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Feature
Measurem
Resolution
Accuracy
Response
Power sup
Battery life
Transport
Ambient te
CE guideli
Warranty

Inclu

testo 31
Instruct

Feature	Values
Measurem	±0 to +1999ppm
Resolution	1ppm
Accuracy	±3ppm bei 0...+29ppm ±10% bei 30...+1.999ppm
Response	30s
Power sup	2 batteries, type Micro AAA 1.5 V
Battery life	150h (audible CO display switched off), once appears: approx. 1h
Transport	-20 to +50°C
Ambient te	-5 to +45°C
CE guideli	2004/108/EEC
Warranty	2 years for instrument 3 years for CO sensor

or case with belt clip, headphones, hand loop,
l.

General information

Please read this document carefully and make sure you are familiar with how to operate the product before putting it to use. Keep this document close at hand so you can refer to it if necessary.

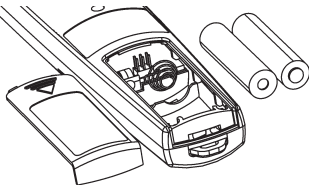
Safety information

- Avoid electrical hazards:**
 - ▶ Never take measurements with the unit and its external probes on or near live components unless the unit is expressly approved for current and voltage measurements.
- Protect the instrument:**
 - ▶ Never store the unit together with solvents (e.g. acetone).
- Preserve the product safety/warranty entitlement:**
 - ▶ Operate the unit only within the parameters specified in the technical data.
 - ▶ Handle the unit suitably and according to its intended purpose.
 - ▶ Never apply force!
 - ▶ Open the unit only when this is expressly described in the Instruction manual for maintenance purposes.
- Ensure correct disposal:**
 - ▶ Dispose of defective rechargeable batteries and spent batteries at the collection points provided.
 - ▶ Send the unit directly to us at the end of its life cycle. We will ensure that is it disposed of in an environmentally friendly manner.

Care and Maintenance

Changing the battery

- 1 Open battery compartment.
- 2 Remove empty batteries and replace with new ones.
Pay attention to +/-
- 3 Close battery compartment.



Clean instrument

- ▶ If the instrument housing is soiled, clean with a damp cloth (soap lye). Do not use any aggressive cleaning solutions!

Troubleshooting

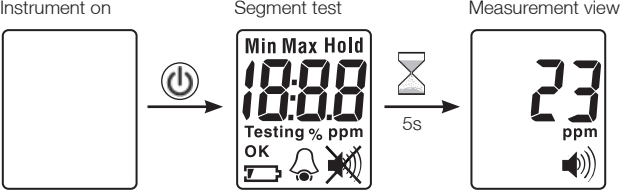
Fault	Possible causes	Remedy
lights in display.	Batteries are almost spent.	▶ Change batteries.
Instrument cannot be switched on.	Batteries are spent.	▶ Change batteries.
lights up in display.	Instrument defect.	▶ Switch off instrument and contact Testo Customer Service or your dealer.
Loudspeaker does not work.	Headphones are connected.	▶ Disconnect headphones.

Spare parts

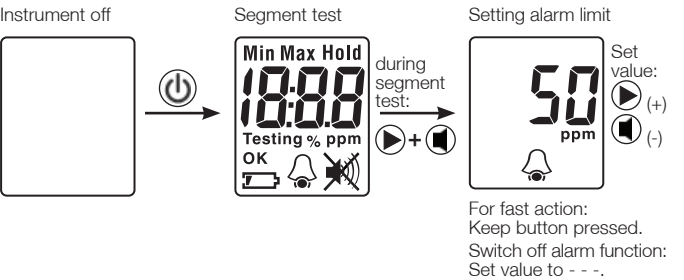
Name	Part no.
Carrying case with belt clip	0516.0317
Headphones	0554.0946

Operation

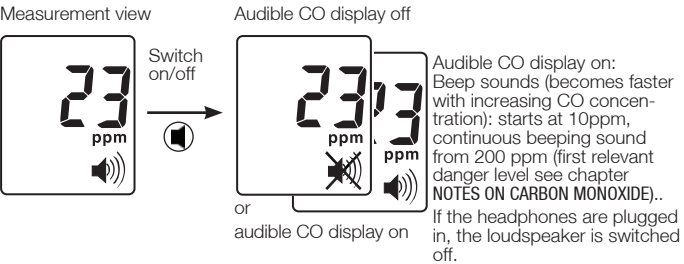
Switching on



Setting alarm limit



Switching audible CO display on/off

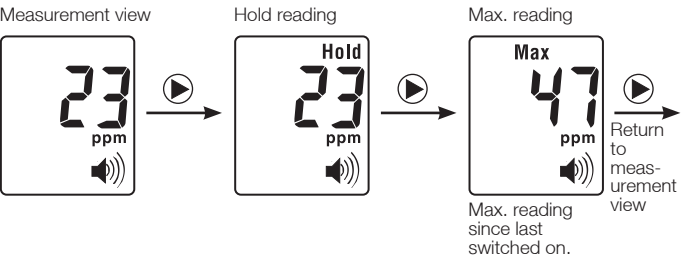


Alarm value exceeded

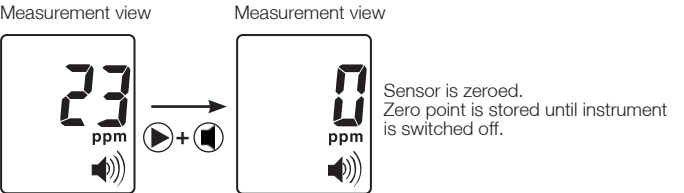
Set alarm value is exceeded: "Bell" flashes and alarm (continuous beeping) sounds. Switch off alarm: The audible CO display is deactivated once the alarm sound is switched off! Switch on again:

! If high concentrations are measured over longer periods (>200 ppm over 18 minutes, >1000 ppm over 4 minutes):
▶ Switch off instrument and take into the fresh air. Allow 60minutes regeneration time before switching on again.

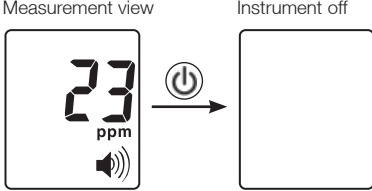
Hold reading, display maximum value



Zeroing sensor



Switching off



Measuring

- Danger!** Carbon monoxide is a colourless, tasteless, odourlessgas. It is poisonous, and high concentrations lead todeath.
 - ▶ Heed warning signals from the instrument (continuoustone from ab 200 ppm), and implement the requiredprotective measures: e. g. switch off system, ensuresufficient fresh air supply.
- !** Position the instrument such that the opening for themeasurement (orange) comes into contact with ambient airflows. The opening should not be completely closed over. The reading is updated once a second.

Notes on carbon monoxide

Carbon monoxide is a highly toxic gas for humans even in very low concentrations. It is invisible, tasteless and odourless.

The following table gives you a summary of the effects which specific CO concentrations in the air have on humans.

Concentration in the air	Inhalation time and effects*
30 ppm	0.003 Vol.% Max. workplace concentration during an 8 hour working day (limit value for Germany)
200 ppm	0.02 Vol.% Light headache within 2-3h
400 ppm	0.04 Vol.% Ache in forehead area within 1-2h, spreading to whole head area
800 ppm	0.08 Vol.% Dizziness, nausea and limb twitching within 45min, unconscious withing 2h
1600 ppm	0.16 Vol.% Headache, dizziness, nausea within 45min, dead within 2h
3200 ppm	0.32 Vol.% Headache, dizziness, nausea within 5-10min, dead within 30min
6400 ppm	0.64 Vol.% Headache, dizziness, nausea within 1-2min, dead within 10-15min
12800 ppm	1.28 Vol.% Dead within 1-3min

* The above concentrations are approximate values. Humans react differently to CO concentrations depending on height, age, sex and state of physical health.
testo AG does not accept any responsibility for the accuracy of the above data.