testo 535

Instruction manual

en

Mains connection (mains unit no. 0554.0088) recommended for long-term measuring.

The conformity certificate confirms that this product fulfills the guidelines in accordance with 2004/108/EEC.

The probe should be held as far as possible from your body so as to eliminate the influences caused by the CO_2 in your breath.

Auto-Off function

If the Auto-Off function is activated the instrument switches itself off automatically after 10 minutes of inactivity (except in the case of HOLD) and timed mean calculation.

Changing the battery

If"Bat" appears in the display, the battery will last approx. 1 hour out of a total lifetime of 4 hours, if referring to an alkali-manganese battery. The instrument will switch off automatically if there is not enough power. Unscrew the battery compartment, remove the used battery and put in new battery, type 9V (IEC 6 F 22). (Observe polarisation). User settings remain intact if the instrument is not longer than 3 minutes without power.

Instructions for disposal:
Only empty batteries should be disposed. The batteries should be placed in plastic bags to prevent short-circuits.

Please read prior to operation

- Never measure on live parts
- Observe sensor measuring ranges! Overheating may destroy probes.
- Observe storage and transport temperature as well as the max. operating temperature (e.g. protect measuring instrument from direct sunlight).
- Inexpert handling or use of force cancel your warranty claims!
- If there is a change in the ambient temperature (change of location, e.g. inner/outer temperature) the measuring instrument will need an adaptation phase of several minutes.
- The CO_2 probe contains optical components. Please treat the probe like your camera. Strong vibrationa may chenge the manufacturer´s calibration. Check the readings in fresh air: 350 to 450 ppm. It is recommended that the instrument is sent to a Testo service point for adjustment purpose.
- The CO_2 probe is permanently attached to the measuring instrument. Probes can only be changed at Testo service points.
- Ensure the probe does not come into frequent contact with water otherwise the long-term stability will be affected.
- If the level of high frequency is high, there may be deviation from the required

Operation

Switch on instrument. After the instrument is switched on a short display and function test follows and the sensor has a warm-up phase of approx. 30 s. The instrument is then ready to operate. The CO_2 concentration in the sensor needs approx. 1 minute to adapt to ambient conditions. This adaptation time can be shortened by swinging the probe gently back and forth. If the probe is subjected to condensation, this can lead to uncreased mesured values.

Technical data - testo 535

Sensor:	2 channel infrared absorption principle
Measuring range:	0 to 9,999 ppm CO_2 (0 to 0,999 vol.% CO_2)
Accuracy: (at 23 °C *)	0 to 5000 ppm: ± (75 ppm +3 % of m.v.) 5000 to 9,999 ppm: ±(150 ppm +5 % of m.v.)
Resolution:	1 ppm or 0.001 vol.%
Ambient temperature:	0 to +50°C
Storage temp.:	-20 to +50 °C
Battery lifetime:	>4h (9 V block, Al-Mn)
Switchover:	ppm / vol. %
Display:	LCD (11 mm digit height)
Housing:	ABS
Dimensions:	190 x 57 x 42 mm
Weight:	Approx. 300 g
Ambient humidity:	0 to 99 %RH not subjected to condensation

Warranty

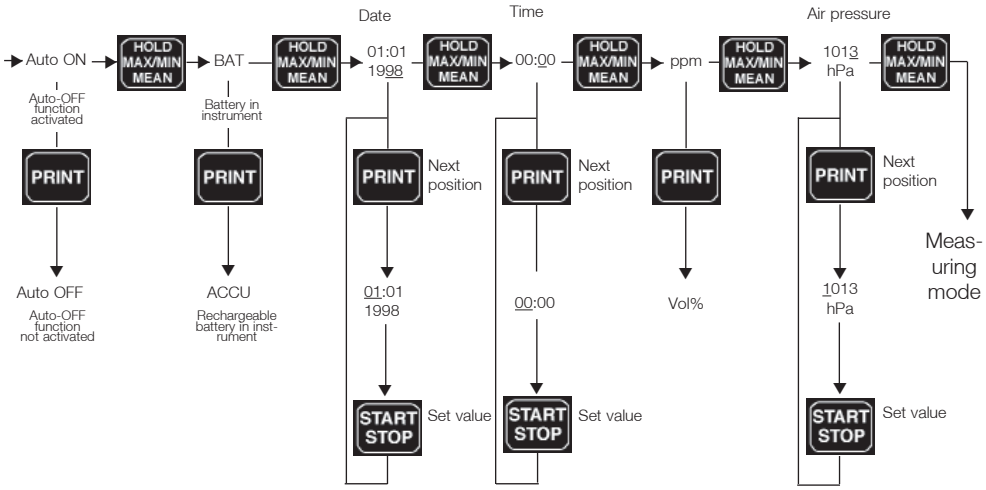
testo 535 meas. instr......2 years
Probe.....1 year

* Temp. coefficient: ± (1 ppm + 0,4 % of meas.) / °C

Changing the settings - Configuration

"**START/STOP**" button: keep pressed when switching on.

The following settings can be changed:



Pressure compensation

Please note that the CO_2 reading depends on the absolute air pressure.
This effect is compensated in the instrument. To do this, enter the correct air pressure (See Changing the settings - Configuration). The air pressure depends on the height of the location above mean sea level (See the **"Barometric height formula"** table on the next page**)** and weather influences.
Example:
You are located at a height of 800 m above sea level where you have a mean annual air pressure of 920 hPa. According to the barometer (1003 hPa) and the height correction of the barometer (to 1013 hPa) the mean annual air pressure has to be reduced by 10 (910 hPa air pressure).

Memory function for current, maximum and minimum values

HOLD MAX/MIN MEAN

The following displays appear when this button is pressed again and again:

1st press: **HOLD -** Readings are frozen in display
2nd press: **MAX -** Displays saved max. values
3rd press: **MIN -** Displays saved min. values
4th press: **MEAN -** Multi-point mean calculation
5th press: **MEAN -** Timed mean calculation
6th press: **MEAN-** Return to measuring mode

Important note:

The min/max values are measured from the time the instrument is switched on. The values are reset if the instrument is switched off and then on again.

Printout

PRINT

A printout of the reading with date and time can be activated by pressing the **PRINT** button. The max, min and mean values also appear on the printout of a multi-point or timed mean calculation. If a reading was frozen at a certain point in the display via the **HOLD** button, this reading appears in the printout with the time and date when the reading was frozen.

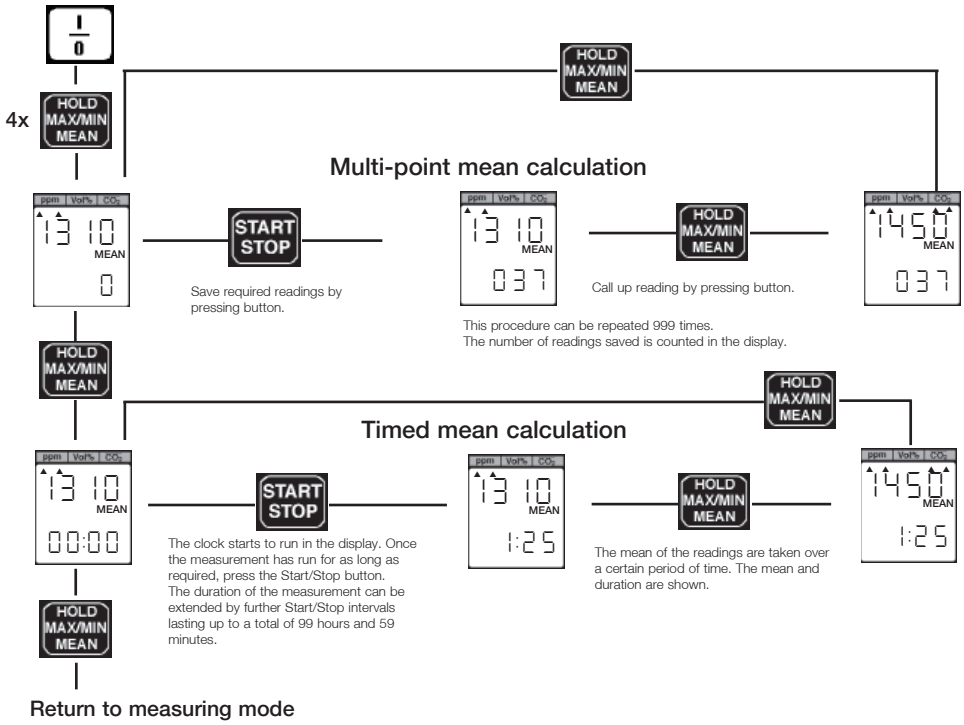


Table: barometric height formula

Height above mean sea level	Air pressure (hPa)	Height above mean sea level	Air pressure (hPa)	Height above mean sea level	Air pressure (hPa)	Height above mean sea level	Air pressure (hPa)
0	1013	1250	871	2500	746	3750	636
50	1007	1300	866	2550	742	3800	632
100	1001	1350	861	2600	737	3850	628
150	995	1400	855	2650	732	3900	624
200	989	1450	850	2700	728	3950	620
250	983	1500	845	2750	723	4000	616
300	977	1550	840	2800	719	4050	612
350	971	1600	835	2850	714	4100	608
400	966	1650	830	2900	709	4150	604
450	960	1700	824	2950	705	4200	600
500	954	1750	819	3000	700	4250	596
550	948	1800	814	3050	696	4300	592
600	943	1850	809	3100	692	4350	588
650	937	1900	804	3150	687	4400	584
700	931	1950	799	3200	683	4450	580
750	926	2000	794	3250	678	4500	577
800	**920**	2050	789	3300	674	4550	573
850	915	2100	785	3350	670	4600	569
900	909	2150	780	3400	666	4650	565
950	904	2200	775	3450	661	4700	562
1000	898	2250	770	3500	657	4750	558
1050	893	2300	765	3550	653	4800	554
1100	887	2350	760	3600	649	4850	550
1150	882	2400	756	3650	644	4900	547
1200	877	2450	751	3700	640	4950	543
						5000	540

Error message in display	Cause	Remedy
– – – –	Probe out of order	Please contact the Testo service point
–|– –	Measuring range is exceeded. The readings lie outside the maximum measuring range	Measuring range is exceeded. Does not damage probe.

Ordering data

testo 535 measuring instrument and accessories	Part no.
testo 535, CO2 measuring instrument for measuring the quality of ambient air, with securely attached probe, instruction manual, batteries and calibration protocol	0560.5350
TopSafe (indestructible protection case) with bench stand and belt clip, to protect instrument from impact, dirt...	0516.0183
9 V rechargeable battery, instead of battery	0515.0025
Recharger for 9 V rechargable battery, for external recharging of 0515.0025 battery	0554.0025
Plug-in mains unit for mains operation	0554.1143
Plastic case for storing measuring instrument, accessories, probes Testo log printer and accessories	0516.3250

Printer and accessories	Part no.
Testo log printer, prints measured data with date and time	0554.0545
Recharger with 4 NC rechargeable batteries for the Testo log printer, rechargeable batteries are recharged externally	0554.0110
Printer paper for Testo log printer (6 rolls)	0554.0569

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