



# SCD100

# D-70-21

Duct CO2 Transmitter 0–10V and  
Temperature Sensor NTC 1.8/10 Kohm

30 Mar 2005

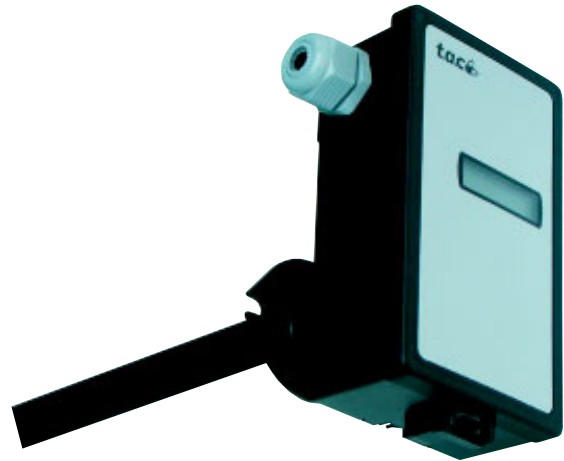
SCD100 is an infrared and maintenance-free carbon dioxide transmitter for installation in ventilation ducts.

SCD100 measures the carbon dioxide concentration in the ambient air up to 2 000 ppm and transforms the data into a 0-10 V output signal. SCD100 is also equipped with passive temperature elements selectable for

- TAC Vista® products, NTC 1.8 kohm
- I/NET® products, NTC 10 kohm
- Continuum® products, NTC 10 kohm

SCD100-D has a LCD display, showing the CO2 in ppm.

SCD100 helps you save money by decreasing your energy consumption while creating a healthier indoor climate!



## TECHNICAL SPECIFICATION

Part number:  
 SCD100 ..... 0-046-3010-0  
 SCD100-D ..... 0-046-3011-0

Carbon Dioxide Sensor:  
 Response Time ..... <3 min  
 Operation ..... Non-dispersive infrared (NDIR)  
 Sampling ..... Diffusion  
 Range ..... 0 to 2000 ppm  
 Accuracy ..... ± 1% of measurement range ± 5 % of measured value  
 Annual Drift ..... ±10 ppm (nominal)  
 CO2 Pressure dependence ..... 1.6% change in reading per 1 kPa (0.15 PSI) deviation from 100 kPa (14.5 PSI)

Temperature:  
 Operating ..... 0 – 50 °C (32 – 122 °F)  
 Storage ..... –40 – 70 °C (–40 – 158 °F)  
 with display ..... –20 – 70 °C (–4 – 158 °F)  
 Operating humidity range .. 0 – 95% RH (non-condensing)  
 Out put signal ..... 0 – 10 V or 2 – 10 V  
 Load ..... > 5000 ohm  
 Power Supply ..... 24 Vac ±20%, 50/60 Hz (Class 2)  
 Peak power consumption first 25 ms ..... 5 W  
 Average power consumption ..... < 1 W

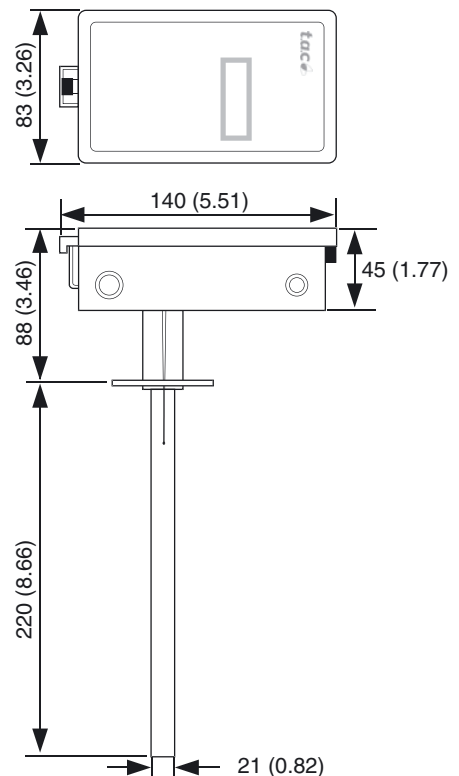
Temperature Sensor element for  
 – TAC Vista® NTC ..... 1.8 kohm at +25 °C (77 °F)  
 Accuracy ..... ±0.3 °C at 25 °C (±0.5 °F at 77 °F)  
 – I/NET® NTC ..... 10 kohm at +25 °C (77 °F)  
 Accuracy ..... ±0.2 °C at 25 °C (±0.4 °F at 77 °F)  
 – Continuum® NTC ..... 10 kohm at +25 °C (77 °F)  
 Accuracy ..... ±0.2 °C at 25 °C (±0.4 °F at 77 °F)

Materials:  
 Conn. box and tube ..... PC+ABS-plastic: Bayblend FR 90

Enclosure rating ..... IP 65 / NEMA3  
 Dimensions ..... according to figure  
 Weight ..... 275 g (0.61 lb)

Standards:  
 EMC ..... EN 50081-1, EN 50082-1  
 Underwriters Lab Inc. Listed ..... File No. E204905 cUL  
 Flammability Rating ..... UL94-5V

mm (in.):



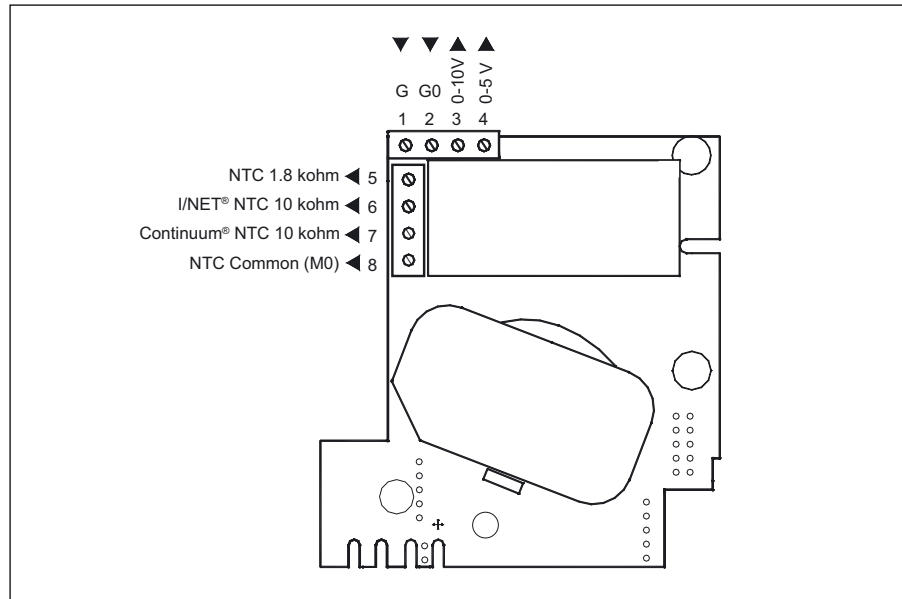
## FUNCTION

The SCD100 sensors measure the carbon dioxide concentration and the temperature. The CO<sub>2</sub> output signal can be 0 – 10 V or 2 – 10 V selected by wiring. The temperature signal is a NTC 1.8 kohm or 10 kohm. See wiring.

The SCD100-D has a LCD display showing the CO<sub>2</sub> concentration in ppm.

Gold-plated sensor provides long-term calibration stability and automatic background calibration based on long-term evaluation makes the sensor maintenance free. The sensor is calibrated from factory.

## WIRING



## INSTALLATION

1. Place gasket on aspiration tube.

### IMPORTANT

Ensure largest tab at tube control end is at the top.

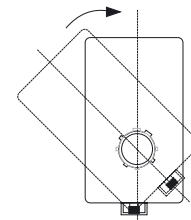
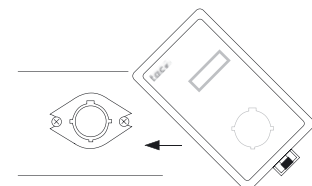
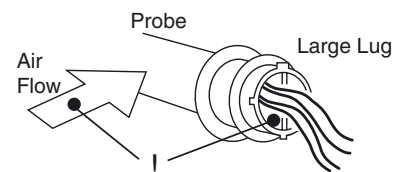
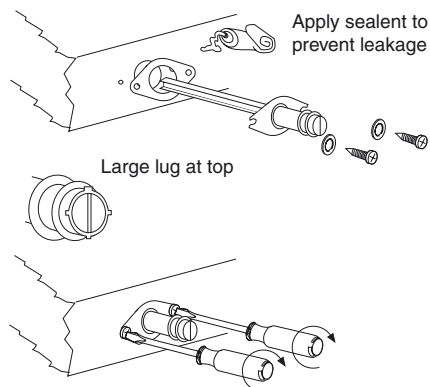
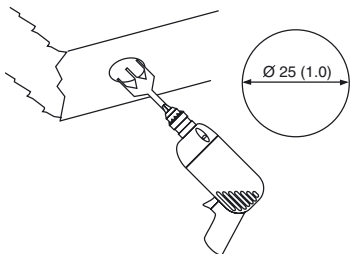
2. Insert tube into the duct, attach using screws and washers.

### IMPORTANT

Leakage into the duct or the SCD100 box cover from the room will skew the sensor readings. Ensure the box cover and duct seal completely.

3. Insert the NTC sensors on the upstream side.

Drill Holes in Duct, mm (in)



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