



AERASGARD® ACO₂-W / ALQ-CO₂-W / ACO₂-SD AERASGARD® AFTM-(LQ)-CO₂-W / ATM-CO₂-SD

D Bedienungs- und Montageanleitung

Multifunktionaler Aufputzfühler bzw. Messumformer für Feuchte, Temperatur, Luftgüte (VOC) und CO₂-Gehalt, kalibrierfähig, mit aktivem/schaltendem Ausgang

GB Operating Instructions, Mounting & Installation

Multifunctional on-wall sensors and measuring transducers for humidity, temperature, air quality (VOC) and CO₂ content, calibratable, with active/switching output

F Notice d'instruction

Sonde (transmetteur) pour montage en saillie multifonctionnelle, pour l'humidité, la température, la qualité d'air (COV) et de teneur en CO₂, étalonnable, avec sortie active/tout ou rien

RU Руководство по монтажу и обслуживанию

Мультифункциональный датчик для открытой установки/измерительный преобразователь, для измерения влажности, температуры, качества воздуха (VOC) и содержания CO₂, калибруемый, с активным/релейным выходом

AFTM-CO₂-W
AFTM-LQ-CO₂-W
ATM-CO₂-SD



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Herzlichen Glückwunsch!

Sie haben ein deutsches Qualitätsprodukt erworben.

Congratulations!

You have bought a German quality product.

Félicitations!

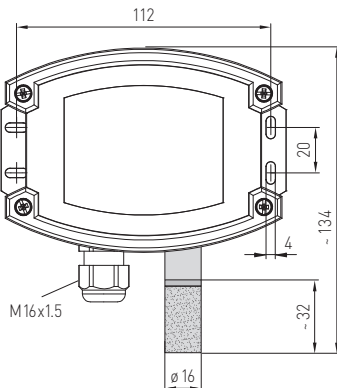
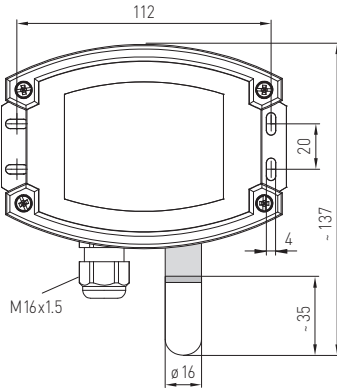
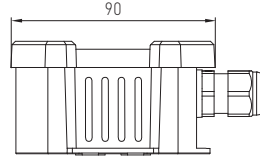
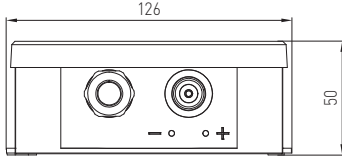
Vous avez fait l'acquisition d'un produit allemand de qualité.

Примите наши поздравления!

Вы приобрели качественный продукт, изготовленный в Германии.

Maßzeichnung
Dimensional drawing
Plan coté
Габаритный чертёж

AFTM - CO₂ - W
AFTM - LQ - CO₂ - W
ATM - CO₂ - SD



SF-K

Kunststoff-Sinterfilter (Standard)
plastic sinter filter (standard)

Filtere frittée en matière **synthétique** (standard)
сменный **пластиковый** спеченный фильтр
(стандартное исполнение)



SF-M

Metall-Sinterfilter (optional)
Metal sinter filter (optional)

Filtere frittée en **métal** (en option)
Металлокерамический фильтр (опция)



M12-Steckverbinder (optional auf Anfrage)
M12 connector (optional on request)
connecteur M12 (en option et sur demande)
разъем M12 (опционально по запросу)

Maintenance-free on-wall sensor **AERASGARD® ACO₂-SD** and **ATM-CO₂-SD** with active output, automatic calibration (fixed), in an impact-resistant plastic housing with quick-locking screws, for determining the CO₂ content of the air (0...2000 ppm/0...5000 ppm) and the temperature (-35...+80 °C). The measuring transducer converts the measured values into a standard signal of 0-10 V.

Maintenance-free on-wall sensor **AERASGARD® AFTM-LQ-CO₂-W** with active / switching output, automatic calibration (can be deactivated), in an impact-resistant plastic housing with quick-locking screws, optionally with / without Display, for determining the CO₂ content of the air (0...2000 ppm/0...5000 ppm), the quality in three VOC sensitivity levels (low/medium/high), the temperature (-35...+80 °C) as well as the relative air humidity (0...100% r.H.). The measuring transducer converts the measured values into a standard signal of 0-10 V or 4...20 mA (switchable).

The sensor is used in offices, hotels, convention centres, apartments, shops, etc. for the purpose of evaluating the indoor climate. This enables energy-saving room ventilation on an as-needed basis, thereby reducing operating costs and improving well-being.

A long-term stable, **digital humidity and temperature sensor** guarantees exact measurement results.

The CO₂ measurement is performed using an optical **NDIR sensor** (non-dispersive infra-red technology). The detection range is calibrated for standard applications such as monitoring residential rooms and conference rooms.

The air quality is detected by a **VOC sensor** (mixed gas sensor for volatile organic substances). This sensor determines the loading of the room air due to contaminated gases such as cigarette smoke, body perspiration, exhaled breathing air, solvent vapours, emissions from building components, etc. With regard to the expected air contamination, low, medium or high VOC sensitivity can be selected.

TECHNICAL DATA

Voltage supply:	24V AC/DC (± 10%)
Power consumption:	< 4.8 W / 24V DC typical; < 6.8 VA / 24V AC typical; peak current 200 mA
Outputs:	Axx-SD 0-10V (fixed) Axx-W 0-10V or 4...20mA, working resistance < 800 Ω (selectable via DIP switches, selected variant applies for all outputs), with offset potentiometer (± 10% of the measuring range)
Relay output:	Axx-SD without changeover contact Axx-W with potential-free changeover contact (24V / 1A) (assignment selectable via DIP switches, switchpoint adjustable)

HUMIDITY

Sensors:	digital humidity sensor with integrated temperature sensor , low hysteresis, high long-term stability
Sensor protection:	plastic sinter filter, Ø 16 mm, L = 35 mm, exchangeable (optional metal sinter filter, Ø 16 mm, L = 32 mm)
Measuring range, humidity:	0...100% r.H.
Operating range, humidity:	0...95% r.H. (without dew formation)
Deviation of humidity:	typically ± 2.0% (20...80% r.H.) at +25 °C, otherwise ± 3.0%
Output, humidity:	0-10V or 4...20 mA (selectable via DIP switches)

TEMPERATURE

Measuring range, temperature:	-35...+80 °C
Operating range, temperature:	-10...+60 °C
Temperature deviation:	typically ± 0.4 K at +25 °C
Output, temperature:	Axx-SD 0-10V (fixed) Axx-W 0-10V or 4...20 mA (selectable via DIP switches)

AIR QUALITY (VOC)

Sensor, VOC:	VOC sensor (metal oxide) (VOC = volatile organic compounds), with manual calibration (via zero button) and with automatic calibration (can be deactivated via DIP switches)
Measuring range, VOC:	0...100% air quality; referred to calibrating gas; multi-range switching (selectable via DIP switches) VOC sensitivity low, medium, high
Output, VOC:	0-10V (0V = clean air, 10V = polluted air) or 4...20 mA (selectable via DIP switches, switchpoint can be adjusted from 0...100% of the output signal)
Measuring accuracy, VOC:	typically ± 20% of final value (referred to calibrating gas)
Service life:	> 60 months (under normal load conditions) depending on the type of loading and gas concentration

CARBON DIOXIDE (CO₂)

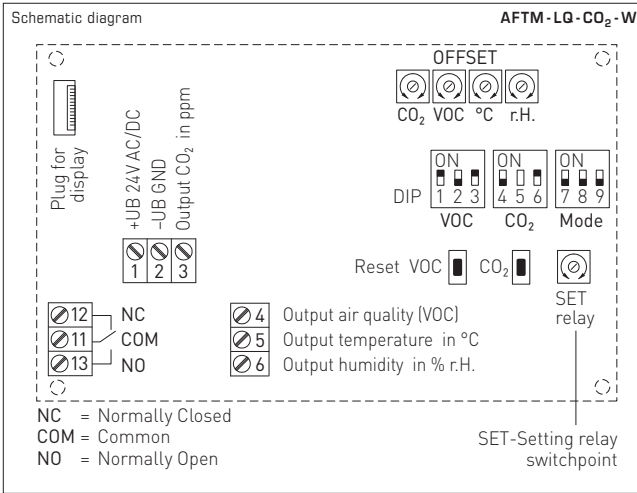
Sensor, CO ₂ :	optical NDIR sensor (non-dispersive infra-red technology), with manual calibration (via zero button), Axx-SD with automatic calibration (fixed) Axx-W with automatic calibration (can be deactivated via DIP switches)
Measuring range, CO ₂ :	0...2000 ppm or 0...5000 ppm (selectable via DIP switches)
Output, CO ₂ :	Axx-SD 0-10V (fixed) Axx-W 0-10V or 4...20 mA (selectable via DIP switches)
Measuring accuracy, CO ₂ :	typically ± 30 ppm ± 3% of measured value
Temperature dependence, CO ₂ :	± 5 ppm / °C or ± 0.5% of measured value / °C (whichever is higher)

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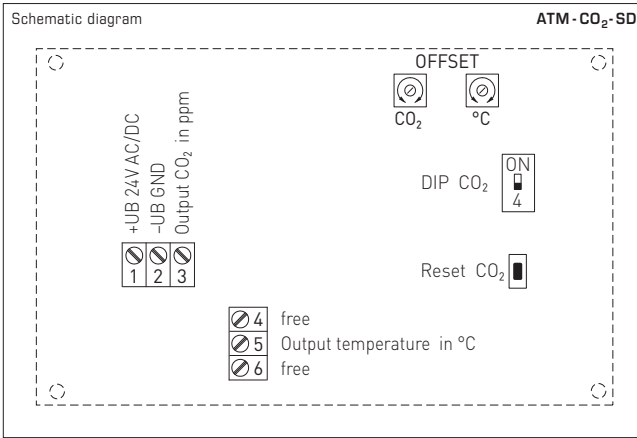
TECHNICAL DATA		(continued)
Pressure dependence:	± 0.13 % / mm Hg	
Long-term stability:	< 2 % in 15 years	
Gas exchange:	by diffusion	
Ambient temperature:	-10...+60 °C	
Response time:	< 2 minutes	
Electrical connection:	0.14 - 1.5 mm ² , via screw terminals	
Housing:	plastic, UV-stabilised, material polyamide, 30% glass-globe reinforced, with quick-locking screws (slotted / Phillips head combination), colour traffic white (similar to RAL 9016), housing cover for display is transparent!	
Housing dimensions:	126 x 90 x 50 mm (Tyr2)	
Cable connection:	cable gland , plastic (M16 x 1.5; with strain relief, exchangeable, max. inner diameter 10.4 mm) or M12 connector according to DIN EN 61076-2-101 (optional on request)	
Protective tube:	stainless steel V2A (1.4301), Ø 16 mm, NL = 55 mm	
Process connection:	by screws	
Protection class:	III (according to EN 60730)	
Protection type:	IP 65 (according to EN 60529)	
Standards:	CE conformity, electromagnetic compatibility according to EN 61 326, EMC Directive 2014/30/EU	
Optional:	three-line display with illumination , cutout approx. 70x40 mm (W x H), for displaying actual humidity, actual temperature, air quality and/or the actual CO ₂ content	

AERASGARD® ACO ₂ -SD	On-wall CO ₂ sensor, <i>Standard</i>
AERASGARD® ATM-CO ₂ -SD	On-wall temperature and CO ₂ sensor, <i>Standard</i>
AERASGARD® ACO ₂ -W	On-wall CO ₂ sensor, <i>Premium</i>
AERASGARD® ALQ-CO ₂ -W	On-wall air quality (VOC) and CO ₂ sensor, <i>Premium</i>
AERASGARD® AFTM-CO ₂ -W	Multifunctional on-wall sensor for humidity, temperature and CO ₂ content, <i>Deluxe</i>
AERASGARD® AFTM-LQ-CO ₂ -W	Multifunctional on-wall sensor for humidity, temperature, CO ₂ content and air quality (VOC), <i>Deluxe</i>

Type / WG02	Measuring Range				Equipment Display	Item No. (Balduz 2)
	Humidity	Temperature	CO ₂	VOC		
ACO₂-SD			(switchable)			
ACO2-SD-U	-	-	0...2000 / 5000 ppm	-	-	1501-7110-1001-200
ATM-CO₂-SD			(switchable)			
ATM-CO2-SD-U	-	-35...+80 °C	0...2000 / 5000 ppm	-	-	1501-7112-1001-200
ACO₂-W			(switchable)			
ACO2-W (without display)	-	-	0...2000 / 5000 ppm	-	W	see ACO₂-W / ACO₂-SD
ACO2-W-DISPLAY	-	-	0...2000 / 5000 ppm	-	W ■	1501-7110-7371-200
ALQ-CO₂-W			(switchable)			
ALQ-CO2-W	-	-	0...2000 / 5000 ppm	0...100%	W	1501-7111-7301-200
ALQ-CO2-W-DISPLAY	-	-	0...2000 / 5000 ppm	0...100%	W ■	1501-7111-7371-200
AFTM-CO₂-W			(switchable)			
AFTM-CO2-W	0...100% r.H.	-35...+80 °C	0...2000 / 5000 ppm	-	W	1501-7116-7301-200
AFTM-CO2-W-DISPLAY	0...100% r.H.	-35...+80 °C	0...2000 / 5000 ppm	-	W ■	1501-7116-7371-200
AFTM-LQ-CO₂-W			(switchable)			
AFTM-LQ-CO2-W	0...100% r.H.	-35...+80 °C	0...2000 / 5000 ppm	0...100%	W	1501-7118-7301-200
AFTM-LQ-CO2-W DISPLAY	0...100% r.H.	-35...+80 °C	0...2000 / 5000 ppm	0...100%	W ■	1501-7118-7371-200
Outputs:	0-10V or 4...20 mA (selectable via DIP switches, selected variant applies for all outputs) – <i>Standard</i> on-wall sensor ATM-CO₂-SD with fixed output 0-10V!					
Equipment:	W = changeover contact – <i>Standard</i> on-wall sensor ATM-CO₂-SD without changeover contact!					
Optional:	Cable connection with M12 connector according to DIN EN 61076-2-101 (on request)					
Note:	This unit must not be used as safety-relevant device!					
ACCESSORIES						
SF-M	Metal sinter filter, Ø 16 mm, L = 32 mm, exchangeable stainless steel V4A (1.4404)					7000-0050-2200-100
WS-03	Weather and sun protection hood , 200x180x150 mm, stainless steel V2A (1.4301)					7100-0040-6000-000

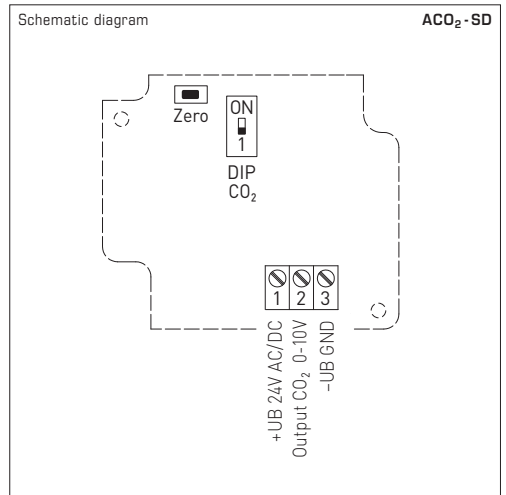
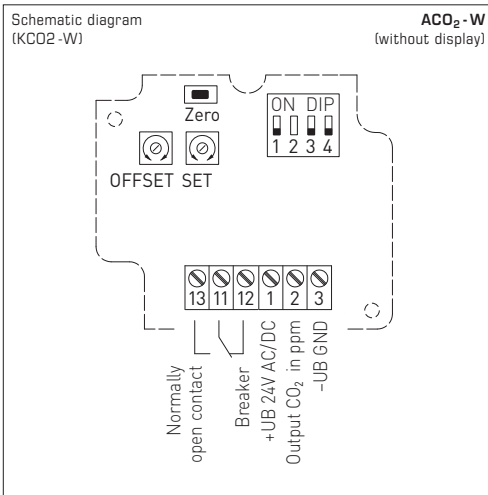


DIP switches		AFTM-LQ-CO ₂ -W	
VOC sensitivity		DIP 1	DIP 2
LOW		OFF	OFF
MEDIUM (default)		ON	OFF
HIGH		OFF	ON
VOC automatic zero point		DIP 3	
deactivated		OFF	
activated (default)		ON	
CO₂ content		DIP 4	
0...2000 ppm (default)		OFF	
0...5000 ppm		ON	
CO₂ automatic zero point		DIP 6	
deactivated		OFF	
activated (default)		ON	
Relay assignment		DIP 7	DIP 8
CO ₂ (default): 600...1900 ppm / 900...4700 ppm		OFF	OFF
VOC: 10...95%		ON	OFF
Temperature: -23...+74 °C		OFF	ON
Humidity: 10...95% r.H.		ON	ON
Output		DIP 9	
Voltage 0-10 V (default)		OFF	
Current 4...20 mA		ON	
Note: DIP 5 is not assigned!			



DIP switch		ATM-CO ₂ -SD	
CO₂ content		DIP 4	
0...2000 ppm (default)		OFF	
0...5000 ppm		ON	

GB AERASGARD® ACO₂-W (without display) / ACO₂-SD



DIP switch		ACO ₂ -W	
CO₂ content		DIP 1	
0...2000 ppm (default)		OFF	
0...5000 ppm		ON	
CO₂ - automatic zero point		DIP 3	
deactivated		OFF	
activated (default)		ON	
Output		DIP 4	
Voltage 0-10V (default)		OFF	
Current 4...20mA		ON	

Note: **DIP 2** is not assigned!

DIP switch		ACO ₂ -SD	
CO₂ content		DIP 1	
0...2000 ppm (default)		OFF	
0...5000 ppm		ON	

ATTENTION!

The minimum CO₂ concentration of outside air in leafy, hardly industrialised areas is approx. 350 ppm (output voltage = 1.75 V with MR = 0...2000 ppm or 0.7 V with MR = 0...5000 ppm). The gas inter-exchange in the sensor element happens by diffusion. Depending on the changes to the concentration and the flow velocity of the air surrounding the sensor, the reaction of the device to the change of concentration may take place with a delay. It is essential to choose an installation location for the device in which the air stream flows around the sensor. Otherwise the gas exchange may be considerably delayed or prevented.

Automatic calibration of the carbon dioxide measurement – ABC logic (default)

The automatic background logic is a self-calibrating mechanism that is suitable for use in applications in which the CO₂ concentration drops to fresh air level (350 - 400 ppm) at least three times in 7 days. This should typically occur during times in which rooms are unoccupied. The sensor reaches its normal accuracy after 24 hours of continuous operation in an environment that has been subjected to a fresh air supply of 400 ppm CO₂. The deviation errors remain minimal if the sensor is exposed to fresh air at least 4 times within 21 days. The ABC logic needs continuous operating cycles of more than 24 hours to operate correctly.

Manual calibration of carbon dioxide measurement

Manual calibration can be carried out independently of the DIP switch position (ABC logic).

Sufficient fresh air [CO₂ content = 500 ppm] must be provided before and after the calibration procedure!

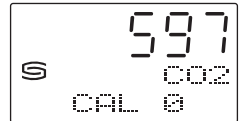
The calibration procedure is started by pressing the "Reset CO₂" (for approx. five seconds).

This is signalled by the flashing LED or the countdown timer on the display (AUTO 0).

Then calibration takes place.

During this phase, the LED is constantly active and a 600-second countdown runs on the display CAL 0.

The LED is deactivated after successful calibration.



Automatic calibration of carbon dioxide measurement (default)

Within a period of approx. 4 weeks, the minimum output value for air quality is saved. After this period, the output signal is standardised to the zero point. The maximum amount of correction is here limited to 1V/interval. Long-term drifts and the operation-related ageing of the sensor element are thus completely eliminated.

Manual calibration of air quality

Manual calibration can be carried out independently of the DIP switch position.

Sufficient fresh air must be provided before and after the calibration procedure!

We recommend a fresh air supply of at least two hours before the calibration process.

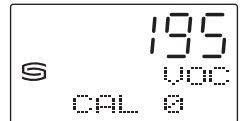
The calibration procedure is started by pressing the "Reset VOC" button (for approx. five seconds).

This is signalled by the flashing LED or the countdown timer on the display (AUTO 0).

Then calibration takes place.

During this phase, the LED is constantly active and a 200-second countdown runs on the display CAL 0.

The LED is deactivated after successful calibration.



General information on air quality

The service life of the sensor depends on its functional principle and the type and concentration of pollutant gas burden. The sensitive layer of the sensor element reacts with all volatile organic compounds and is therefore modified in its electrical properties. This procedure leads to an offset of the characteristic line. When measuring the air quality, the general condition of the air quality is recorded. Whether the air quality is "good" or "bad" depends on the individual interpretation of each individual. Different pollution burdens and concentrations influence the air quality signal (0 - 10 V) in different ways. Examples are cigarette smoke, deodorant sprays, cleaning agents and various adhesive materials for floor and wall coverings, as well as dyes. Increased levels of solvents, nicotine, hydrocarbons, aerosol propellants, etc. intensify the wear/ageing of the sensor element. Especially at high pollutant gas burdens, even when the devices are idle (transport and storage) the zero point is adjusted. This must be corrected on-site depending on the specific conditions or basic burdens. Air quality measuring instruments from various manufacturers cannot be compared directly with each other because of the different functional principles, the pre-set basic burden (zero point) and the permitted burden (amplification/sensitivity). The devices are set or calibrated according to the specifications of the sensor manufacturer. Here, a zero point and end value, and therefore a maximum load, are established. In special circumstances, there is an overrun of the measuring range or an excessively high basic burden on the devices (out-gassing carpets, wall paint, etc.) In order to enable a measurement or distinction of different air qualities, the devices must be configured by the client in accordance with the on-site conditions which do not correspond to the function domain and thus the factory calibration. Here, it should be noted that the factory calibration will be lost and technical data compliance can no longer be guaranteed.

GB Installation and Commissioning

Putting in operation

After switching on the device, a self-test and tempering period follows.

This procedure takes 30 - 50 minutes, depending on the ambient conditions.

During this time the output analogue voltage differs from the actual measured value.

Manual calibration can then be performed as an option. Make sure that no harmful substances influence the calibration process and that the sensor is operated in fresh air. The ABC logic can then be optionally activated.

Switching point setting

A potential-free changeover contact is available as a switch output.

A switching point between 10% and 95% of the measuring range can be selected using the SET potentiometer. The 10% value is added to the fresh air limit of 400 ppm for CO₂ (600...1900 ppm with MR = 0...2000 ppm or 900...4700 ppm with MR = 0...5000 ppm).

With other measurands, the corresponding lower limit is used directly as a basis.

(VOC: 10...95%, Temperature: -23...+74 °C, Humidity: 10...95% r.H.)

The assignment of the switch output to measurand is done via DIP switch (DIP 7 and DIP 8).

Offset

Each measuring channel has a separate offset potentiometer for subsequent adjustment of the measurement. The adjusting range is ±10% of the measuring range.

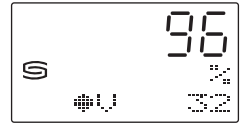
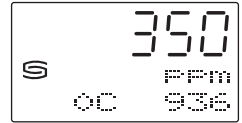
Display

In the first and second lines, the **measurements** with the corresponding **units** (CO₂ in **ppm**, VOC in **%**, temperature in **°C**, relative humidity in **% r.H.**) are displayed in a cyclical series.

In the third line, the **switching status of the relay** is shown on the left as a circuit (full ● = relay energised; empty ○ = relay de-energised)

followed by the corresponding **indicator**

(**C** for CO₂; **V** for VOC; **T** for temperature; **H** for relative humidity in % r.H.) and the **switchpoint value** is shown on the right.

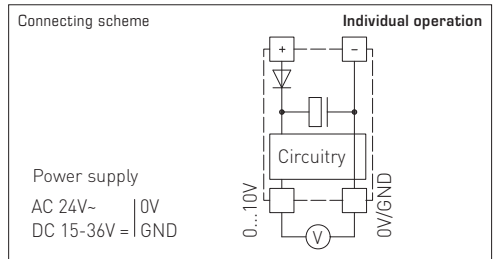


SUPPLY VOLTAGE:

For operating voltage reverse polarity protection, a one-way rectifier or reverse polarity protection diode is integrated in this device variant. This internal one-way rectifier on AC supply voltage.

The output signal is to be tapped by a measuring instrument. The output signal is measured here against zero potential (0V) of the input voltage!

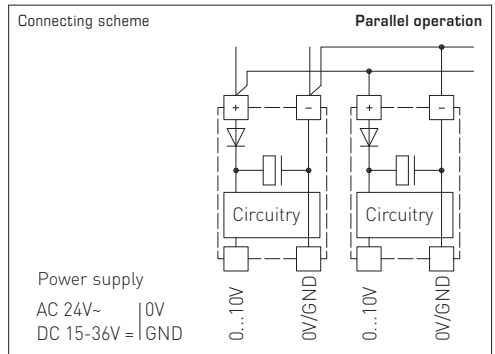
When this device is operated on **DC supply voltage**, the operating voltage input UB+ is to be used for 15...36V DC supply and UB- or GND for ground wire!



When several devices are supplied by one 24V **AC voltage supply**, it is to be ensured that all "positive" operating voltage input terminals (+) of the field devices are connected with each other and all "negative" operating voltage input terminals (-) (= reference potential) are connected together (in-phase connection of field devices). All outputs of field devices must be referenced to the same potential!

In case of reversed polarity at one field device, a supply voltage short-circuit would be caused by that device. The consequential short-circuit current flowing through this field device may cause damage to it.

Therefore, pay attention to correct wiring!



General notes

- This device may only be used in pollutant-free non-precipitating air without above-atmospheric or below-atmospheric pressure at the sensor element.
- On outdoor and duct sensors, the sinter filter of the sensor element protects the humidity sensor against potential dust exposure. In case of pollution / contamination, this filter should be cleaned on a regular basis.
- Dust and pollution falsify measurement results and are to be avoided. Slight pollution and dust sediments can be removed by using compressed air.
- Touching the humidity element is under any circumstances to be avoided, as that would result in considerable mismeasurements.
- In case of pollution, we recommend cleaning and recalibration in the factory.
- Extremely high concentrations of VOCs, aggressive cleaning agents or silicone-containing vapours can destroy the sensor element or reduce its service life drastically.
- The air quality signal "good"..."bad" is represented by the output signal 0-10V or 4...20 mA.
- The device operating range covers 10...95% relative humidity respectively -35...+80 °C. Beyond that range, mismeasurements or increased deviations will occur.
- The chemical sensor is a consumable. The lifetime of the sensor depends on nature and concentration of the pollutant gas burden.
- When several sensors are connected to one voltage supply of 24V AC, correct polarity must be regarded as otherwise the alternating voltage source may be short-circuited.
- The outputs are short-circuit proof. Applying overvoltage or voltage supply to the output will destroy the device.
- If this device is operated beyond the specified range, all warranty claims are forfeited.

Our "General Terms and Conditions for Business" together with the "General Conditions for the Supply of Products and Services of the Electrical and Electronics Industry" (ZVEI conditions) including supplementary clause "Extended Retention of Title" apply as the exclusive terms and conditions.

In addition, the following points are to be observed:

- These instructions must be read before installation and putting in operation and all notes provided therein are to be regarded!
- A suitable weather and sun protection hood must be used when installed outdoors.
- Devices must only be connected to safety extra-low voltage and under dead-voltage condition. To avoid damages and errors the device (e.g. by voltage induction) shielded cables are to be used, laying parallel with current-carrying lines is to be avoided, and EMC directives are to be observed.
- This device shall only be used for its intended purpose. Respective safety regulations issued by the VDE, the states, their control authorities, the TÜV and the local energy supply company must be observed. The purchaser has to adhere to the building and safety regulations and has to prevent perils of any kind.
- No warranties or liabilities will be assumed for defects and damages arising from improper use of this device.
- Consequential damages caused by a fault in this device are excluded from warranty or liability.
- These devices must be installed and commissioned by authorised specialists.
- The technical data and connecting conditions of the mounting and operating instructions delivered together with the device are exclusively valid. Deviations from the catalogue representation are not explicitly mentioned and are possible in terms of technical progress and continuous improvement of our products.
- In case of any modifications made by the user, all warranty claims are forfeited.
- This device must not be installed close to heat sources (e.g. radiators) or be exposed to their heat flow. Direct sun irradiation or heat irradiation by similar sources (powerful lamps, halogen spotlights) must absolutely be avoided.
- Operating this device close to other devices that do not comply with EMC directives may influence functionality.
- This device must not be used for monitoring applications, which serve the purpose of protecting persons against hazards or injury, or as an EMERGENCY STOP switch for systems or machinery, or for any other similar safety-relevant purposes.
- Dimensions of housings or housing accessories may show slight tolerances on the specifications provided in these instructions.
- Modifications of these records are not permitted.
- In case of a complaint, only complete devices returned in original packing will be accepted.

Notes on commissioning:

This device was calibrated, adjusted and tested under standardised conditions.

When operating under deviating conditions, we recommend performing an initial manual adjustment on-site during commissioning and subsequently at regular intervals.

Commissioning is mandatory and may only be performed by qualified personnel!

These instructions must be read before installation and commissioning and all notes provided therein are to be regarded!

-35...+80 °C

°C	U _A [V]	I _A [mA]
-35	0.0	4.0
-30	0.4	4.7
-25	0.9	5.4
-20	1.3	6.1
-15	1.7	6.8
-10	2.2	7.5
-5	2.6	8.2
0	3.0	8.9
+5	3.5	9.6
+10	3.9	10.3
+15	4.3	11.0
+20	4.8	11.7
+25	5.2	12.3
+30	5.7	13.0
+35	6.1	13.7
+40	6.5	14.4
+45	7.0	15.1
+50	7.4	15.8
+55	7.8	16.5
+60	8.3	17.2
+65	8.7	17.9
+70	9.1	18.6
+75	9.6	19.3
+80	10.0	20.0

0...100% r.H.

% r.H.	U _A [V]	I _A [mA]
0	0.0	4.0
5	0.5	4.8
10	1.0	5.6
15	1.5	6.4
20	2.0	7.2
25	2.5	8.0
30	3.0	8.8
35	3.5	9.6
40	4.0	10.4
45	4.5	11.2
50	5.0	12.0
55	5.5	12.8
60	6.0	13.6
65	6.5	14.4
70	7.0	15.2
75	7.5	16.0
80	8.0	16.8
85	8.5	17.6
90	9.0	18.4
95	9.5	19.2
100	10.0	20.0



WS-03

Wetter- und Sonnenschutz
(optional)

Weather and sun protection
(optional)

Protection contre
les intempéries et le soleil
(en option)

Приспособление для защиты
от непогоды и солнечных лучей
(опция)

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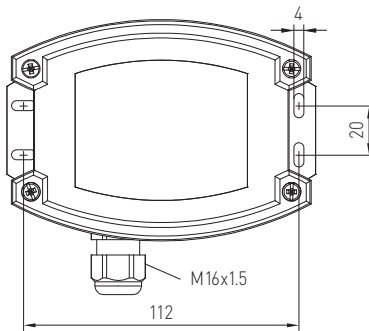
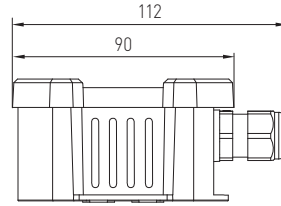
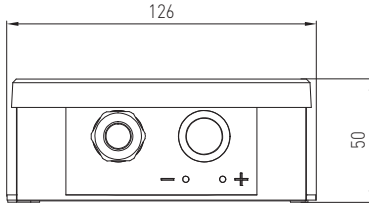
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Maßzeichnung
Dimensional drawing
Plan coté
Габаритный чертёж

ACO₂-W
ALQ-CO₂-W
ACO₂-SD



M12-Steckverbinder (optional auf Anfrage)
M12 connector (optional on request)
connecteur M12 (en option et sur demande)
разъем M12 (опционально по запросу)

ACO₂-W
ALQ-CO₂-W
ACO₂-SD

ohne Display
without display
sans écran
без дисплея



ACO₂-W
ALQ-CO₂-W

mit Display
with display
avec écran
с дисплеем

