AERASGARD® RCO$_2$-A NT

Mobile CO$_2$ sensor for schools with traffic light display, incl. power supply unit, room CO$_2$ sensor or measuring transducer, self-calibrating, and active output

S+S REGELTECHNIK

Maintenance-free **AER**ASGARD® **CO$_2$ sensor for schools (RCO$_2$-A NT)** with traffic light display, incl. power supply unit, self-calibrating, in an elegant plastic housing, for determining the CO$_2$ content of room air (0…3000 ppm). The measuring transducer converts the measurand to a standard signal, which is directly presented visually by five coloured LEDs (traffic light indicator). Available in device versions **RCO$_2$-A NT** for direct wall mounting, **RCO$_2$-A UPNT** for mounting on in-wall flush boxes and **RCO$_2$-A NT ST** as a floor-mounted device with a metal support.
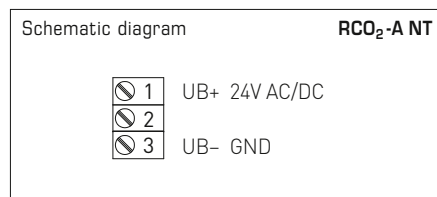
The room sensor is used in classrooms, training rooms and convention centres, offices, hotels, apartments, shops, etc. and is used for easy and quick evaluation of the indoor climate. This enables energy-saving room ventilation on an as-needed basis, thereby reducing operating costs and improving well-being.

The CO$_2$ measurement is performed using an optical **NDIR sensor** (non-dispersive infra-red technology). For more information, see the start of the chapter.
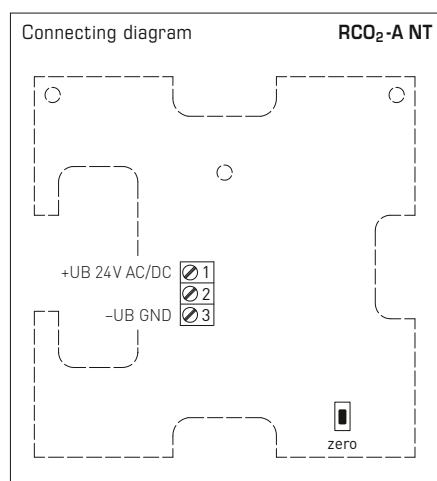
RCO$_2$-A UPNT
CO$_2$ sensor for schools
with CO$_2$ traffic light,
incl. in-wall power supply unit

TECHNICAL DATA

Power supply:	**RCO$_2$-A UPNT:** 24 V AC / DC (± 10 %) **RCO$_2$-A NT, RCO$_2$-A NT ST:** 230 V AC (50 - 60 Hz)
Electrical connection:	power supply unit 230 V / 50 -60 Hz (included in the scope of delivery)
Sensor:	optical NDIR sensor (non-dispersive infrared technology), with manual calibration (via zero button) with automatic calibration
Measurement range:	0…3000 ppm
Measuring accuracy:	typically ± 30 ppm ± 3% of measured value
Temperature dependence:	± 5 ppm / °C or ± 0.5% of measured value / °C (whichever is greater)
Pressure dependence:	± 0.13% / mm Hg
Long-term stability:	< 2% in 15 years
Gas exchange:	by diffusion
Ambient temperature:	0…+ 50 °C
Warm-up time:	approx. 1 hour
Response time:	< 2 minutes
Housing:	plastic, material ABS, colour pure white (similar to RAL 9010)
Dimensions:	85 x 85 x 27 mm (Baldur 1)
Installation:	**RCO$_2$-A UPNT, RCO$_2$-A NT:** wall mounting or on in-wall flush box, Ø 55 mm, base with 4-hole for mounting on vertically or horizontally installed in-wall flush boxes for cable entry from the back, with predetermined breaking point for on-wall cable entry from top / bottom in case of plain on-wall installation **RCO$_2$-A NT ST:** mobile CO$_2$ measuring instrument on stand holder (table-top unit)
Protection class:	III (according to EN 60 730)
IP rating:	**IP 30** (according to EN 60 529)
Standards:	CE-conformity, electromagnetic compatibility according to EN 61 326, EMC directive 2014 / 30 / EU, low voltage directive 2014 / 35 / EU
Equipment:	**traffic light indicator** (five coloured LEDs, see table) for displaying the CO$_2$ concentration **Connector for power supply unit** (connecting cable approx. 1.5 m) or **in-wall power supply unit** for mounting on in-wall flush boxes (**RCO$_2$-A UPNT**) **Stand holder** made from stainless steel (**RCO$_2$-A NT ST**)

Schematic diagram **RCO$_2$-A NT**

1	UB+ 24V AC/DC
2	
3	UB− GND

RCO$_2$-A NT ST
mobile CO$_2$ sensor for schools
with CO$_2$ traffic light,
incl. connector for power supply unit
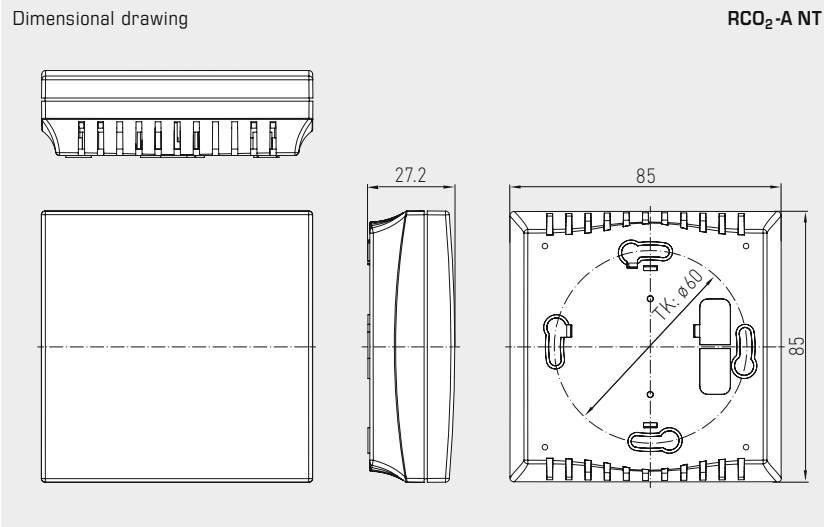and stand holder made from stainless steel
(table-top unit)

Connecting diagram **RCO$_2$-A NT**

+UB 24V AC/DC 1
2
−UB GND 3

zero

Mobile CO$_2$ sensor for schools with traffic light display, incl. power supply unit, room CO$_2$ sensor or measuring transducer, self-calibrating, and active output

Dimensional drawing RCO$_2$ - A NT

27.2   85   85

TK: ø60

RCO$_2$-A NT
mobile CO$_2$ sensor for schools
with CO$_2$ traffic light,
incl. connector for power supply unit
for wall mounting

CO2-SENSOR

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Traffic light indicator					RCO$_2$-A NT
CO$_2$ content in ppm	LED 1 Green	LED 2 Green	LED 3 Yellow	LED 4 Yellow	LED 5 Red
350	20 %	–	–	–	–
416	40 %	–	–	–	–
482	60 %	–	–	–	–
548	80 %	–	–	–	–
614	**100 %**	–	–	–	–
680		20 %	–	–	–
746		40 %	–	–	–
812		60 %	–	–	–
878		80 %	–	–	–
944		**100 %**	–	–	–
1010			20 %	–	–
1076			40 %	–	–
1142			60 %	–	–
1208			80 %	–	–
1274			**100 %**	–	–
1340				20 %	–
1406				40 %	–
1472				60 %	–
1538				80 %	–
1604				**100 %**	–
1670					20 %
1736					40 %
1802					60 %
1868					80 %
1934					**100 %**
2000					
3000					

Once the aforementioned values have been reached, the respective LED becomes active (with increasing luminosity of 20%, 40%, 60%, 80% and 100%); LEDs that are already active continue to be illuminated.

LED	Recommendation	RCO$_2$ -A NT
1 🟢	**Green:** no action required	
2 🟢	**Green:** prompt airing recommended	
3 🟡	**Yellow:** airing recommended	
4 🟡	**Yellow:** airing required	
5 🔴	**Red:** intensive airing necessary	

AERASGARD® RCO$_2$ - A NT   Training CO$_2$ sensor with traffic light indicator incl. power supply unit

Type / WG02	Measuring ranges CO$_2$	Display CO$_2$	Equipment	Item no. (Baldur 1)	Price
RCO$_2$ -A NT				with traffic light	
RCO2-A NT	0…3000 ppm	5 LEDs	Connector for power supply unit	1501-61A0-7331-232	**297,88 €**
RCO2-A NT ST	0…3000 ppm	5 LEDs	Connector for power supply unit, stand holder	1501-61A0-7331-231	**312,82 €**
RCO2-A UPNT	0…3000 ppm	5 LEDs	In-wall power supply unit	1501-61A0-7331-233	**351,53 €**
Note:		This unit must **not** be used as safety-relevant device!			