

INDOOR AIR QUALITY MONITORS



HIGHLIGHTS:

- Indoor air quality permitting calculation of automatic ventilation rate by CO₂ analysis correlate to the real presence of people in the rooms

HD21-ABE-17

Art. no. 409559

Indoor air quality monitors

General:

HD21-AB-17 IAQ Monitor is a bench-top/portable instrument manufactured by Delta Ohm for the analysis of indoor air quality (IAQ, Indoor Air Quality).

The instrument simultaneously measures the parameters:

- Carbon Dioxide CO₂
- Carbon Monoxide CO
- Atmospheric Pressure
- Temperature
- Relative Humidity

and it calculates:

- Dew Point
- Wet Bulb Temperature
- Absolute Humidity
- Mixing Ratio
- Enthalpy

These regulations apply to all confined spaces that could be used by people. Kitchens, baths, changing rooms and swimming pools are included, due to their high humidity. You should take into account, in regard to air quality, possible chemical, physical and biological contaminants. The instruments have a wide Dot Matrix graphic display with a resolution of 160 x 160 dots.

The instruments typical applications are:

- Measurement of IAQ (Indoor Air Quality) and comfort conditions in schools, offices and indoor spaces.
- Analysis and study of the Sick Building Syndrome, and of the resulting consequences.
- Checking the HVAC (Heating, Ventilation and Air Conditioning) system efficiency.
- Examination of IAQ conditions in factories to optimize microclimate and improve productivity.
- Building Automation checks.

Specifications:

Device

Dimensions:	300 x 90 x 40 mm (H x W x D) (with probe)
Material:	ABS, rubber
Display:	Backlight, Dot Matrix, 160 x 160 dots, visible area 52 x 42 mm

Operating conditions

Working temperature:	-5 ... +50 °C
Storage temperature:	-25 ... +65 °C
Working relative humidity:	0 ... 85 % RH without condensation
Protection rating:	IP30
Instrument uncertainty:	±1 digit @ 20 °C

Power supply

Mains adapter (Code SWD-10):	12 V DC/1 A
Batteries:	4 x 1.2 V Ni-MH rechargeable batteries AA type
Autonomy:	8 h of continuous use in measure mode

Serial interface

Socket:	mini-USB
Type:	USB 1.1 or 2.0 not insulated
Storage capacity:	67.600 recordings

Scope of supply:

IAQ Monitor datalogger kit. Complete with: DeltaLog10 software (version 0.1.5.3 and later), monitor, and data processing on Personal Computer, 4 x 1.2 V NiMH rechargeable batteries, manual, case, with USB cable and mains adapter

CO₂ Carbon Dioxide

Sensor:	NDIR Dual Wavelength (two frequencies)
Measuring range:	0 ... 5.000 ppm
Sensor working range:	-5 ... +50 °C
Accuracy:	±50 ppm ±3 % of measurement
Resolution:	1 ppm
Temperature dependence:	0.1 % f.s./°C
Response time (T₉₀):	<120 s (air speed = 2 m/s)

CO Carbon Monoxide

Sensor:	Electrochemical cell
Measuring range:	0 ... 500 ppm
Sensor working range:	-5 ... +50 °C
Accuracy:	±3 ppm ±3 % of measurement
Resolution:	1 ppm
Response time (T₉₀):	<5 s
Service life:	>5 years in normal environment conditions

Atmospheric Pressure (Patm)

Type of sensor:	Piezo-resistive
Measuring range:	750 ... 1.100 hPa
Accuracy:	±1.5 hPa @ 25 °C
Resolution:	1 hPa
Temperature drift:	±3 hPa with temperature -20 ... +60 °C

Relative Humidity (RH)

Type of sensor:	Capacitive
Sensor protection:	Stainless steel grid filter (on request 10 µm sintered filter P6 in AISI 316 or 20 µm sintered filter P7 in PTFE)
Measuring range:	0 ... 100 % RH
Sensor working range:	-20 ... +60 °C
Accuracy:	±1.5 % RH (0 ... 90 % RH) ±2 % RH (elsewhere) for T=15 ... 35 °C ±(1.5 +1.5 % of the measure) % RH for T= -20 ... +60 °C
Resolution:	0.1 °C
Temperature dependence:	±2 % on all temperature range
Hysteresis and repeatability:	1 % RH
Response time (T₉₀):	<20 s (air speed = 2 m/s) without filter

Temperature T

Sensortyp:	NTC 10 kΩ
Measuring range:	-20 ... +60 °C
Accuracy:	±0.2 °C ±0.15 % of measurement
Resolution:	0.1 °C
Response time (T₉₀):	<30 s (air speed = 2 m/s)

Accessories:

SWD-10

Art. no. 700039

Stabilized power supply at -100-240 V AC/12V DC/-1 A mains voltage.

CP-23

Art. no. 475163

Connection cable with type B MiniUSB connector on instrument's side and USB 2.0 connector on PC's side.

BAT-40

Art. no. 700051

Spare batteries with built-in temperature sensor.

MINICAN-12-A-0

Art. no. 475309

Gas can with testgas for CO and CO₂ calibration at 0 ppm, Gas cylinder with 20 l test gas: N₂

HD-37-36

Art. no. 700053

Anschlussrohr-Set für CO-Kalibrierung

HD-37-37

Art. no. 700054

Connection tube kit between HD21-ABE and MINICAN, for CO₂-calibration

HD-33-0

Art. no. 700055

Humidity reference cell incl. adapter, 33 % r.h.