The clip and the screw can now be removed and replaced with the Klick Fast® connector or a new clip.

Mounting the Klick-Fast connector

To do this, insert it into the cloverleaf-shaped recess on the back of the device in the orientation shown and secure it by turning the enclosed screw clockwise. Make sure that the U-shaped opening of the adapter points towards the top of the Dustlight.

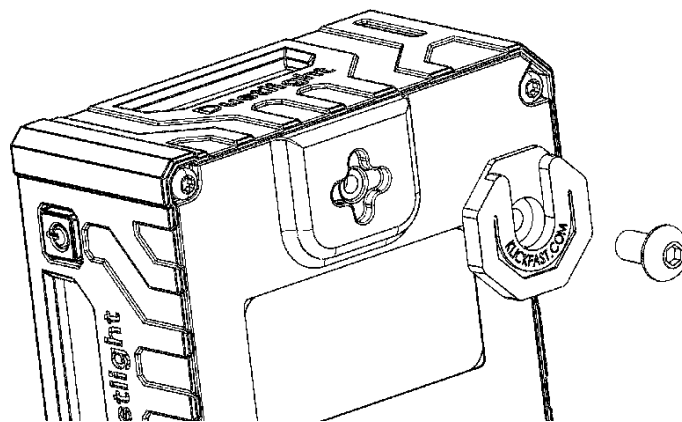


Illustration 5: Mounting the Klick-Fast connector

The screws supplied are already coated with locking lacquer to prevent accidental loosening of the screw. If the screw is opened several times, we recommend replacing it with a removable locking lacquer or using a new screw.



Caution! Only use the screws supplied and never use longer screws than intended. Failure to do so may result in serious damage to the appliance and injuries. Do not use permanent screw locking varnish.

Klickfast system

If a fall-proof attachment to clothing, helmets or stationary equipment is required, this clip can be exchanged for our Klick Fast® connector, allowing the Dustlight to be used with all certified Dustlight accessories from the Klick Fast® range.

To insert the Dustlight with mounted connector simply slide it in the accessory until you hear a clicking sound.

To remove turn the Dustlight 180 degrees and slide it out of the accessory.

The following accessories are available:

Item number	Name
23004.1	Klick Fast® - Leather loop for belts
23004.2	Klick Fast® - Leather loop for belt 5 cm
23004.3	Klick Fast® - Leather loop for belt 10 cm
23005.1	Klick Fast® - Replacement clip
23006.1	Klick Fast® - Bracelet black
23006.2	Klick Fast® - Bracelet bright yellow
23006.3	Klick Fast® - Bracelet bright orange
23007.1	Klick Fast® - Clothing fastening
23008.1	Klick Fast® - Chest strap
23009.1	Klick Fast® - Leather strap
23010.1	Klick Fast® - Screw-On dock
23011.1	Klick Fast® - Connector for accessories
23012.1	Klick Fast® - Stick on adapter black
23012.2	Klick Fast® - Stick on adapter bright yellow
23012.3	Klick Fast® - Stick on adapter bright orange
23030.1	Magnetic charging cable
24001.1	USB charger

6 Commissioning and setup

6.1 Commissioning the DUSTLIGHT MINI

The battery must be fully charged before use. To do this, remove the Dustlight and the supplied USB charging cable from the packaging and charge it as described in *section*.

Before each start-up, check that the appliance, in particular the air inlet and air outlet grilles, are free from visible **damage**. If not, contact your local distributor for repairs or replace the air grille yourself as described in 7.2 Charging the DUSTLIGHT MINI.

Before each use, check that the appliance, in particular the air inlet and air outlet grilles, are free of visible **dirt** and clean them with a damp cloth or brush. If there is dirt such as dried paint on the air inlet grille that cannot be removed, replace it as described in section 9 Cleaning

6.2 Setting up DUSTLIGHT MINI

The Dustlight can be used immediately after purchase and does not require calibration, setup or connection to the Dustlight app to start measuring.

However, to be able to use the full range of functions of the Dustlight, we strongly recommend downloading and setting it up via the app, as this is the only way to make settings on the device and visualize the measured values.

The following parameters can be adjusted via the app:

Limit values:

The preset limit values above which the Dustlight warns the user correspond to the workplace limit values for Germany valid at the time of delivery. The default setting for the upper limit value (switch to the red warning display) is therefore 1250 µg/m³, for the lower limit value (switch to the yellow warning display) 125 µg/m³ (corresponds to 10% of the applicable limit value). The applicable limit values for other countries can be selected as the default setting in the app if the Dustlight is operated outside Germany. In addition, the values can also be customized to your own requirements.

Notice

Despite careful checking, it cannot be guaranteed that the limit values stored in the app always comply with the latest regulations due to the constantly changing legal framework. For this reason, the limit values set for the colour change are to be understood as examples. The responsibility for researching and correctly setting the limit values always lies with the user and not with the manufacturer of the Dustlight.

Operating modes

The Dustlight has various operating modes that influence the measuring interval, brightness and therefore the battery life. In addition to the standard

profile, which is activated ex works, the device has a continuous and an energy-saving mode.

All modes distinguish between active and passive operation. After switching on, the device is in active mode, after a certain time it switches to passive mode, in which it continues to measure and warn, but depending on the mode, different measures are taken to save energy. As soon as the button is pressed, the device switches back to active mode. The following table provides an overview of the different modes:

Operating mode:	Continuous	Standard	Eco
Change from active mode to passive mode after	5 minutes	5 minutes	30 seconds
Measuring interval Active Mode	every second	every second	every second
Measuring interval Passive Mode	every second	60 seconds	60 seconds
Bluetooth	Permanently activated	Activated for 5 minutes after last button press	Activated for one minute after last button press
Light brightness Active Mode	high	high	low
Light brightness Passive Mode	high	high	low
Display brightness Active Mode	high	high	low
Display brightness Passive Mode	low	Display off	Display off
Battery life	up to 7 hours	up to 20 hours	up to 40 hours

In addition to the mode, the brightness of the illuminated surfaces and the display can also be adjusted to your own preferences via the app.

6.3 Setting up the app

The app is available to download free of charge from the Google Play Store and the Apple App Store under the name "DUSTLIGHT".



The following functions can be used, and the device configured using the Dustlight app:

- Display of the current particulate matter values for A-dust and the PM10 fraction of E-dust as well as recommendations for action
- Synchronization, storage, and display of historical values
- Graphical processing of the measured values
- Option to export the measured values as a .csv file.
- Configuration of limit values, brightness, measuring intervals and operating modes
- Configuration of the acoustic warning and the device name
- Overview of sensor service life and maintenance intervals, easy booking of services
- Update the device firmware.
- Knowledge database on dust as a health hazard and the right protection
- And many more functions in the future...

To pair the Dustlight with the app, follow the instructions in the app after downloading. By default, the Dustlight is ready for pairing for five minutes after switching on and pressing the button and can be found via the app. You can recognize this by the Bluetooth symbol in the status bar on the Dustlight screen. Tap the green button in the app to start the search. As soon as your Dustlight is displayed in the list, select it. The device will then flash blue and show the pairing request on the display. Please press the button on the Dustlight to confirm the pairing. The pairing is now complete, and you can use the app with your Dustlight.

If your device is not in the list of devices found in the app, make sure that Bluetooth is enabled on your mobile device and the Bluetooth icon is displayed in the Dustlight status bar. Otherwise, press the side button on the Dustlight or restart it until the symbol appears and try the search again via the app.

7 Operation

The Dustlight is used to analyse the exposure of workers to harmful particles and can therefore help to detect potential health risks by continuously monitoring air quality and subsequently minimizing them by taking appropriate protective measures.

In addition to dust-generating work in enclosed spaces, such as during construction, renovation or refurbishment projects, there are many other conceivable application environments for the Dustlight. Applications can include production facilities, factories, and other industrial environments where dust and particles are generated during many processes. Warehouses and storage areas can also be sources of dust, especially if dry materials are stored or handled there. A particulate matter monitor can help to monitor air quality in such environments and provide early warning of potential problems. This section contains information about the safe use of the DUSTLIGHT MINI.

7.1 Warning of residual risks

Although these operating instructions provide detailed instructions for the safe use of the Dustlight fine dust monitor, there may be residual risks that are not explicitly mentioned in these instructions. These residual risks can occur unpredictably during operation and represent potential hazards. Always remain alert and pay attention to your surroundings.

The Dustlight is intended to provide you with a general overview of the concentration of particulate matter in the environment by means of indicative measurements. It has not been developed for use as an official measuring device for official or legal workplace measurements. In the event of regulatory requirements or legal obligations to carry out fine dust measurements, we recommend that you contact qualified experts and accredited measurement technicians. Only they can perform the required measurements in accordance with applicable standards and regulations.

Regular calibration and maintenance must be carried out in accordance with the manufacturer's instructions to guarantee long-term accuracy.

7.2 Charging the DUSTLIGHT MINI

Only use the magnetic charging cable supplied to charge the device. The cable is specially designed for Dustlight fine dust measuring devices and ensures safe and efficient charging.

Connect the charging cable to a USB power supply unit. You can either use a USB power adapter that you already own or purchase one from us. Make sure that the USB power supply meets the recommended specifications (5V, at least 1A charging power) to ensure optimum charging speed.

Connect the magnetic end of the charging cable to the connection on the DUSTLIGHT MINI. The charging process starts automatically and the display on the screen shows the progress. The charging process stops automatically when the device is fully charged, or the temperature rises during the charging process.



Safety instructions

Only use the supplied magnetic charging cable and a suitable USB power adapter. The use of unauthorized accessories can cause damage to the device and invalidate the warranty.

Place the Dustlight Fine Dust Monitor on a stable, non-flammable surface away from liquids for charging. Make sure that the charging port on the device is clean and dry to ensure an optimal connection.

Monitor the device during the charging process and disconnect it from the mains adapter when charging is complete. This prevents overcharging and optimizes the service life of the battery.

Avoid exposing the device to excessive heat during the charging process. Do not expose it to direct sunlight or other sources of heat.

7.3 Switch on DUSTLIGHT MINI

To switch on the DUSTLIGHT MINI, press and hold the button on the right-hand side of the switched-off appliance for at least 2 seconds.

7.4 Switch off DUSTLIGHT MINI

To switch off the DUSTLIGHT MINI, press and hold the button on the right-hand side of the device for at least 2 seconds during operation. The device switches off automatically when a critical charge level is reached to protect the internal battery.

7.5 Use DUSTLIGHT MINI

Once switched on, the Dustlight can be attached to clothing using the clip on the back. Care should be taken here to always place the device as close as possible to the airways, i.e. on a breast pocket or collar. The separately available Klick Fast® accessories, such as the armband or chest strap, are also helpful here, allowing the DUSTLIGHT MINI to be securely attached to the body. To do this, the clip is replaced with the Klick Fast® adapter, as described in section 5 Assembly.

During operation, the Dustlight signals to the person wearing it if the set fine dust limit values are exceeded via a visual and optionally activated acoustic signal. In addition, the current measured value is shown on the display in large plain text. Depending on the energy setting, the display is deactivated after a certain time, but the device continues to measure and warn. The display is reactivated by briefly pressing the side button. The duration can be adjusted via the settings in the app.

Even if the appliance is designed for such loads, please take care not to expose the appliance to excessive amounts of dust and flying parts, as these can have a negative impact on the service life of the appliance. If the charge level is low, the device should be charged according to the instructions in section 7.2 Charging the DUSTLIGHT MINI.

8 Maintenance

This section contains information for the safe maintenance of the DUSTLIGHT MINI. It includes all technical and organizational measures during the life cycle of the DUSTLIGHT MINI to ensure the safe, economical and functional condition of the device and to prevent environmental damage.

Maintenance includes:

- Maintenance
- Repair
- Troubleshooting

8.1 Loss of warranty claims

The manufacturer's warranty for the Dustlight particulate matter analyser guarantees that the product will function perfectly under normal operating conditions. To maintain the validity of this warranty, please observe the following conditions:

Unauthorised opening of the housing:

Any attempt to open the housing of the Dustlight particulate matter analyser will immediately invalidate the warranty. The housing may only be opened by authorized service personnel.

Changes to the device:

Any unauthorized modifications, manipulations or changes to the device will result in the immediate loss of warranty claims. This also includes attempts to modify firmware, software, or other system components.

Independent replacement of components:

Any unauthorized replacement of components not expressly approved by the manufacturer will invalidate all warranty claims. All repairs or replacements must be carried out by authorised service personnel.

Please note that the loss of warranty claims due to the above conditions is not conclusive and further conditions may apply in accordance with the manufacturer's warranty provisions.

8.2 Maintenance and calibration

The Dustlight does not require any maintenance or calibration by the user, it should only be calibrated regularly as described in section 9 Cleaning should be cleaned regularly.

The DUSTLIGHT MINI has an intelligent maintenance and calibration display. Depending on the operating time and the prevailing dust concentration in the working environment, Dustlight calculates the minimum maintenance intervals itself. However, to guarantee safe operation and accurate measurement at all times, maintenance and calibration must be carried out by your local distributor every 12 months at the latest, or sooner depending on

the ambient conditions and operating time. The current sensor status can be checked via the app. When 80% of the maintenance threshold is reached at the latest, a notification about the imminent maintenance is shown on the integrated display and in the app. Once the maintenance time has been reached, this warning remains active every time the device or app is started.

To carry out maintenance, please contact your local distributor for guidance and support on the best course of action. By using refurbished devices, continuous operation can also be guaranteed without interrupting dust monitoring during maintenance.

8.3 Repair

Any repair work, including the replacement of components or the repair of malfunctions, may only be carried out by the manufacturer itself or by its authorized service personnel.

The Dustlight contains complex structures and safety-relevant components. Unauthorized repairs by users or unauthorized third parties can lead to serious safety risks.

In the event of malfunctions or the need for repairs, please contact your local distributor, quoting the serial number, for appropriate support and instructions.

8.4 Troubleshooting

If you experience problems with your device, you can carry out the following troubleshooting steps to identify possible causes and find solutions:

Problem: The device cannot be switched on

- Check the charge status of the battery and connect the Dustlight to the mains using the enclosed charging cable and a USB power supply unit and try again after a while.

Problem: The device cannot be charged

- Check the charging cable for external damage and replace it if necessary.
- Check the power supply unit used for damage and sufficient power (at least 1A). Replace it if necessary.
- Check the function of the socket used and use a different one if necessary.

Problem: The device does not seem to measure correctly

- Check the air inlet and air outlet of the appliance for dirt and clean or replace them if necessary.
- Check whether there are maintenance and calibration warnings in the app or on the device screen.
- Check whether there are any error messages on the device display or in the app and rectify them as described below.

Problem: The device shows an error message on the display

Please proceed as follows depending on the error message:

Error code	Error	Remedy
E01	Critical error	Please contact your local service partner.
E02	Sensor error	Please restart the Dustlight. If the error persists, contact your local service partner.
E03	No sensor found	Please restart the Dustlight. If the error persists, contact your local service

		partner.
E04	Fan error	Please check the air inlet and air outlet of the Dustlight for damage and dirt and clean them if necessary. Restart the Dustlight. If the fault persists, contact your local service partner.
E05	Fan speed error	Please check the air inlet and air outlet of the Dustlight for damage and dirt and clean them if necessary. Restart the Dustlight. If the fault persists, contact your local service partner.
E06	Time error	The Dustlight has lost the time due to insufficient battery charge. Please connect the Dustlight to the app to update the time.
E07	Memory full	The internal memory of the Dustlight is full. Please connect the Dustlight to the app to synchronize the data on your smartphone and prevent data loss.
E08	Maintenance notice	The sensor unit has reached 80% of its service life. Please find out about service options in your region or contact your local service partner.
E09	Maintenance interval reached	The sensor unit requires maintenance. Please contact your local service partner.

9 Cleaning

To ensure the proper functioning and safety of your Dustlight, use dry and soft materials, such as a microfibre cloth or brush, to clean the outside of the housing. Carefully remove dust and dirt and take particular care to avoid getting dust into the air openings of the device, especially at the air inlet and outlet grilles. Regularly check the charger, charging cable and connections for any dirt and remove it if necessary.

For stubborn dirt, you can also wipe the Dustlight with a damp cloth, taking particular care to ensure that no moisture can get into the openings of the device. Do not use cleaning agents, solvents or aggressive chemicals, as these can damage the housing and surfaces.

Notice

Never use compressed air or a Hoover to clean the Dustlight. This can destroy the air duct and sensors of the appliance.

As the air inlet at the front of the appliance is naturally subject to the most soiling, the stainless-steel grille can be removed for easier cleaning. To do this, use a pointed object such as a screwdriver to the point provided on the top right-hand side of the metal grille (see Ill. 6) and lift it out. Now you can wash it under running water with a brush and mild detergent. If there are any colour residues on the grille, you can also remove them with cleaning benzine or acetone. Allow the grille to dry thoroughly after cleaning.

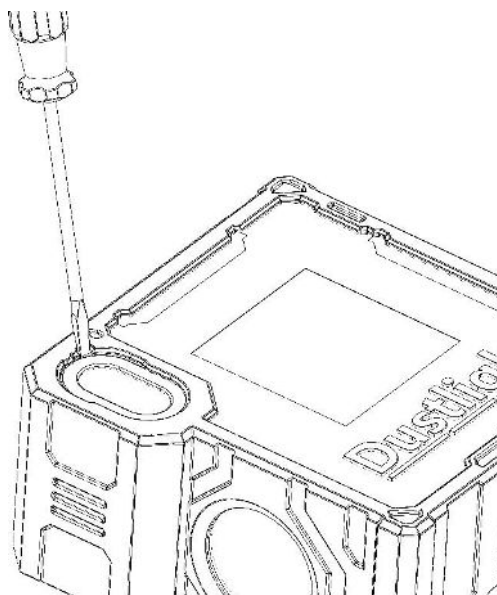


Illustration 1: Removing the protective grille on the air inlet.

If the grille is damaged or can no longer be cleaned, you can simply replace it. The replacement filters are available via your local distributor. Please contact them to arrange a repair. When removed, the pre-chamber of the air duct can also be cleaned simply by shaking it out. More stubborn dirt can

be loosened with a long, pointed object such as a small screwdriver, a cotton bud or a small round brush and removed by shaking it out again.

To insert the grille, push it into the rubber holder from above and press on it so that the nose at the top of the inlet holds the grille in place. If this is not possible by pressing alone, lift the nose with your fingernail or a small object so that it lies over the grille and holds it in position.

Notice

Please follow these cleaning instructions carefully to prolong the life of your appliance and ensure safe use. Any improper cleaning may result in damage that is not covered by the warranty.

10 Storage

To ensure the optimum functionality and longevity of your device, please observe the following guidelines for the correct storage of the DUSTLIGHT MINI. The DUSTLIGHT MINI is stored in the following cases:

- After decommissioning for a longer period of non-use
- After decommissioning for a relocation
- After decommissioning for calibration or repair

Store the Dustlight in a dry place and do not expose it to extreme temperatures, be it cold or heat, to avoid possible damage. Also avoid direct sunlight, as this can shorten the performance and service life of the components, especially the built-in batteries and sensors.

Store the device in an environment that is as dust-free as possible and protect it from dirt particles. This will help to ensure that the sensor and other components function properly in the long term.

If you have purchased the device with accessories, store them in a safe place together with the Dustlight to prevent loss or damage. This will ensure full functionality if required. If possible, keep the device in its original packaging. This offers optimum protection and also makes it easier to send it in for maintenance and repair work.

Do not store the appliance near electrical appliances that could generate strong electromagnetic fields.

Check the charge status of the batteries before storage. Never store the device with fully discharged batteries but charge them fully before storing them.

11 Waste disposal



Please note that electrical and electronic appliances must not be disposed of with household waste. Old appliances can be handed in free of charge at designated collection points. There they will be professionally collected, disposed of or prepared for possible reuse. We appeal for your active participation in order to make a joint contribution to the environmentally friendly and sustainable disposal of electrical and electronic appliances.

The return of old appliances is required by law, as some of these appliances may contain harmful substances that can damage both the environment and human health. In addition, the return enables the recycling of the raw materials contained, which benefits the environment. If the old electrical or electronic device contains personal data, you are responsible for deleting it yourself before returning it.

In accordance with the provisions of Directive 2008/98/EC on waste and its implementation in the legislation of the Member States of the European Union, waste prevention measures are generally prioritized over waste recycling measures. In the area of electrical and electronic equipment, the prolongation of the service life by repairing defective equipment and the sale of functional used equipment are particularly favoured instead of disposing of them.