

EN

OPERATING MANUAL
VANE ANEMOMETER



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Notes regarding the operating manual


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.

Note
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 operating manual must be observed.

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




BA16



<https://hub.trotec.com/?id=40844>

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 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 remove any safety signs, stickers or labels from the device. Keep all safety signs, stickers and labels in legible condition.
 - Do not open the device.
 - 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 from the device. 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 measurements of air velocity, air temperature and volumetric flow within the measuring range specified in the technical data. Observe and comply with the technical data.

To use the device for its intended use, only use accessories and spare parts which have been approved by Trotec.

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 qualifications

People who use this device must:

- have read and understood the operating manual, 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.

Note

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

Note

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

Information about the device

Device description

The anemometer BA16 can simultaneously measure the temperature and air velocity.

Temperature measuring is effected by means of an integrated thermistor in °C or °F.

The air velocity can be indicated in the following units:

- m/s
- km/h
- ft/min
- mph
- knots
- m³/min (CMM)

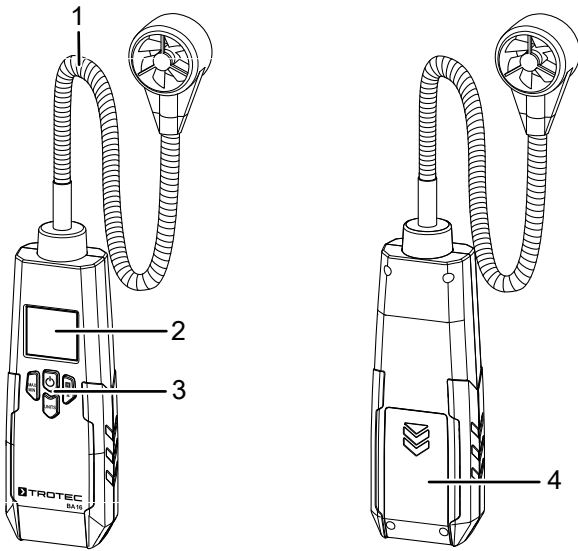
The sensor is located at a so-called gooseneck probe, with that it is able to measure even in poorly accessible locations.

Further available for the assessment of the measurements are a Hold and a Max/Min function.

The display illumination can be switched on as needed.

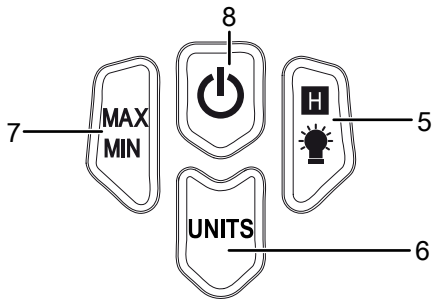
When not in use, an automatic switch-off saves the battery.

Device depiction



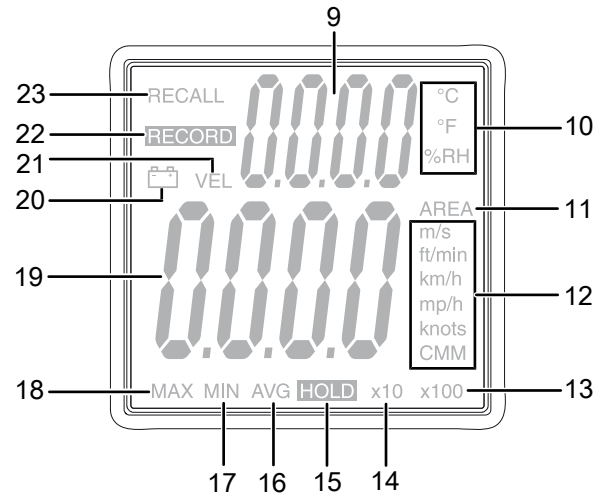
No.	Designation
1	Measuring sensor with flexible holder
2	Display
3	Operating elements
4	Battery compartment with cover

Operating elements



No.	Designation
5	<i>HOLD</i> /light button
6	<i>UNITS</i> button
7	<i>MAX/MIN</i> button
8	Power button

Display



No.	Designation
9	Indication of the measured temperature value
10	Temperature unit indication
11	<i>AREA</i> indication
12	Indication of the units for velocity and volumetric flow
13	Indication of the measured value x 100
14	Indication of the measured value x 10
15	<i>HOLD</i> indication
16	<i>AVG</i> indication
17	<i>MIN</i> indication
18	<i>MAX</i> indication
19	Indication of the measured velocity value
20	Battery status indication
21	<i>VEL</i> indication
22	<i>RECORD</i> indication
23	<i>RECALL</i> indication

Technical data

Parameter	Value
Model	BA16
Temperature	
Measuring range	-10 °C to 60 °C (14 °F to 140 °F)
Accuracy	± 1.5 °C (3.0 °F)
Measuring range resolution	± 0.1 °C (± 0.1 °F)
Air velocity	
Measuring range	1.00 m/s to 30.00 m/s 196 ft/min to 5900 ft/min 3.6 km/h to 108.0 km/h 2.2 mph to 67.0 mph 1.9 kn to 58.0 kn
Accuracy	± 3 % ± 0.20 m/s ± 3 % ± 40 ft/min ± 3 % ± 0.8 km/h ± 3 % ± 0.4 mph ± 3 % ± 0.4 kn
Measuring range resolution	0.01 m/s 1 ft/min 0.1 km/h 0.1 mph 0.1 kn
General technical data	
Storage temperature	-20 °C to 60 °C (-4 °F to 140 °F) with < 80 % RH (non-condensing)
Operating temperature	0 °C to 50 °C (32 °F to 122 °F) with < 80 % RH (non-condensing)
Power supply	1 x 9 V battery
Device switch-off	after approx. 15 minutes of non-use
Type of protection	IP40
Weight	approx. 263 g (incl. battery)
Dimensions (H x W x D)	162 mm x 54 mm x 32 mm
Length of the gooseneck probe	360 mm

Scope of delivery

- 1 x Device BA16
- 1 x 9 V battery
- 1 x Transport case
- 1 x Quick guide

Transport and storage

Note

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:

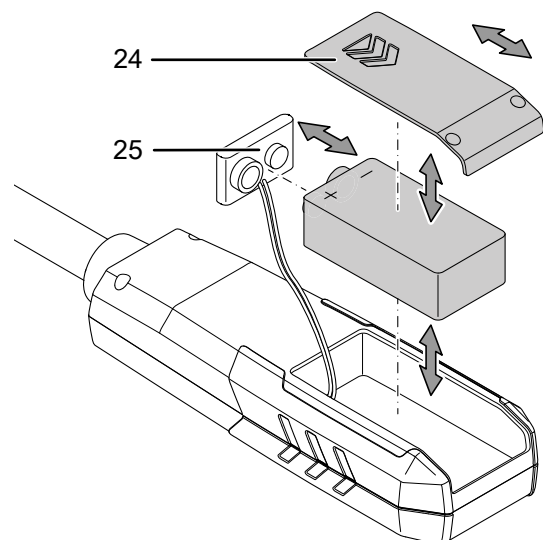
- dry and protected from frost and heat
- protected from dust and direct sunlight
- For storing the device, use the transport case included in the scope of delivery in order to protect the device from external influences.
- the storage temperature complies with the values specified in the Technical data

Operation

Inserting the battery

Note

Make sure that the surface of the device is dry and the device is switched off.



1. Remove the cover (24) from the device.
2. Use the battery clip (25) to connect the new battery with correct polarity.
3. Slide the cover (24) back on the device.

Switch-on and measurements

1. Press the Power button (8) for approx. 3 seconds.
⇒ The display will be switched on and the device ready for operation.
2. Hold the measuring sensor (1) into the area where the measurement is to be performed. Ideally, the vane is aligned precisely to the flow direction.
⇒ The measured values for temperature and air velocity are displayed in real time.

Note:

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.

Switching the display illumination on and off

1. Press the *HOLD*/lamp button (5) for approx. 2 seconds.
⇒ The display illumination goes on.
2. Press the *HOLD*/lamp button (5) again for approx. 2 seconds.
⇒ The display illumination switches off.

Setting the temperature unit

1. Press the *UNITS* button (6) for approx. 3 seconds.
⇒ Depending on the setting the temperature indication (10) changes to °C or °F.

Setting the air velocity unit

1. Press the *UNITS* button (6) until the desired unit is displayed.

Entering the cross-sectional area for volumetric flow measurement

In order to obtain a precise indication of the volumetric flow measurement (CMM), the cross-sectional area of the opening to be tested must be entered prior to measuring. To do so, use the function *AREA*. The unit of the cross-sectional area is to be specified in m². For entering the value of the cross-sectional area please proceed as follows:

1. Switch the device off.
2. Press and hold the *HOLD*/lamp button (5) while switching the device back on.
⇒ The indication *SET AREA* will be appear on the display.
3. Press the *MAX / MIN* button (7).
⇒ The decimal point will move.
4. Press the *HOLD*/lamp button (5).
⇒ You can alternate between the digits, the selected number flashes.
5. Press the *UNITS* button (6).
⇒ The value of the selected digit changes.

6. Repeat the steps 4. and 5. until the value is set as desired.
7. Switch the device off.
⇒ The set value of the cross-sectional area will be used for the calculation of the volumetric flow after the next switch-on.

Indication of minimum and maximum values

1. Press the *MAX / MIN* button (7).
⇒ The *RECORD* indication (22) appears on the display.
2. Press the *MAX/MIN* button (7) to switch between the maximum and minimum value.
⇒ *MAX* (18) appears on the display.
⇒ Actuating the *MAX / MIN* button (7) starts a new measurement. The value now appearing on the display is the reference value.
⇒ *MAX* function: The maximum value of the newly started measurement interval is displayed. Values smaller than the one displayed will not be indicated.
3. Press the *MAX/MIN* button (7) again.
⇒ *MIN* (17) appears on the display.
⇒ Actuating the *MAX / MIN* button (7) starts a new measurement. The value now appearing on the display is the reference value.
⇒ *MIN* function: The minimum value of the newly started measurement interval is displayed. Values exceeding the one displayed will not be indicated.
4. Press the *MAX / MIN* button (7) for approx. 3 seconds to terminate the function.
⇒ The values will be deleted from the buffer memory.

Using the HOLD function

1. Press the *HOLD*/lamp button (5).
⇒ The current value will be indicated on the display.
2. Press the *HOLD*/lamp button (5). again.
⇒ The display again indicates the current measured value.

Disabling automatic switch-off

As standard, the automatic switch-off function is activated. This results in the device switching off automatically after 15 minutes of non-use. Please proceed as follows to deactivate the automatic switch-off function:

- ✓ The device is switched off.
1. Additionally press the *UNITS* button (6) when switching the device on.
⇒ The indication *disAPO* appears on the display.
⇒ Automatic switch-off is deactivated.



Info

Note that the automatic switch-off function is activated upon the next switch-on. If you do not like to use the function, deactivate the automatic switch-off function as described.

Switching the device off

1. Briefly press the Power button (8).
 - ⇒ The device will be switched off.
 - ⇒ The saved measured maximum and minimum values are reset.

Maintenance and repair

Battery change

A battery change is required when the battery status indication (20) lights up or the device can no longer be switched on (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.

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.

Fault	Cause	Remedy
The device can no longer be switched on.	The battery is dead.	Insert a new battery (see chapter Operation).
The device indicates implausible values of the volumetric flow measurement.	The cross-sectional area of the opening has not been entered (correctly).	Determine and enter the cross-sectional area of the opening (in m ²) (see chapter Operation).

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 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. 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.



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 and accumulators 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.

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