

KNX Sensor CO2 and Temperature-Humidity, TL2-S8-CO2-TF

The KNX Sensor CO2 and Temperature-Humidity TL2-S8-CO2-TF is a sensor/regulator from the series S8 for recording the level of carbon dioxide measured by the CO2 sensor, as well as the temperature and humidity of room climate. The absolute humidity is calculated from the measured values.

The TL2-S8-CO2-TF has an integrated KNX bus coupler and needs additional voltage. The transducer with the bus coupler is on a PCB-supporting ring construction, which is flush-mounted.

In the application software there are several controllers (two-position or PI controller with continuous or pulsed output). Additional functions include the display of upper and lower thresholds and switching between the set point and threshold.

The sensor is configured with ETS (KNX Tool Software) and the application program. Controlling functions such as signal threshold and other adjustments are parameterized using ETS (KNX Tool Software).

**Areas of Application:**

- Testing of air quality and CO2 content in conference rooms, hotel rooms and working areas
- Recording temperature and relative humidity in interior/exterior areas and damp location areas
- Decentralized heating control for continuous KNX valve or electrothermal valve
- Decentralized ventilation control
- Dew Point Alarm for cooling ceilings/floors or conservatories
- Dew Point Alarm for identifying possible mold build-up in cellars
- Calculation of maximum and minimum temperatures

Applicable Sensor:

The SenseAir CO2 Engine K30-STA and a SHT71 is used with the CO2-TFK.

Accuracy of sensor:

CO2- Sensor: $\pm 20 \text{ ppm} \pm 1\% \text{ meas. error}$
SHT71: $\pm 0,5^\circ\text{C}, \pm 3\% \text{ rH}$

Measuring Area : 0- 5000 ppm
-20...+80°C
0 ... 99%rH

Ambient Air Temperature CO2-TFK: 0 ... +50°C

Protective Housing Transducer : IP20

Technical Data	SK08-CO2
Measured Data:	CO2 Concentration, Air Temperature, Relative Humidity, Dew Point Temperature, Absolute Humidity
Sending options	No sending, periodic sending, sending when change occurs
Parameters	Periodic sending with variable cycle duration, sending when changes occurs with variable hysteresis.
Functions	2-byte float, 4-byte float, 1-byte unsigned integer
Controller Modi:	Two-position controller static, two-position controller pulsed, PI controller static, PI controller pulsed (PWM)
Parameter Two-Position Controller Static	Set point, differential gap, controller
Parameter Two-Position Controller Pulsed	Set point, differential gap, controller, cycle duration, duty cycle
Parameter PI Controller Static	Set point, reset time, proportional factor, controller
Parameter PI Controller PWM	Set point, reset time, proportional factor, controller, cycle duration, threshold pitch
Lock Function:	For pH and ORP controller, parameter driven release or lock
Controller for Control Variable Output:	Switching output (1/0), 1-Bit
	Switching output pulsed, parameter driven duty cycle and cycle duration, 1 Bit
	Switching output pulsed, parameter driven cycle duration, duty cycle variable driven (PWM) with threshold pitch, 1 Bit
	Control variable static, 1-byte
Control Variable Periodic Sending	None or 10-250 seconds parameter driven
Threshold:	Upper threshold, lower threshold
Auxiliary Quantities:	Set point, lower threshold, upper threshold
Bus Power Failure	Saving changed auxiliary quantities is parameter driven
Calibration:	None
Ambient Temperature KNX Sensor:	Storage -20...+70°C, Operation -20...+65°C (Transducer and Sensor)
Ambient Temperature Humidity KNX Sensor:	0...95% rH not condensating
Ambient Temperature CO2 Sensor:	Storage -30...+70°C, Operation -0...+50°C
Ambient Temperature Humidity CO2 Sensor:	0...95% rH
Measurement Area CO2:	0- 5000 ppm
Accuracy CO2:	± 20 ppm ± 1% measured error
Resolution CO2:	± 30 ppm ± 5% measured error
Measurement Area Temperature:	-20...+80°C
Accuracy Temperature:	±0,5 °C
Resolution Temperature:	±0,01 °C
Measured Area Humidity:	0...100% rH
Accuracy Humidity:	3% rH
Operating Voltage:	9-32V DC (e.g. KNX auxiliary supply)
Power Consumption ca.:	240 mW (at 24V DC)
Auxiliary Supply:	9...30VDC 250mW
Bus Coupler:	integrated
Start-up with ETS:	ARC_S8.VD2 Product: XX2-S8-CO2-TF
Circuit Points:	EIB-2-pole clamps (red/black)
Protection Class:	IP20
Assembly Type Transducer:	screw installation, flush-mounted
Housing Transducer:	white or anthracite plastic
Housing Dimensions:	115 mm x 64mm x 56 mm (L x H x D)
Article Number:	30803012, 30803022
Sensor:	SenseAir CO2Engine K30-STA, SHT71

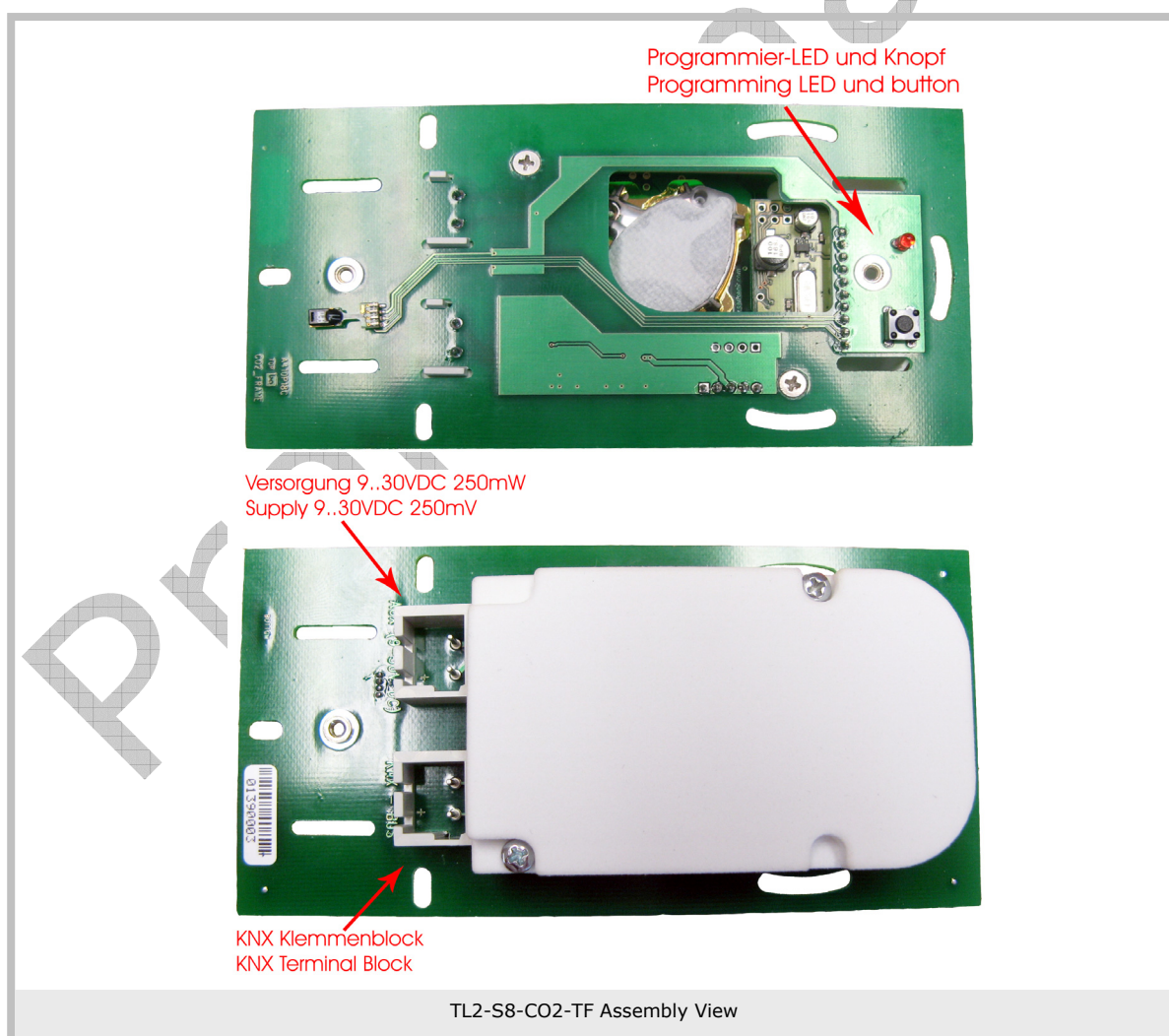
Order:			
TL2-S8-CO2-TF	KNX Sensor CO2 and Temperature-Humidity		
TL2-S8-CO2-TF		Sensor, Measuring Amplifier, Bus Coupler (white)	30803012
TL2-S8-CO2-TF		Sensor, Measuring Amplifier, Bus Coupler (anthracite)	30803022

Start-up:

The KNX Sensor is set up using the ETS (KNX Tool Software) and the applicable application program. The sensor is delivered unprogrammed. All functions are programmed and parameterized with ETS. Please read the ETS instructions.

Assembly:

The devices TL2-S8-CO2-TF are assembled in a flush-mounted double socket by screw installation.



→ Be careful not to damage the electronics with tools and cable heads.

In Case of Bus Voltage Recurrence:

All changes made using the help key for the KNX/EIB bus are saved if the device has been correctly parameterized. The controller and outputs start with the current values. The ETS parameter settings are saved.

Discharge Program and Reset Sensor:

Should the sensor crash due to a programming malfunction, the previous project can be deleted by pressing the programming button. Hold the programming button down while connecting the EIB bus clamp and wait until the programming LED display appears. This will take 5 – 10 seconds. Any calibrations undertaken will be lost.

Imprint:

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