sauermann®

DATA SHEET

AQ 110

Air quality

Easy to use

Hold-min-max functions

Features

- Selection of temperature units
- Hold function
- Backlight
- Configurable auto shut-off
- Display of minimum and maximum values

Technical specifications

Parameters	Measuring units	Accuracy**	Measuring range	Resolution
CO_2	ppm	±3% of reading ±50 ppm	From 0 to 5000 ppm	1 ppm
Temperature	°C, °F	±0.4% of reading ±0.3 °C	From -20 to 80 °C	0.1 °C

*Except class 110 S which is supplied with adjustment certificate.

**All the accuracies indicated in this technical datasheet were stated in laboratory conditions, and can be guaranteed for measurements carried out in the same conditions, or carried out with calibration compensation.

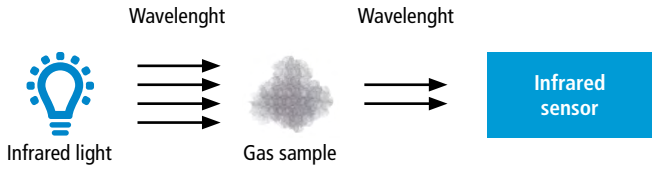
General features

Measuring elements	CO_2: infrared sensor Temperature: NTC
Connector	Retractable, 0.45 m length, extension: 2.4 m
Display	4 lines, LCD technology. Dimensions 50 x 36 mm. 2 lines of 5 digits with 7 segments (value) 2 lines of 5 digits with 16 segments (unit)
Housing	ABS, protection IP54
Keypad	5 keys
European directives	2014/30/EU EMC; 2014/35/EU Low Voltage; 2011/65/EU RoHS II; 2012/19/EU WEEE
Power supply	4 batteries AAA LR03 1.5 V
Battery life	20 hours
Ambience	Neutral gas
Conditions of use (°C, %RH, m)	From 0 to +50 °C. In non condensing conditions. From 0 to 2000 m.
Storage temperature	From -20 to +80 °C
Auto shut-off	Adjustable from 0 to 120 minutes
Weight	340 g

Operating principle

Non dispersive infrared absorbance

All the gases absorbs the light at a specific wavelength, a part of the light emitted by the infra-red source is absorbed by the gas sample. The quantity of light read by the infrared sensor is inversely proportional to the CO_2 concentration.



Thermometer: NTC probe

Negative temperature coefficient probes are thermistors with a resistance that decreases with temperature according to the equation below.

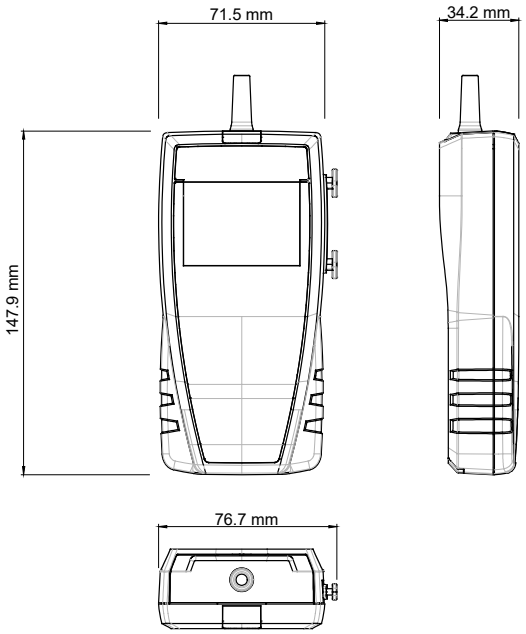
$$R_{(T)}=R_{(T0)}e^{(\frac{\alpha}{100} \times (T_0 + 273.15)^2 \times (\frac{1}{T + 273.5} - \frac{1}{T_0 + 273.5}))}$$

RT = resistance sensor value at temperature T
$R(T_0)$ = resistance sensor value at reference temperature T_0
T and T_0 in °C
α and T_0 sensor specific constants

Maintenance

We carry out calibration, adjustment and maintenance of your instruments to guarantee a constant level of quality of your measurements.
As part of Quality Assurance Standards, we recommend you to carry out a yearly checking.

Dimensions (in mm)



Kit content

Designation	Sales reference	Description
AQ 110	24628	Air quality instrument with calibration certificate and soft transport case
AQ 110 S	24727	Air quality instrument with adjustment certificate and soft transport case

Certificates

Calibration certificate: A calibration is a comparison of the values of the instrument with those of a standard to determine a measurement error with an associated calibration uncertainty. A calibration certificate guarantees the traceability of measurements to national standards.

Adjustment certificate: An adjustment certificate is a document that ensures the conformity of the device with the tolerances of the data sheet. It ensures that the device has followed the manufacturing process.

Accessories

Designation	Sales reference	Description
CQ 15	24633	Magnetic protective housing
RTE	24632	Telescopic extension, 1 m length, with index at ±90°
MT 51	24636	ABS transport case
ST 110	24635	Soft transport case

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