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Rotronic CCCA-S20X-SET Probe with NDIR

Specifications

- **Measurement principle:** Infrared (NDIR)
- **Measured parameter:** Carbon dioxide concentration (%)
- **Accuracy:** 0…20 %CO2
- **Medium:** Air & non-aggressive gases
- **Long-term stability:** 60 s
- **Measurement range:** 0…20 %CO2

Product Usage Instructions

Installation and Setting

1. **CCA-S-20X probe only:** Connect to E2-01XX cable for power and analog signal readout. Align catches correctly and tighten the knurled nut by hand.
2. **CCA-S-20X-SET probe and converter box:** Connect the probe to the converter box cable, align catches, tighten the knurled nut, and power the probe via the converter box using the supplied power supply.

Positioning of the CO2-Probe

- Find a suitable place for measurement, avoiding sunlight and heat sources. Connect the sensor to a data logger or use an extension cable E2-XXA up to 5 m. A wall-

mounted holder, AC1322, is available for purchase.

Integration of the CO2-Probe into RMS

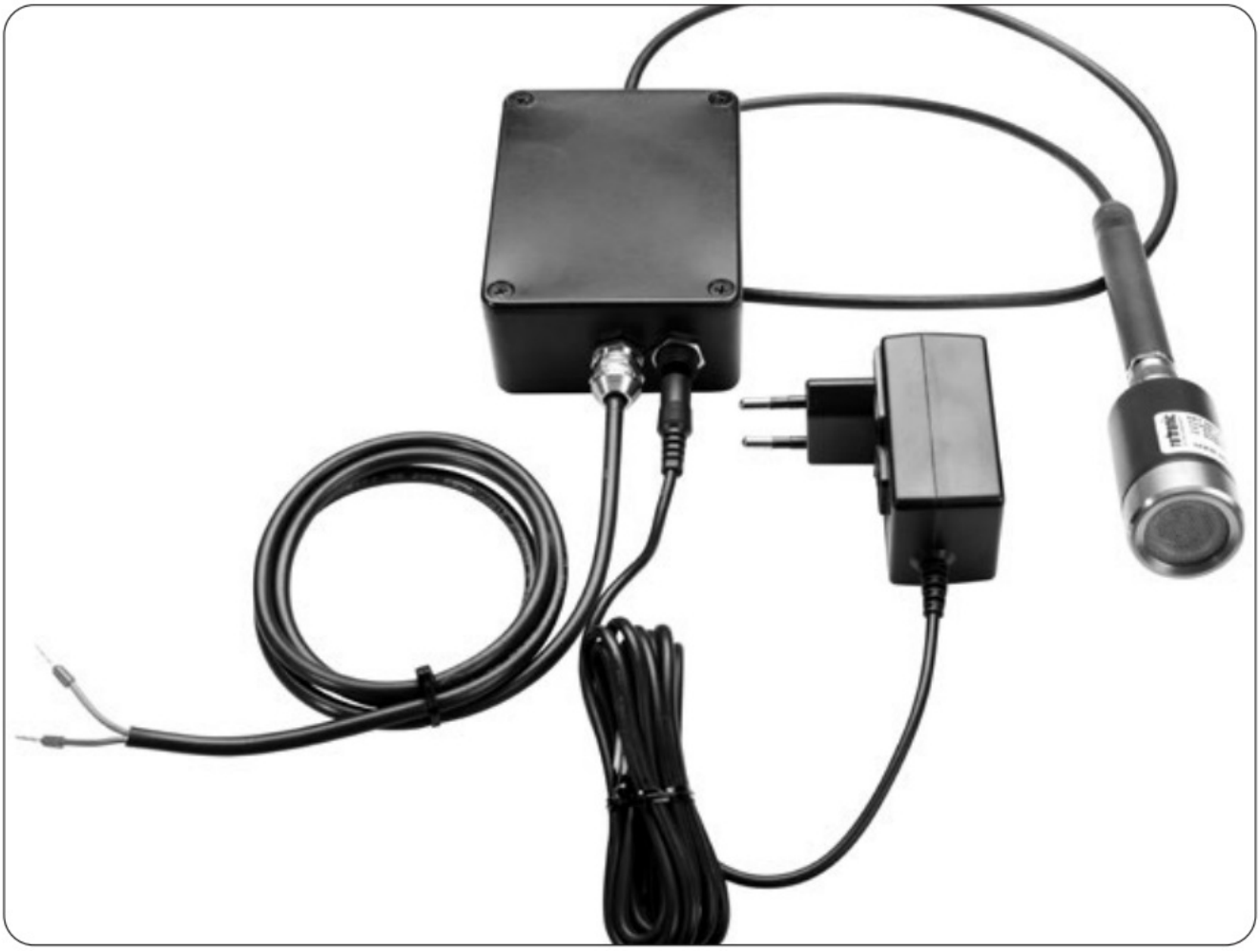
- The CCA-S-20X-SET can only be integrated into RMS with RMS-MADC868/915-A or RMS-ADC-L-R data loggers. Refer to the respective user manual for adding the data logger to RMS.

Adjustment / Calibration

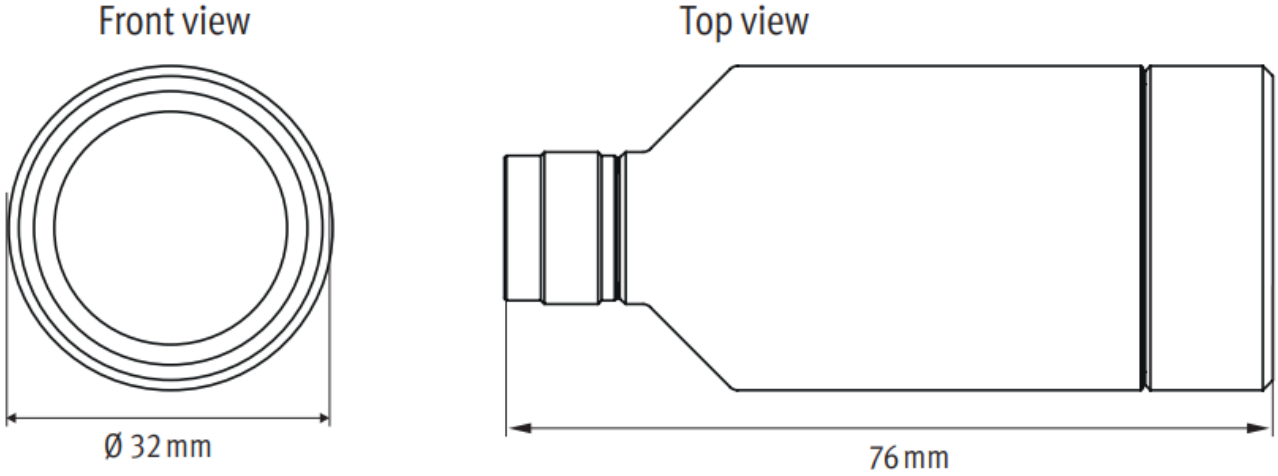
- The probes are factory-adjusted. For optimal accuracy, Rotronic recommends annual calibration of the probes.

GENERAL DESCRIPTION

- Congratulations on your purchase of the CO2-probe. Please read these short instructions carefully before installing the device. This document is limited to a description of the main functions and installation of the device.
- Further documents can be found on the internet at: **ProcessSensing.com** or **rotronic.com.**



DIMENSIONS/CONNECTIONS



INSTALLATION AND SETTING

The installation of the CCA can be carried out in two ways:

1. **CCA-S-20X probe only:** a cable is required (E2-01XX) to power and read out the analog signals from the device. When connecting to the E2-01XX cable, make sure that the catches are aligned correctly. Tighten the knurled nut by hand.

2. **CCA-S-20X-SET probe and converter box:** When connecting the CCA-S-20X probe to the cable from the converter box, make sure that the catches are aligned correctly.
    - Tighten the knurled nut by hand. Power the probe via the converter box with the power supply delivered with the set. Plug the power supply into the mains connection.

POSITIONING OF THE CO2-PROBE

- Look for a representative place for the measurement. Avoid interfering influences such as sunlight, heating elements, etc.
- The sensor can be easily connected to the data logger or can be connected with an extension cable E2-XXA up to 5 m. It is possible to purchase a wall-mounted holder, AC132,2, for the probe.

INTEGRATION OF THE CO2-PROBE INTO RMS

- **Attention!** The CCA-S-20X-SET can only be integrated into RMS with the RMS-MADC-868/915-A or the RMS-ADC-L-R data loggers. Please see the respective short user manual to add the data logger to RMS.
- The CCA-S-20X-SET offers a 4…20 mA output.

The cabling for the 4…20 mA output:

- **Blue:** negative (-)
- **Brown:** positive (+)

ADJUSTMENT/CALIBRATION

- The probes are adjusted in our factory before delivery. For maximum accuracy, Rotronic recommends an annual calibration of the probes.

TECHNICAL SPECIFICATIONS

Measurement principle	Infrared (NDIR)
Measured parameter	Carbon dioxide concentration (%)

Accuracy	±10 % of the measured value
Medium	Air & non-aggressive gases
Long-term stability	±0.24 %CO2/year
Temperature dependence	±10 % of the measured value
Pressure dependence	±0.15 % of measured value/hPa
Measurement range	0…20 %CO2
Application range	-20…50 °C / 0…95 %rH non-condensing / 700…1 200 hPa
Storage conditions	-20…30 °C / 0…95 %rH non-condensing / 700…1 200 hPa
Startup time	60 s
Power supply	CCA-S-20X: 3…5 VDC / 80 mA CCA-S-20X-Set: 24 VDC / 150 mA
AC adapter requirements	100…240 VAC / 50…60 Hz / 0.3 A
Output signal	4…20 mA (CCA-S-20X-SET) 0.4.. 2.0 V (CCA-S-20X only sensor)
FDA / GAMP directives	FDA CFR21 Part 11 / GAMP 5
Enclosure material	Polycarbonate (housing) Stainless steel DIN 1.430 5 (nut)
Fire protection class	Corresponds to UL94-HB

Dimensions	Sensor: 32 mm x 87 mm Converter box: 100 mm x 77 mm x 40 mm (LxWx H)
IP protection class	IP40
Weight	55 g sensor, 200 g converter box

DELIVERED

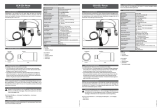
- **CCA-S-20X:**
  - CO2 probe
  - Calibration certificate
- **CCA-S-20X-SET:**
  - CO2 probe
  - Calibration certificate
  - Converter box
  - Power supply

processSensing.com

FAQ

- **Q: How often should I calibrate the CO2-probe?**
  - **A:** Rotronic recommends an annual calibration for maximum accuracy of the probes.

Documents / Resources

	Rotronic CCCA-S20X-SET Probe with NDIR [pdf] Instruction Manual CCCA-S20X-Set, CCA-S-20X-SET, CCCA-S20X-SET Probe with NDIR, C CCA-S20X-SET, Probe with NDIR, with NDIR

References

- User Manual

ROTRONIC

CCA-S-20X-SET, CCCA-S20X-Set, CCCA-S20X-SET Probe with NDIR, Probe with NDIR, ROTRONIC, with NDIR

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