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# H5421 CO2 concentration transmitter with RS485 and two relay outputs

code: H5421
CO2 level transmitter with two output relays.

The device is supplied with CO2 probe with 1m cable. Cable lengths 2, 4 or 10 meters available optionally.
**Included in delivery:**

- H5421 sensor
- Traceable calibration certificate
- Quick start manual
- Technical support at discussion forum

## Features

The $CO_2$ - carbon dioxide level is recently regarded as an important parameter that substantially determines the quality of the interior climate. Especially in buildings where many people gather, such meeting rooms, hospitals, schools, cinemas, theatres and care centres. With the help of $CO_2$ sensor engineers, technical advisors, environmental experts and health specialists can optimize the ventilation for creation of a healthy interior climate.

Method of $CO_2$ sensor multipoint calibration leads to an excellent accuracy measurements of $CO_2$ in the entire of operating temperature range. With this sensor is the device able to meet the demanding requirements for outdoor use. The measurement principle is based on the NDIR principle  with dual wavelength, which automatically compensates for aging of the sensor. The sensor is resistant against the pollution and provides maintenance-free operation and excellent long-term stability.

## APPLICATIONS - measuring of $CO_2$ level at:

- building HVAC management
- climate technology
- schools, universities
- meeting rooms, hospitals, cinemas, theatres
- weather stations

Transmitter is equipped with two relay outputs for alarm indication or control of external devices. Each relay can be assigned to any measured or computed value. For each relay setting of delay, hysteresis, audible alarm is enabled.
Parameters are easy adjustable from regulator keyboard or from the computer.

Transmitter contains a microprocessor based control circuitry in a durable plastic case with connection terminals.

The $CO_2$ is measured using extarnal CO2 sensor.

Large dual line LCD is an advantage. Display is possible to switch off. Computerized design ensures maximum long term stability and failure indication.

Measured $CO_2$ concentration values are converted to RS485 serial output. Transmitter circuitry is **galvanically isolated** from power circuitry to prevent collision in RS485 network.

Serial output RS485 - transmitter works with ModBus RTU communication protocol or with Advantech ADAM compatible protocol. Protocol is user selectable in special configuration mode by means of the PC. Serial link enables to read actual readings and modify transmitter configuration. Instrument works always in slave mode, i.e. responds only to master device query. Transmitters have the address space available from 1 to 255. Communication speed is 110 to 115200Bd.

## SOFTWARE:

• **Comet Database**
Complex solution for data acquisition and analysing. Easy to use and high flexible database software for Comet Transmitters and Regulators.

• **Sensor RS485/232 utility**
allows communication of sensors with RS485/RS232 output and sending data to **Comet Database**.

• **T-Sensor software**
Free configuration utility for Comet Transmitters and Regulators.

• **SensorReader software**
Basic data acquisition utility for Comet Transmitters and Regulators. Software is free for download.

• **3rd party software**
ControlWeb, TIRS.NET, LabVIEW etc. Support for this software is provided by the 3rd party companies.



## Technical Data

| Technical parameters | Value |
|---|---|
| Output | RS485 |
| Measured Value | CO2 |
| Construction Type | For External Probes |
| Design | Industrial |
| Temperature Measuring Range | to °C |
| Relay Output | Yes |
| Two-State Input | No |
| Lcd Display | Yes |
| PoE | No |

| | |
|---|---|
| Maximum switching voltage, current, power of relay output | 50V, 2A, 60VA |
| Audible alarm | from built-in beeper - switchable |
| Range of CO2 concentration measurement | 0 to 10000ppm |
| Accuracy of CO2 concentration measurement | ±(100ppm +5% from reading) at 25°C and 1013hPa |
| Temperature operating range | -30 to +60°C |
| Measuring interval of CO2 | 15s |
| Communication protocol | ModBus RTU and Advantech ADAM compatible protocol |
| Communication speed | 110 to 115200 Bd |
| IP protection | IP65 |
| Power | 9-30Vdc, power consumption approximately 1W |
| Dimensions | 136 x 150 x 45 mm (W x H x D) |
| Weight | approximately 360g |
| Warranty | 3 years |