TROTEC
TA300

VEL
3.11
m/s

TEMP
22.2 °C

SETUP ✱   ▲ Unit   Enter

Unit ▼

MEAN

MAX MIN   HOLD ZERO

FLOW TEMP

EN

INSTRUCTIONS
HOT-WIRE ANEMOMETER

⟩TROTEC

TROTEC

Table of contents

Information on the use of these instructions

Symbols

Warning of electrical voltage
This symbol indicates dangers to the life and health of persons due to electrical voltage.

Warning
This signal word indicates a hazard with an average risk level which, if not avoided, can result in serious injury or death.

Caution
This signal word indicates a hazard with a low risk level which, if not avoided, can result in minor or moderate injury.

Notice
This signal word indicates important information (e.g. material damage), but does not indicate hazards.

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

Follow the manual
Information marked with this symbol indicates that the instructions must be observed.

You can download the current version of the instructions and the EU declaration of conformity via the following link:

TA300

https://hub.trotec.com/?id=43282

Safety

Read this manual carefully before starting or using the device. Always store the manual in the immediate vicinity of the device or its site of use.

Warning
Read all safety warnings and all instructions. Failure to follow the warnings and instructions may result in electric shock, fire and/or serious injury. **Save all warnings and instructions for future reference.**

- Do not use the device in potentially explosive rooms or areas and do not install it there.
- Do not use the device in an aggressive atmosphere.
- Do not immerse the device in water. Do not allow liquids to penetrate into the device.
- The device may only be used in dry surroundings and must not be used in the rain or at a relative humidity exceeding the operating conditions.
- Protect the device from permanent direct sunlight.
- Do not expose the device to strong vibrations.
- Do not open the device.
- Do not remove any safety signs, stickers or labels from the device. Keep all safety signs, stickers and labels in legible condition.
- Use batteries of type 6LR61 (9 V battery).
- Never charge batteries that cannot be recharged.
- Different types of batteries and new and used batteries must not be used together.
- Insert the batteries into the battery compartment according to the correct polarity.
- Remove discharged batteries. Batteries contain materials hazardous to the environment. Dispose of the batteries according to the national regulations.
- Remove the batteries from the device if you will not be using the device for a longer period of time.
- Never short-circuit the supply terminal in the battery compartment!

- Do not swallow batteries! If a battery is swallowed, it can cause severe internal burns within 2 hours! These burns can lead to death!
- If you think batteries might have been swallowed or otherwise entered the body, seek medical attention immediately!
- Keep new and used batteries and an open battery compartment away from children.
- Observe the storage and operating conditions (see Technical data).

Intended use

Only use the device for indoor measurements of air velocity, volume flow and temperature within the measuring range specified in the technical data. Observe and comply with the technical data.

Any use other than the intended use is regarded as misuse.

Reasonably foreseeable misuse

Do not use the device in potentially explosive atmospheres, for measurements in liquids or at live parts.

Any unauthorised changes, modifications or alterations to the device are forbidden.

Personnel qualification

People who use this device must:
- have read and understood the instructions, especially the Safety chapter.

Residual risks

Warning of electrical voltage
There is a risk of a short-circuit due to liquids penetrating the housing!
Do not immerse the device and the accessories in water. Make sure that no water or other liquids can enter the housing.

Warning of electrical voltage
Work on the electrical components must only be carried out by an authorised specialist company!

Warning
Risk of suffocation!
Do not leave the packaging lying around. Children may use it as a dangerous toy.

Warning
The device is not a toy and does not belong in the hands of children.

Warning
Dangers can occur at the device when it is used by untrained people in an unprofessional or improper way! Observe the personnel qualifications!

Caution
Keep a sufficient distance from heat sources.

Notice
To prevent damages to the device, do not expose it to extreme temperatures, extreme humidity or moisture.

Notice
Do not use abrasive cleaners or solvents to clean the device.

Information about the device

Device description

The anemometer TA300 is a hot-wire anemometer for the determination of air velocity, air temperature and volumetric flow.

The device comes equipped with a hot-wire sensor and microprocessor technology for signal amplification. This combination guarantees precise measuring results.

Owing to the backlit dual LC display you can easily read the measuring results even in poor lighting conditions.

The device can measure the following parameters:
- Air velocity
    - metres per second (m/s)
    - feet per minute (ft/min)
    - kilometres per hour (km/h)
    - miles per hour (mph)
    - nautical miles per hour in knots (kn)
- Air volume flow
    - CFM (cubic feet per minute)
    - CMM (cubic metres per minute)
- Air temperature
    - degrees Celsius
    - degrees Fahrenheit

Furthermore, a MAX/MIN function and a HOLD function are available for assessment of the measurements.

Optionally, it also possible to read and save measurement data directly on a PC by means of the software included in the scope of delivery.

Device depiction
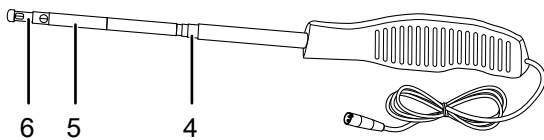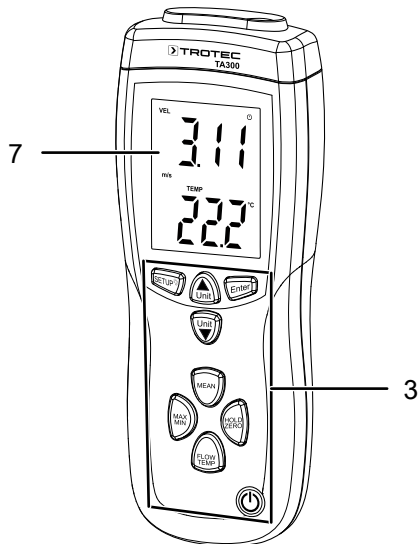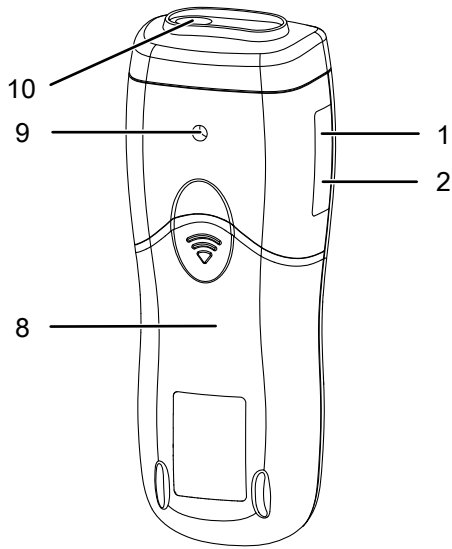
No.	Designation
1	Mini USB port
2	Charging cable connection
3	Operating elements
4	Telescopic rod
5	Sensor cover
6	Sensor
7	Display
8	Battery compartment
9	Tripod thread
10	Sensor input

Operating elements

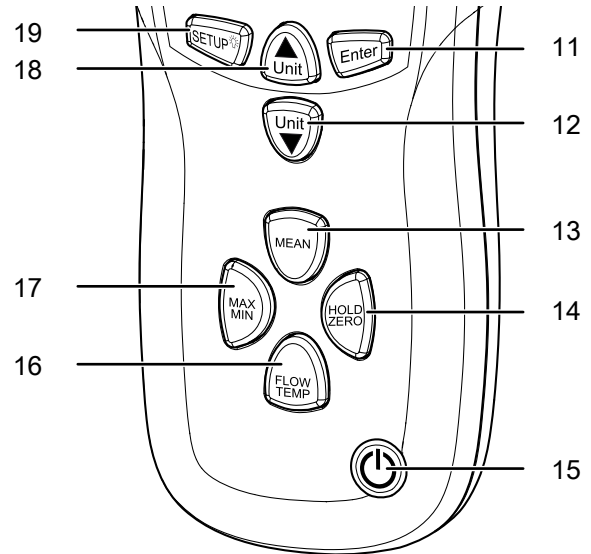| No.	Designation	Function
11	*Enter* button	Confirming the entry
12	*Unit* ▼ button	Switching to the next option/unit
13	*MEAN* button	Calculating the average value
14	*HOLD/ZERO* button	Holding the value, resetting the value to zero
15	*Power* button	Switching the device on or off
16	*FLOW/TEMP* button	Changing the variable to be measured
17	*MAX/MIN* button	Displaying the minimum / maximum value
18	*Unit* ▲ button	Switching to the previous option/unit
19	*SETUP/illumination* button	Opening the settings, switching illumination on or off

Display
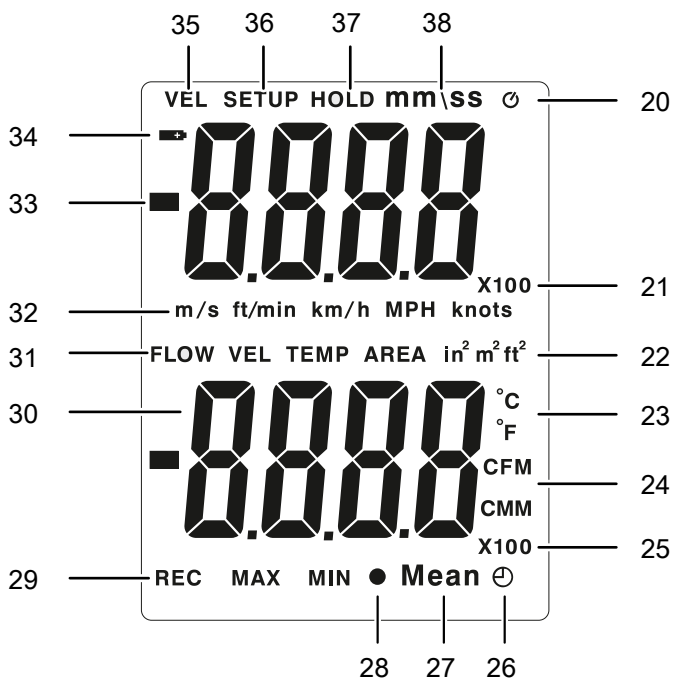
No.	Indication	Meaning
20	*Automatic switch-off*	The automatic switch-off function is activated.
21	*Multiple*	The actual measured value is a multiple of the displayed value.
22	*Area unit*	Currently set area unit of the volumetric flow profile
23	*Temperature unit*	Currently set temperature unit
24	*Volumetric flow unit*	Currently set volumetric flow unit
25	*Multiple*	The actual measured value is a multiple of the displayed value.
26	*Averaging calculation with timekeeping*	Averaging calculation with timekeeping is active.
27	*MEAN*	Averaging calculation is active.
28	*Multi-point averaging calculation*	Multi-point averaging calculation is active.
29	*MAX/MIN/REC*	MAX/MIN: The displayed measured value is the maximum/minimum.
		REC: The calculation interval is in progress.
30	*Lower measurement value display*	Indication of various measured variables

No.	Indication	Meaning
31	*Measuring mode*	FLOW: The air volume flow is being measured.
		VEL: The air velocity is being measured. (Displayed only when calculating the mean value)
		TEMP: The air temperature is being measured.
		AREA: Displayed while the volumetric flow profile is being set.
32	*Air velocity unit*	Currently set unit of the air velocity
33	*Upper measurement value display*	Measurement value display of the air velocity
		Indication of the measuring interval runtime
34	*Battery status*	Flashes when the battery is low.
35	*VEL*	Air velocity measurement is active.
36	*SETUP*	The menu is open.
37	*HOLD*	The measured value is held.
38	*Time*	The measuring interval is in progress.

Technical data

Parameter	Value
Dimensions of the device (height x width x depth)	210 x 75 x 50 mm
Display	Dual LC display, 46.7 x 60 mm
Weight (packaging excluded)	280 g
Power supply	1 x 9 V battery
Operating conditions	0 °C to 50 °C, < 80 % RH
Sampling	approx. 0.8 seconds
Air velocity	
Measuring range	m/s: 0.1 to 25.0 ft/min: 20 to 4925 km/h: 0.3 to 90 MPH: 0.2 to 55.8 kn: 0.2 to 48.5
Resolution	m/s: 0.01 ft/min: 1 km/h: 0.1 MPH: 0.1 kn: 0.1
Accuracy	m/s: ± 5 % of the measured value + 1 digit
Air volume flow	
Measuring range	CFM: 0.001 to 999999 ft^3/min CMM: 0.001 to 999999 m^3/min
Temperature	
Measuring range	°C: 0 to 50 °F: 32.0 to 122.0
Resolution	°C: 0.1 °F: 0.1
Accuracy	°C: ±1.0 °F: ±1.8

Scope of delivery

- 1 x Hot-wire anemometer TA300
- 1 x Hot-wire sensor
- 1 x Charging cable
- 1 x Transport case
- 1 x Mini USB cable
- 1 x CD-ROM with *METER* software
- 1 x Quick guide
- 1 x Calibration certificate

Transport and storage

Notice

If you store or transport the device improperly, the device may be damaged.
Note the information regarding transport and storage of the device.

Transport

For transporting the device, use the transport case included in the scope of delivery in order to protect the device from external influences.

Storage

When the device is not being used, observe the following storage conditions:

- dry and protected from frost and heat
- protected from dust and direct sunlight
- stored inside the transport case supplied in order to protect the device from external influences
- at the temperature specified in the technical data
- battery is removed from the device

Operation

Inserting the battery

1. Open the battery compartment (8) at the rear of the device by sliding the cover down at the arrow mark.
2. Use the battery clip to connect the 9 V battery with correct polarity.
3. Place the battery with the battery clip into the battery compartment.
4. Slide the cover back onto the battery compartment.
   ⇨ The cover should click into place.
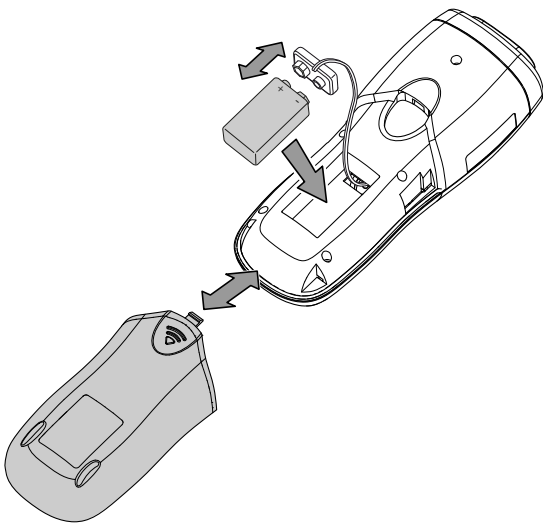
Switching the device on

1. Connect the hot-wire sensor to the sensor input (10).
2. Press the *Power* button (15).
   ⇨ The device is switched on.
   ⇨ The hot-wire sensor will have warmed up after 8 seconds.

☞ **Info**

Please note that moving from a cold area to a warm area can lead to condensation forming on the device's circuit board. This physical and unavoidable effect can falsify the measurement. In this case, the display shows either no measured values or they are incorrect. Wait a few minutes until the device has become adjusted to the changed conditions before carrying out a measurement.

Using the sensor cover

The sensor can be shielded with the silver cover (5) to prevent a falsification of the measured values.

1. Slide the sensor cover up when no measurement is being performed.
2. Slide the sensor cover down as soon as the measuring interval starts.
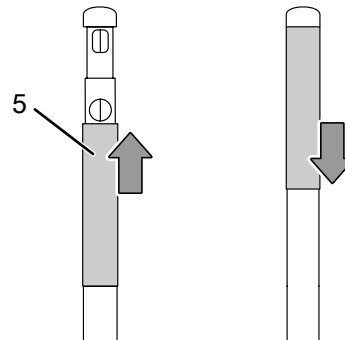
Carrying out a measurement

✓ The sensor cover is pushed up.
1. Press the *HOLD/ZERO* button (14) for approx. 2 seconds to reset the value to zero.
2. Slide the sensor cover (5) downwards.
3. Extend the telescopic rod (4) to the desired length.
4. Hold the sensor into the flow to be measured. At the sensor head you will find a mark in the shape of an arrow. Hold the device so that the arrow points against the direction of flow during the measurement.
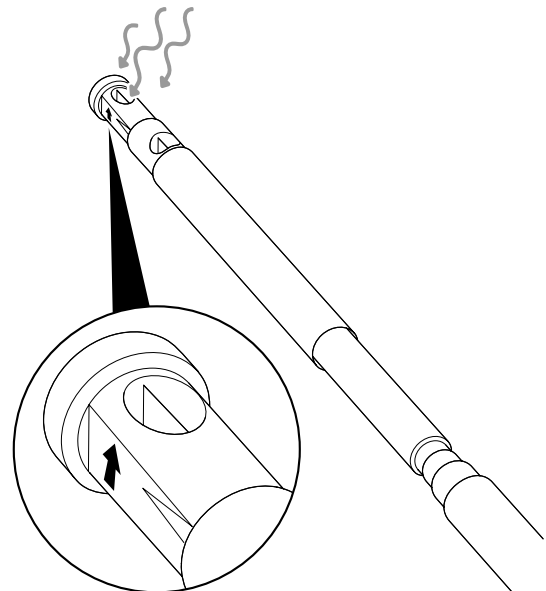
⇨ The air velocity will be displayed in the upper measurement value display (33).
⇨ The temperature value will be displayed in the lower measurement value display (30).

Changing the measuring mode

You can set the lower measurement value display (30) to either air temperature (TEMP) or air volume flow (FLOW).

Press the *FLOW/TEMP* button (16) until the desired setting is shown in the *Measuring mode* indication (31).

Changing the unit

1. Press the *Unit* ▲ button (18) to display the velocity in either m/s, km/h, ft/min, mph or knots.
2. Press the *Unit* ▼ button (12) to switch between °C and °F on the temperature scale.
3. If the device is in FLOW mode for measuring the air volume flow, you can switch between the units CFM and CMM by pressing the *Unit* ▼ button (12).

Carrying out a multi-point averaging calculation

The device can calculate the multi-point average value from several individual measured values during a measurement. To do so, please proceed as follows:

✓ The sensor cover (5) is pushed up.
1. Press the *MEAN* button (13).
   ⇨ The indication *MEAN* (27) and the symbol for *Multi-point averaging calculation* (28) appear on the display.
   ⇨ The air velocity measuring mode is enabled.
   ⇨ The current measured value is displayed in the lower measured value indication (30).
   ⇨ The last added measured value is indicated on the upper measurement value display (33).
2. To change the measuring mode, press the *FLOW/TEMP* button (16) repeatedly if necessary until the desired setting is shown in the *Measuring mode* indication (31).
3. Slide the sensor cover downwards.
4. Extend the telescopic rod (4) to the desired length.
5. Press the *Enter* button (11).
   ⇨ The first measured value will be saved.
   ⇨ The calculation process will be initiated.
6. Press the *Enter* button (11) to save further values and add them to the calculation.
7. Once you have reached the required number of measured values, press the *MEAN* button (13) again.
   ⇨ The *MEAN* indication (27) starts flashing.
   ⇨ The calculated average value is displayed in the lower measurement value display (30).
8. In order to return to the normal measurement process, press the *MEAN* button (13) once more.

Performing an averaging calculation over a specific time period

The device can also calculate the average value of a measurement over a certain period of time. To do so, please proceed as follows:

✓ The sensor cover (5) is pushed up.
1. Press the *MEAN* button (13) for approx. 2 seconds.
   ⇨ The indication *MEAN* (27) and the symbol for *Averaging calculation with timekeeping* (26) appear on the display.
   ⇨ The air velocity is shown in the lower measurement value display (30) and "VEL" is displayed in the *Measuring mode* indication (31).
2. To change the measuring mode, press the *FLOW/TEMP* button (16) repeatedly if necessary until the desired setting is shown in the *Measuring mode* indication (31).
3. Slide the sensor cover downwards.
4. Extend the telescopic rod (4) to the desired length.
5. Press the *Enter* button (11) to start the calculation.
   ⇨ The recording period starts.
   ⇨ The *Time* symbol (38) is displayed.
   ⇨ The runtime is displayed in the upper measurement value display (33).
   ⇨ The current measured value is displayed in the lower measured value indication (30).
6. You can repeatedly interrupt and resume the measurement process by pressing the *Enter* button (11).
7. To stop measuring, press the *MEAN* button (13).
   ⇨ The *MEAN* indication (27) starts flashing.
   ⇨ The calculated average value is displayed.
8. In order to return to the normal measurement process, press the *MEAN* button (13) once more.

Using the hold function

1. Briefly press the *HOLD/ZERO* button (14).
   ⇨ The current value will be held.
2. Press the *HOLD/ZERO* button (14) again to return to the normal measurement process.

Displaying MIN/MAX values

The minimum (MIN) and maximum (MAX) values can be determined via a measurement interval.

1. Press the *MAX/MIN* button (17) once to display the highest measured value.
2. Press the *MAX/MIN* button (17) twice to display the lowest measured value.
3. Press the *MAX/MIN* button (17) for approx. 2 seconds to return to the normal measurement process.

Menu options

The following settings can be made in the menu:

- Cross-section of the flow channel
- Unit of volumetric flow
- Automatic switch-off

To access the setup menu, please proceed as follows:

1. Press and hold the *SETUP/illumination* button (19) for approx. 3 seconds.
   - ⇨ The menu is opened.
   - ⇨ The *SETUP/illumination* indication (36) appears.
2. Press the *Unit* ▼ (12) or *Unit* ▲ (18) button to choose the desired menu item you want to edit.
3. For changing the options, follow the instructions in the following sections.
4. Press the *SETUP/illumination* button (19) again for approx. 3 seconds to close the menu.

Changing the unit for the assumed cross-section of the flow channel

1. In the menu, select the menu item "unit" and confirm by pressing the *Enter* button (11).
   - ⇨ The *AREA* indication appears in the *Measuring mode* indication (31).
2. Now change the units by means of the Unit buttons (12, 18).
3. Press the *Enter* button (11) again to confirm your entry.

Changing the volumetric flow profile

1. In the menu, select the menu item "AREA" and confirm by pressing the Enter button (11).
   - ⇨ The 4-digit AREA number in the lower measurement value display (30) flashes.
2. Change the position of the decimal point one digit to the left by pressing the *Unit* ▲ button (18).
3. Change the position of the decimal point one digit to the right by pressing the *Unit* ▼ button (12).
4. Press the *Enter* button (11).
   - ⇨ The rightmost digit flashes.
5. Use the Unit buttons (12, 18) to change the value.
6. To move one digit to the left, press the *MEAN* button (13).
7. Repeat steps 5 and 6 to set the remaining digits.
8. Press the *Enter* button (11) to save the settings.

Setting the automatic switch-off

If the automatic switch-off function is activated, the device switches off after a longer period of inactivity. Make the desired setting as follows:

1. In the menu, select the menu item "SLP" and confirm by pressing the *Enter* button (11).
2. Select "ON" to activate the automatic switch-off function, or "OFF" to deactivate the automatic switch-off function.
3. Confirm the setting by pressing the *Enter* button (11).
   - ⇨ If the automatic switch-off function is activated, the device switches off after 20 minutes of inactivity.

Setting the background illumination

The display comes with a background illumination that can be switched on as needed.

Press the *SETUP/illumination* button (19) to switch the background illumination on or off.

Switching the device off

Press the *Power* button (15) to switch the device off.

Software

The supplied free software is designed for useful basic functionalities. The manufacturer provides no warranty with regard to this free software and also offers no support on that score. The manufacturer accepts no liability concerning the use of this free software and is under no obligation to make adjustments or to further develop updates or upgrades.

The software is available for download at www.trotec.de.

Installation requirements

Ensure that the following minimum requirements for installing the PC software are fulfilled:

- Supported operating systems (32 or 64 bit version):
  - Windows 10
  - Windows 8
  - Windows 7
  - Windows Vista
  - Windows XP
- Hardware requirements:
  - processor speed: min. 90 MHz
  - 32 MB RAM, minimum
  - 7 MB hard disk space, minimum
  - a minimum screen resolution of 1024 x 768 pixels with a 16 bit colour depth

Installing the PC software

Administrator rights are required for the software installation.

1. Insert the data medium with the software into the drive or download the current software from the Service area of Trotec download centre.
   ⇨ You can find the software in the download centre under the device name TA300.
2. Double-click the *setup.exe* file.
3. Follow the instructions of the installation wizard.
   ⇨ The program will be installed in a few minutes.
   ⇨ A shortcut to the program will be created on the desktop.

Starting the PC software

1. Connect the device via USB cable to your computer and follow the instructions on the screen.
2. Start the software using the *METER.exe* shortcut.
3. The data will now be displayed by the programme's graphics.

The data recorded in this way can be saved, exported and printed. You can also manipulate the indication of the measured values using the checkboxes.

Further information about using the PC software is provided in the online help.

Errors and faults

The device has been checked for proper functioning several times during production. If malfunctions occur nonetheless, check the device according to the following list.

Display	Cause	Remedy
OL	air pressure or air velocity above the measuring range	• Check the battery voltage and insert a new high quality battery for testing purposes.
-OL	air pressure below the measuring range	• Choose a different location for measuring.
Error	air velocity or air volume flow below the measuring range	If the message continues to be displayed, carry out a reference measurement at a known location: 1. Choose a site within the measuring range for this measurement. 2. Press the *HOLD/ ZERO* button (14) for approx. 2 seconds to reset the saved measured values to zero. 3. Read the measured value from the upper measurement value display (33). If the error code is still displayed, the device may be defective. Please contact the customer service.

Maintenance and repair

Battery change

A battery change is required when the battery status indication (34) flashes or the device can no longer be switched on.

Change the battery if required (see chapter Inserting the battery).

Cleaning

Clean the device with a soft, damp and lint-free cloth. Make sure that no moisture enters the housing. Do not use any sprays, solvents, alcohol-based cleaning agents or abrasive cleaners, but only clean water to moisten the cloth.

Repair

Do not modify the device or install any spare parts. For repairs or device testing, contact the manufacturer.

Disposal

Always dispose of packing materials in an environmentally friendly manner and in accordance with the applicable local disposal regulations.

The icon with the crossed-out wheeled bin indicates that this device and any associated components (e.g. remote controls) must not be disposed of with household waste at the end of their life, in accordance with the Waste Electrical and Electronic Equipment Directive (2012/19/EU) and national laws.

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. You can also find out about other return options that apply for many EU countries on the website https://hub.trotec.com/?id=45090. Otherwise, please contact an official recycling centre for electronic and electrical equipment authorised for your country.

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.

This icon with the crossed-out wheeled bin indicates that batteries or accumulators must not be disposed of with household waste at the end of their life. If the device contains batteries or accumulators that contain mercury, cadmium or lead, the respective chemical symbol (Hg, Cd or Pb) is shown below the icon of the crossed-out wheeled bin. To prevent environmental pollution, do not carelessly leave batteries or electrical and electronic equipment containing batteries in public areas. In the European Union, batteries and accumulators must be returned to a designated collection point in accordance with REGULATION (EU) 2023/1542 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 12 July 2023 concerning batteries and waste batteries. Remove batteries/accumulators and dispose of them separately according to the relevant legal requirements.

Only for United Kingdom

According to Waste Electrical and Electronic Equipment Regulations 2013 (SI 2013/3113) (as amended) and the Waste Batteries and Accumulators Regulations 2009 (SI 2009/890) (as amended), devices that are no longer usable must be collected separately and disposed of in an environmentally friendly manner.