

EN

OPERATING MANUAL  
CLAMP METER



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**Notes regarding the operating manual**

**Symbols**



**Danger from electric current**

Warns about hazards from electric current which can lead to injuries or even death.



**Danger**

Warns of a hazard which can lead to personal injury.



**Caution**

Warns of a hazard which can lead to property damage.

The current version of the operating manual can be found at:



**BE38**



<http://download.trotec.com/?sku=3510205239&id=1>

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Changes to construction in the interests of constant improvements to the product, as well as changes to the shape and colour are reserved.

The scope of delivery may vary from product images. This document was created with all due care. Trotec accepts no liability whatsoever for possible mistakes or omissions.

The only party responsible for determining valid measured results, drawing conclusions and deriving actions is the user! Trotec accepts no claims of warranty for the correctness of the determined measured values or measured results. Further, Trotec accepts no liability whatsoever for possible mistakes or damage which have been caused by utilising the determined measured results.

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**Warranty and liability**

The device complies with the fundamental health and safety requirements of the applicable EU regulations and was tested at the factory for perfect functionality multiple times.

If malfunctions occur nonetheless, please contact your dealer or distributor.

When manufacturer's instructions or legal regulations have not been followed, or after unauthorised changes to the device are made, the manufacturer is not responsible for the resulting damages. Changes to the device or unauthorised replacement of individual parts can drastically impact the electrical safety of this product and leads to the forfeit of the warranty. Liability does not extend to damages to people or property caused by the device being used other than as described in the instructions in this operating manual. Subject to changes to technical design and model changes as part of constant development and product improvement without prior notice.

No liability is accepted for damages resulting from improper use. In such a case, any warranty claims be voided also.

## 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!**

- Do not use the device in potentially explosive rooms.
- Do not use the device in aggressive atmosphere.
- Protect the device from permanent direct sunlight.
- 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 with a tool.
- Observe the storage and operating conditions (see chapter Technical data).

### Intended use

This device is intended for measurements in the measuring range specified in the technical data.

### Improper use

Do not use the device in potentially explosive atmospheres, when wet or very humid.

Unauthorized modifications of 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



### Danger

Electric shock from contact with live parts. Do not touch any live parts. Secure neighbouring live parts by insulating them or switching them off.



### Danger

Electric shock from insufficient insulation. Check the device for damages and proper functioning before each use.

If you notice damages, no longer use the device.

Do not use the device when the device or your hands are damp or wet!

Do not use the device when the battery compartment or the housing are open.



### Danger from electric current

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



### Danger

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



### Danger

Do not leave the packaging lying around. Children may use it as a dangerous toy.



### Danger

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



### Caution

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



### Caution

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

**Information about the device**

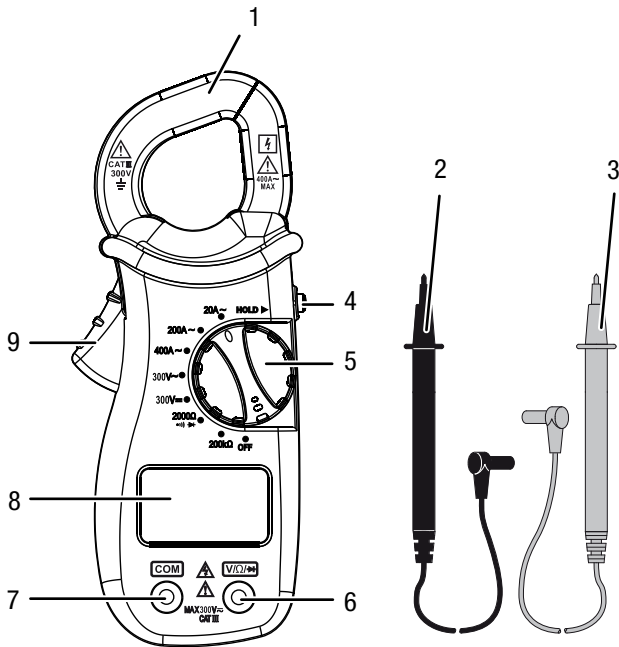
**Device description**

Using the clamp meter BE38 alternating current, AC voltage, DC voltage, resistances or the continuity of circuits, fuses and contacts can be checked.

The current measurement is effected without contact via the electromagnetic field, which is why the electric circuit doesn't have to be interrupted for this method. Therefore, running systems, which cannot be switched off separately, can also be checked.

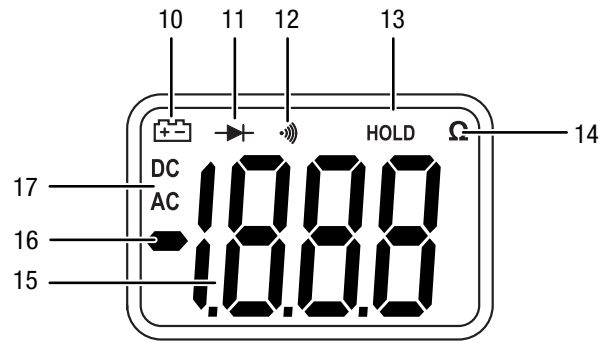
Owing to the galvanic isolation, the measuring signal is also potential-free towards the variable to be measured.

**Device depiction**



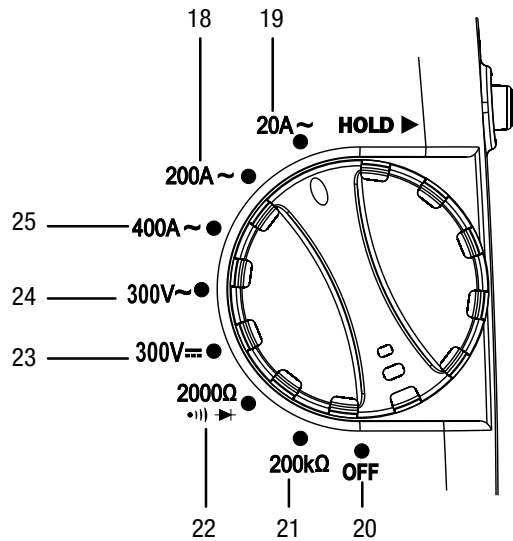
No.	Designation
1	Clamp
2	Measuring cable (black)
3	Measuring cable (red)
4	Freeze display
5	Rotary switch
6	Connection for measuring cable (red)
7	Connection for measuring cable (black)
8	Display
9	Lever for opening the clamp

**Display**



No.	Designation
10	Battery indication
11	Diode measurement indication
12	Continuity measurement indication
13	Display is frozen
14	Resistance measurement indication
15	Measurement value display
16	Display of positive and negative poles inverted
17	Direct or alternating current display

**Rotary switch**



No.	Designation
18	Measuring alternating current of up to 200 A
19	Measuring alternating current of up to 20 A
20	Switching the device off
21	Measuring resistance of up to 200 kΩ
22	Measuring resistance of up to 2000 Ω / diode testing / continuity testing
23	Measuring DC voltage of up to bis 300 V
24	Measuring AC voltage of up to bis 300 V
25	Measuring alternating current of up to 400 A

## Technical data

Parameter	Value
Model	BE38
Weight	127 g (incl. batteries)
Dimensions (height x width x depth in mm)	148 x 27 x 60
Max. diameter of conductor	Approx. 25 mm
Measuring rate	3 per second
Input resistance (VAC and VDC)	9 M $\Omega$
Frequency range alternating current	50/60 Hz (AAC)
Frequency range AC voltage	40 - 400 Hz (VAC)
Surrounding conditions	0 °C to 40 °C with up to 75 % RH
Storage conditions	-20 °C to 60 °C with up to 85 % RH
Battery	3x 3 V CR2032 button cell batteries
Overvoltage protection	Category III 300 V

## Measuring ranges

Measuring range	Resolution	Accuracy	Measuring range exceeded
<b>AC voltage</b>			
300 V	1 V	$\pm (1.2 \% + 3 \text{ digits})$	- (*)
<b>DC voltage</b>			
300 V	1 V	$\pm (1.0 \% + 2 \text{ digits})$	- (*)
<b>Alternating current</b>			
20 A	10 mA	$\pm (3.0 \% + 5 \text{ digits})$	The figure 1 will be indicated on the display.
200 A	100 mA	$\pm (2.5 \% + 5 \text{ digits})$	The figure 1 will be indicated on the display.
400 A	1 A	$\pm (2.5 \% + 5 \text{ digits})$	- (*)
<b>Resistance</b>			
2000 $\Omega$	1 $\Omega$	$\pm (1.2 \% + 2 \text{ digits})$	The figure 1 will be indicated on the display.
200 k $\Omega$	100 $\Omega$	$\pm (1.5 \% + 2 \text{ digits})$	The figure 1 will be indicated on the display.

(\*): When exceeding the measuring range, the measured value might be displayed nonetheless.

Please observe the measuring range and the overvoltage protection! Measurements above the given measuring range are not permitted!

## Scope of delivery

- 1 x Clamp meter BE38
- 3 x button cells 3 V CR2032
- 1 x Getting started guide

## Transport and storage

### Transport

For transporting the device use a suitable bag to protect it from external influences.

### Storage

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

- Dry.
- Protected from dust and direct sunlight.
- With a cover to protect it from invasive dust, if necessary.
- Remove the batteries from the device.

**Operation**

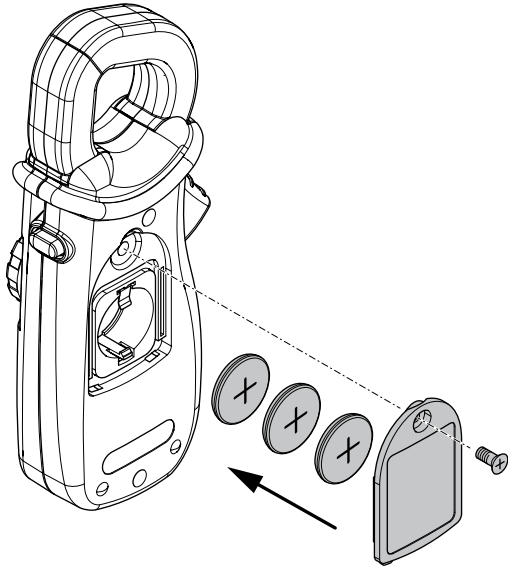
**Inserting the batteries**

- Insert the supplied batteries before first use.



**Caution**

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

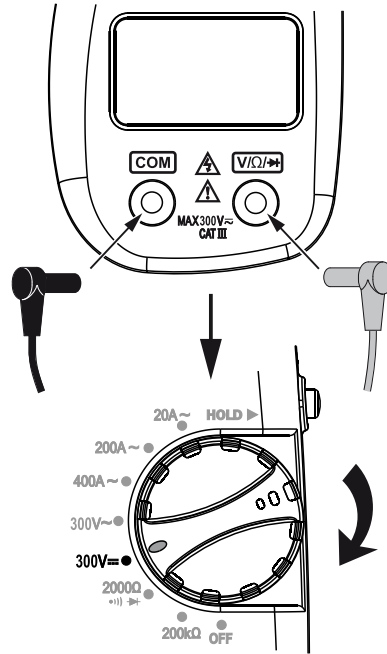


1. Loosen the screw and open the cover of the battery compartment.
2. Remove the used batteries, if any, and dispose of them according to the national regulations.
3. Insert the new batteries in the battery compartment with correct polarity.
4. Close the battery compartment and fasten the cover in place.

**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.

**Measurement with cable**



**Example: battery measurement**



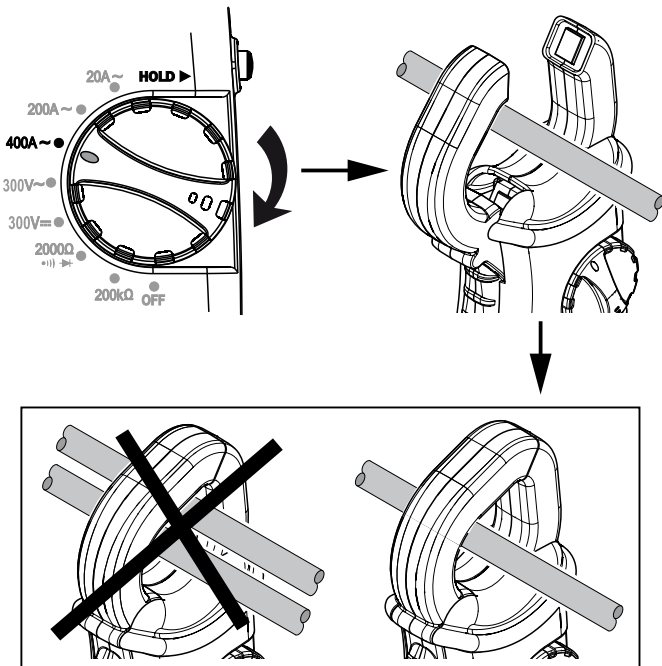
### Resistance measurement

1. Set the rotary switch to position **2000 Ω** or **200 kΩ**.
2. Hold the measuring tips to the object to be tested.
  - ⇒ The measuring result will be indicated in the measurement value display.

### Continuity measurement / diode test

1. Set the rotary switch to the **2000 Ω** position.
2. Connect the measuring tips to the diode or the circuit to be tested.
  - ⇒ If during the continuity measurement the resistance is less than or equal to 30 Ω, an acoustic signal will be emitted.
  - ⇒ For the diode test the voltage will be indicated on the measurement value display in mV.

### Measurement with clamp



### Battery change

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

### Disposal



In the European Union, electronic equipment must not be treated as domestic waste, but must be disposed of professionally in accordance with Directive 2002/96/EC of the European Parliament and of the Council of 27 January 2003 on waste electrical and electronic equipment (WEEE). At the end of its life, please dispose of this device according to the valid legal requirements.

### Declaration of conformity

in accordance with the EC Low Voltage Directive 2006/95/EC and the EC Directive 2004/108/EC about electromagnetic compatibility.

Herewith, we declare that the device BE38 was developed, constructed and produced in compliance with the named EC directives.

The **CE** marking is found on the rear of the device.

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### Maintenance and repair

#### Cleaning

Clean the device with a soft, damp and lint-free cloth. Ensure 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.

Heinsberg, 01.09.2015

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