



testo 315-4 · CO ambient measuring instrument

Instruction manual



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2 Safety and the environment

2.1. About this document

Use

- > Please read this documentation through carefully and familiarize yourself with the product before putting it to use. Pay particular attention to the safety instructions and warning advice in order to prevent injuries and damage to the products.
- > Keep this document to hand so that you can refer to it when necessary.
- > Hand this documentation on to any subsequent users of the product.

Symbols and writing standards

| Representation | Explanation |
|------------------|---|
| i | Note: Basic or further information. |
| 1. ... 2. ... | Action: more steps, the sequence must be followed. |
| > ... | Action: a step or an optional step. |
| - ... | Result of an action. |
| Menu | Elements of the instrument, the instrument displays or the program interface. |
| [OK] | Control keys of the instrument or buttons of the program interface. |
| ✓ ... | Handling prerequisite |

2.2. Ensure safety

- > Only operate the product properly, for its intended purpose and within the parameters specified in the technical data. Do not use any force.
- > Dangers may also arise from the systems being measured or the measuring environment: Note the safety regulations valid in your area when performing the measurements.

- > Do not perform contact measurements on non-insulated, live parts.
- > Do not store the product together with solvents. Do not use any desiccants. These substances may impair the operation and reliability of the instrument.
- > Carry out only the maintenance and repair work on this instrument that is described in the documentation. Follow the prescribed steps exactly. Use only original spare parts from Testo.
- > Temperatures given on probes/sensors relate only to the measuring range of the sensors. Do not expose handles and feed lines to any temperatures in excess of 70 °C unless they are expressly permitted for higher temperatures.

2.3. Protecting the environment

- > Dispose of faulty rechargeable batteries/spent batteries in accordance with the valid legal specifications.
- > At the end of its useful life, send the product to the separate collection for electric and electronic devices (observe local regulations) or return the product to Testo for disposal.

3 Specifications

3.1. Use

The testo 315-4 is a convenient and robust measuring instrument for recording ambient CO values. It is used for risk prevention. Fields of application are, for example

- Heating systems with operation dependent on ambient air
- Ventilation systems

3.2. Technical data

3.2.1. Measuring ranges and resolution

| Measurement parameter | Measuring range | Resolution |
|--------------------------|----------------------------|------------|
| CO | 0 to 100 ppm | 0.5 ppm |
| Humidity ¹ | 5 to 95% RH | 0.1% RH |
| Temperature ¹ | -10 to ±40 °C/14 to 104 °F | 0.1 °C/°F |

3.2.2. Accuracy and response time

| Measurement parameter | Accuracy | Response time |
|--------------------------|--|---------------|
| CO | ± 3 ppm to 20 ppm ± 5 ppm from 20 ppm | < 120 s (t90) |
| Humidity ¹ | ± 2.5% RH (5 to 95% RH) | |
| Temperature ¹ | ± 0.5 °C (+ 1 digit) | |

3.2.3. Other instrument data

| Feature | Values |
|------------------------------|--|
| Storage/transport conditions | -20 to 60 °C/-4 to 140 °F 0 to 95% RH |
| Operating conditions | 0 to 40 °C/32 to 104 °F/0 to 95% RH |

¹ Only when the humidity/temperature sensor is connected (optional)

| Feature | Values |
|---------------------------|---|
| Weight including holster | Approx. 382 g |
| Housing material | ABS |
| Dimensions (L x W x H) | 190 x 65 x 40 mm |
| Protection class | IP 40 acc. to EN 60529 |
| Rechargeable battery life | Typically 50 h measuring time (at 20 °C/68 °F), mains operation possible |
| Display | Segment display |
| Supported printer | 0554 0549/0554 0547 |
| License acc. to | EN 50543 |
| Warranty | Instrument: 24 months Rechargeable battery: 12 months CO sensor: 12 months Warranty terms: see website www.testo.com/warranty |
| EU guideline | 2014/30/EU |

4 Product description

4.1. Overview

4.1.1. Control elements and connections





- 1 Connection for temperature/humidity module (optional)
- 2 Report printer IR interface
- 3 CO sensor module
- 4 Display
- 5 Keyboard
- 6 Reset button (back)
- 7 USB mains unit socket



Temperature/humidity module option

8 Temperature/humidity sensor

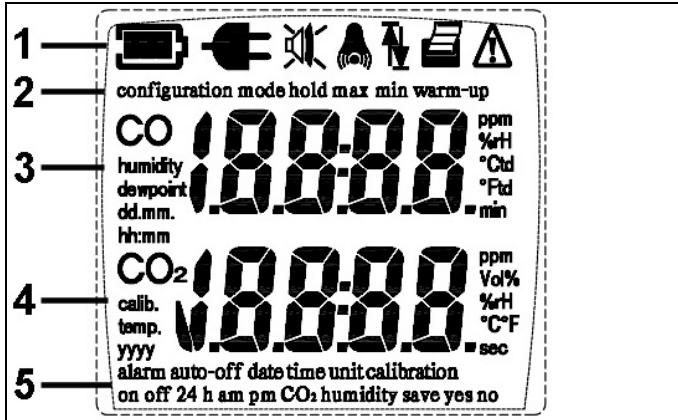
9 Connection for temperature/humidity module

Keyboard functions

| Key | Duration | Status | Function |
|--|----------|--|---|
|  | Short | Reading display | <ul style="list-style-type: none"> • Holds readings • Displays maximum values • Displays minimum values • Displays current values |
| | | Configuration mode | Confirms entry, next setting |
| | Long | Reading display (current value) | Opens configuration mode |
| | | Reading display (maximum value/minimum value/hold value) | Resets maximum value, minimum value, hold value |
| | | Configuration mode | Exits configuration mode (changes are stored) |
|  | Short | Instrument is off | Switches instrument on |
| | | Instrument is on | Switches on display illumination/switches off display illumination |
| | Long | Instrument is on | Switching the instrument off |

| Key | Duration | Status | Function |
|---|----------|---|--|
|  | Short | Reading display, only if humidity module is connected | <ul style="list-style-type: none"> • Displays humidity and temperature • Displays dew point/temperature • Displays CO |
| | | Configuration mode | Changes option/increases value |
| | Long | Reading display | Sets zero point/deletes zero point |
| | | Configuration mode | Increases value quickly |
|  | Short | Reading display | Prints data |
| | | Configuration mode | Changes option/decreases value |
| | Long | Configuration mode | Decreases value quickly |

4.1.2. Display



1 Status information

| Icon | Function |
|------|---|
| | Battery capacity: 100% / 66% / 33% / <10% |
| | Micro USB mains unit is connected |
| | Alarm off, alarm on |
| | Flashes: the alarm threshold is exceeded |
| | not used |
| | Data transfer enabled |
| | Lights up: Note Flashes: Error message |
| | Differential measurement |

2 Measurement functions

3 Display of CO reading, humidity, dew point, date (day and month), hours and minutes, measurement parameter

4 Temperature, year, measurement parameter

5 Settings

4.2. Basic properties

Power supply

Power is supplied to the instrument via:


- Rechargeable battery, type: Li-Po rechargeable battery pack, 3.7 V/1500 mAh (can be replaced via Testo-Service)
- USB mains unit including cable (0554 1105), 5.0 V/1000 mAh

With an attached mains unit, power is supplied automatically via the mains unit and the instrument's rechargeable battery is charged. To avoid destroying the rechargeable battery, only charge it at an ambient temperature of 0 to 45 °C/32 to 113 °F.

5 First steps

Switching on

i Connect the humidity/temperature module (0636 9725) before switching the instrument on (option).


1. Switch instrument on: press  briefly.
 - All segments of the display light up for around 1 sec.
 - The warm-up phase then occurs for 30 s. (information in display: **warm-up**).
-

i During first commissioning, the configuration menu is opened automatically, see Settings.

- The current readings are displayed. The instrument is operational.
-

i The CO sensor reading is displayed in the top line.


Switching off

2. Switch off the instrument: press and hold down .







6 Using the product

6.1. Performing settings

Open configuration menu

- ✓ The instrument is in measurement view.
- > Open configuration menu: press and hold down  until **configuration mode** appears.

Selecting, opening and setting functions

- > To select the next function: press  /  briefly.
- > To enable the selected function: press  briefly.
- > To adjust the open function: press  /  briefly.
- > To cancel the function: press  briefly until the display changes.


Adjustable functions



Ensure correct settings: all settings are transferred immediately. There is no Cancel function.
Settings and display of temperature and humidity are only possible if the humidity module was connected before switching on.

| Function | Setting options/comments |
|-----------------|---|
| alarm | off or on on selected: <ul style="list-style-type: none"> • Enable/disable acoustic signal • Set CO limit value |
| auto-off | off or on on selected: Set value |
| date | Set year, month, day |
| time | Select off or on Select 24h or am or pm format, set hours and minutes |
| unit | temp./dewpoint: °F, °C/°Ftd, °Ctd |

| Function | Setting options/comments |
|-------------------------|---|
| calibration humidity | <p>yes or no</p> <p>yes selected: Humidity values are aligned to the alignment points 11.3% RH and 75.3% RH and saved.</p> <hr/> <p>i To adjust to the alignment points, use the testo Control and alignment set for humidity sensors (0554 0660).</p> |

- > Cancel configuration menu: press and hold down  until the **configuration mode** display switches to the measurement view.




6.2. Measuring

- ✓ Instrument is switched on.
- Display of the current CO reading.

i Switching to humidity, temperature and dew point value is only possible if a humidity/temperature module is connected.

- > Display humidity and temperature value: press  briefly.
- > Display dew point: press  briefly.





Delta measurement

- ✓ Instrument is in measurement view.
- > Call up Delta measurement menu: press  until the display changes.
- Delta measurement is carried out ( lights up). The current readings are zeroed as a reference.
- > To cancel the function: press and hold down  until the display switches to the measurement view.

Hold/Max/Min



✓ Instrument is in measurement view.

The readings for Hold/Max/Min can be called up for:

- CO
- Temperature and humidity (if temperature and humidity module is connected)
- Dew point (if temperature and humidity module is connected)
- > Call up **Hold** function: press  briefly.
 - The current readings are held.
- > Call up **Max** function: press  briefly.
 - The maximum readings are displayed.
- > Call up **Min** function: press  briefly.
 - The minimum readings are displayed.
- > Set **Hold/Max/Min** values to the current value: press and hold down .
 - Readings flash several times and are updated.

6.3. Printing measurement results


✓ Instrument is switched on.

- > Call up Print function: press  briefly.
 - The data is transferred to the printer via the IrDA interface.
-  lights up.

7 Maintaining the product

Charging the rechargeable battery

1. Connect the mains unit connector to the instrument's micro USB socket.
2. Connect the mains plug to the mains socket.










The charging process will start automatically. Charging is indicated by a change in the battery icon segments.  lights up when the battery is fully charged.

Cleaning the instrument

- > Do not use any aggressive cleaning agents or solvents! Mild household cleaning agents and soap suds may be used.

8 Tips and assistance

8.1. Questions and answers

| Question | Possible causes/solutions |
|---|---|
|  flashes and E145 lights up | The instrument temperature is outside the permissible range: > Let the instrument warm up or cool down. |
|  flashes and E161 lights up or  flashes and E419 lights up or  flashes and E999 lights up | A serious error has occurred: > Contact your dealer or the Testo Customer Service. |
|  flashes | Battery capacity too low > Connect the mains unit. |
|  and  flash, E401 lights up | Rechargeable battery is empty, instrument will soon switch off automatically. > Connect the mains unit (the warning can be deleted with [Hold/Max/Min]). |
|  and  flash | Recharging the battery is impossible: > Contact your dealer or the Testo Customer Service. |
| Can the battery be replaced? | The battery cannot be replaced. > Contact your dealer or the Testo Customer Service. |
| Can the battery be charged via the USB port of a laptop or PC? | The battery cannot be charged. |

| Question | Possible causes/solutions |
|--|--|
| Can humidity, temperature and dew point measurements be carried out? | Humidity, temperature and dew point measurements are possible with the temperature/humidity module (accessory). |
| The display illumination remains on after the instrument has been switched off | The display illumination goes out as soon as the instrument has shut down. While the display is illuminated, the instrument cannot be switched on. |

If we could not answer your question or the solutions given during troubleshooting did not help: please contact your local dealer or the Testo Customer Service. For contact data, see the back of this document or website www.testo.com/service-contact

8.2. Calibration interval

Testo recommends that calibration of the measuring instrument is carried out once a year by Testo Customer Service or a service centre authorized by Testo.

8.3. Accessories and spare parts

| Description | Article no. |
|--|--------------------|
| testo 315-4 (including micro USB mains unit, cable USB A - USB micro B) | 0632 3155 |
| Temperature/humidity module | 0636 9725 |
| Topsafe | 0516 0221 |
| USB mains unit including cable | 0554 1105 |
| Basic printer | 0554 0549 |
| Spare printer paper (6 rolls) | 0554 0568 |
| Control and calibration set for humidity sensors (11.3% RH and 75.3% RH) | 0554 0660 |

