MAIN FEATURES

- Non-dispersive infrared (NDIR) Co2 Sensing Indicator / transmitter
- *Co2 measuring range is 0-5000 ppm (typical) with Temperature compensation. Measuring range Could be changed to 0-10000 ppm if specified.*
- *Ambient Temperature Range is 0-100 deg. C (typical) , RH range 0-100% (typical).*
- *CO2 , Ambient Temperature , Relative Humidity and Dew Point (calculated) Indicator / Transmitter.*
- *RS485 interface using the Modbus RTU command. (Optional).*
- *Two Output signals 0-5VDC (typical). Could be changed to 4-20 mA if specified*
- *Fully calibrated.*
- *Input power could vary from 9VDC up to 30VDC.*
- *Low power consumption*
- *Excellent long-term stability*
- *Long life span > 5 years.*
- *High sensitivity, high resolution*
- *Excellent linear output*
- *Anti-water vapor interference*
- *No poisoning*

DESCRIPTION

CCT-200 is an non-dispersive infrared (NDIR), long life, small size advanced transmitter to detect the existence of Co2 in the air with temperature compensation.

CCT-200 is developed by the tight integration of mature infrared absorbing gas detection technology, precision optical circuit design and superior circuit design.

CCT-200 is using a unique capacitive sensor element for measuring relative humidity while temperature is measured by a band-gap sensor. The applied CMOS technology guarantees excellent reliability and long-term stability.

CCT-200 is factory calibrated. The calibration coefficients are stored in the transmitter's microcontroller memory, which are used by the sensor's internal signal detecting process.

CCT-200 is RS485 interface using the Modbus RTU command. (Optional).

Two 0-5VDC output signals (typical) (Could be changed to 4-20mA if specified). The first output is for Co2 concentration. The second output is used for the ambient humidity (0-100% RH) (typical) .

The second output could be changed to transmit Ambient temperature (0-100 0C) or Dew Point if specified.

All the above makes system integration flexible, quick, and easy.

Its size, low power consumption long signal transmission making it the best choice for various applications such as HVAC , refrigeration , Indoor air quality monitoring/control , Smart home appliances , Schools , Air cleaner systems and others.

The **CCT-200** features a 2-line LCD display on the front cover CO_2 concentration, RH% , Ambient Temperature and Dew Point .

The **CCT-200** offers possibility of programable averaging of the CO_2 concentration readings

Also **CCT-200** Offset adjustment for CO_2 concentration, RH% and Ambient Temperature .

TECHNICAL DATA

Display
2-line X 16 Character LCD display

LCD Resolution
1 PPM CO_2 Concentration

Ranges

CO_2	0-5000 PPm CO_2 Concentration (typical). Could be changed to 0-10000 PPm
Temperature	0-100 deg. C.
Relative Humidity	0-100 %
Dew Point	Calculated

Accuracy

CO_2	± 50ppm + 3% reading value
Temperature	+- 0.5 deg. C.
Relative Humidity	+- 3 RH%

Life span
>5 year

Input Power
From 9VDC up to 30VDC

Digital Communication
RS485 interface using the Modbus RTU command. (Optional).

Output signal
A- 0-5VDC for Co2 concentration
B- 0-5VDC for ambient RH (typical) . could be changed to Ambient Temperature or Dew Point if specified.
C- RS485 interface using the Modbus RTU command. (Optional).

Characteristic
Linear

Isolation voltage
500 Vac

Operating Range
0 – 50 °C
0~95% RH

Storage temp.
-40 – 70 °C

Pre-heating time
3 min typical

Response time
< 30s for 90% step change of CO_2 concentration

ELECTRICAL CONNECTIONS

Cable Connection

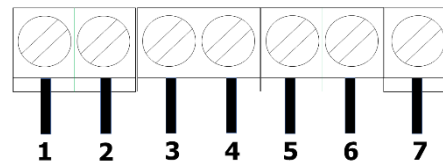PIN 1 – Input Power . (9 – 30VDC)

PIN 2 – Ground

PIN 3 – 0-5VDC output for Co2 concentration

PIN 4 – 0-5VDC output for RH%

PIN5 - Ground

PIN6 – RS485 (B)

PIN7 – RS485 (A)

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PROGRAMMING

Open the top cover you shall be able to see the two programming push buttons

Buttons:

- "Λ+V"   *Press both to enter setting mode or to SAVE*
- "V"   *Decrease the value*
- "Λ"   *Increase the value*

OFFSET ADJUSTMENT
Enter Password
- Press "Λ+V" ,   display shows "1230".
- Press "Λ" to change password to "1234"
- Press "Λ+V" together to enter

CO2 Offset Setting

- Display shows "CO2_OFF".
- Press "Λ" to increase, press "V" to decrease.
- Press "Λ+V" to save

Temperature Offset Setting

- Display shows "T_OFF".
- Press "Λ" to increase, press "V" to decrease.
- Press "Λ+V" to save

RH Offset Setting

- Display shows "RH_OFF".
- Press "Λ" to increase, press "V" to decrease.
- Press "Λ+V" to save.

CO2 Averaging Setting

- Display shows "AVERAGE   1". Which means no averaging
- Press "Λ" to increase, press "V" to decrease.
- Averaging shall increase or decrease by 10 (No. of readings to be averaged)
- Press "Λ+V" to save and exit programming.

0-5 VDC OUTPUT signal Adjustment
Enter Password

- Press "∧+∨" , display shows "1230".
- Press "∧" to change password to "1238"
- Press "∧+∨" together to enter

CO2 ZERO

- Display shows "CO2 ZERO".
- Measure Co2 signal output voltage should read around 0VDC.
- Press "∧" to increase, press "∨" to decrease.
- Press "∧+∨" to save

CO2 SPAN

- Display shows "CO2 SPAN".
- Measure Co2 signal output voltage should read 5VDC.
- Press "∧" to increase, press "∨" to decrease.
- Press "∧+∨" to save

RH ZERO

- Display shows "RH ZERO".
- Measure Co2 signal output voltage should read around 0VDC.
- Press "∧" to increase, press "∨" to decrease.
- Press "∧+∨" to save

RH SPAN

- Display shows "RH SPAN".
- Measure Co2 signal output voltage should read 5VDC.
- Press "∧" to increase, press "∨" to decrease.
- Press "∧+∨" to save

HOW TO ORDER

CCT-200 – AA – BB – CC – DD – EE – FF - GG

AA – CO2 INDICATION RANGE , PLEASE WRITE DIRECTLY
    0 – 5000 PPM (TYPICAL)
    0 – 10000 PPM
    0 – 20000 PPM
    0 – 50000 PPM

BB – TEMPERATURE RANGE , PLEASE WRITE DIRECTLY
    0 – 100 OC (TYPICAL)

CC – RH RANGE , PLEASE WRITE DIRECTLY
    0% – 100% (TYPICAL)

DD – CO2 OUTPUT SIGNAL , PLEASE WRITE DIRECTLY
    0 – 5   VDC (TYPICAL)
    0 – 10 VDC
    3WIRE , 4-20 MA

EE – 2ND OUTPUT SIGNAL (RH OR TEMP. PLEASE SPECIFY)
    0 – 5   VDC (TYPICAL)
    0 – 10 VDC
    3WIRE , 4-20 MA

FF – SUPPLY VOLTAGE
    12 VDC (TYPICAL)
    24 VDC

GG – OPTIONS (PLEASE SPECIFY IN WRITING).
    RS485 interface using the Modbus RTU command .
    RELAY.
    OTHERS.