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H6420 Temperature, humidity, CO2 transmitter with two relay and RS485 outputs

code: H6420

Temperature, humidity, CO2 level sensor with two output relays.

Included in delivery:



- H6420 sensor
- [Traceable calibration certificate](#)
- Quick start manual
- Technical support at [discussion forum](#)

Transmitter is also equipped with three alarm LEDs:

Green LED shines - CO2 concentration 0 to 1000 ppm

Yellow LED shines - CO2 concentration 1001 to 1200 ppm

Red LED shines - CO2 concentration 1201 ppm and more

Features

The CO₂ - 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 CO₂ sensor engineers, technical advisors, environmental experts and health specialists can optimize the ventilation for creation of a healthy interior climate.

Method of CO₂ sensor multipoint calibration leads to an excellent accuracy measurements of CO₂ 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.

Measured temperature and relative humidity values are also converted to other humidity interpretation - dew point temperature, absolute humidity, specific humidity, mixing ratio or specific enthalpy. Degrees Celsius and Fahrenheit are user selectable.

APPLICATIONS - measuring of temperature, humidity and CO₂ 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 and temperature and relative humidity sensors in a filter with stainless steel mesh. The CO₂ concentration sensor is built inside the case.

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

State-of-the-art capacitive polymer sensor ensures excellent calibration long term stability, inertia against water and condensation. Transmitter is designed for use in non-aggressive environment.

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**

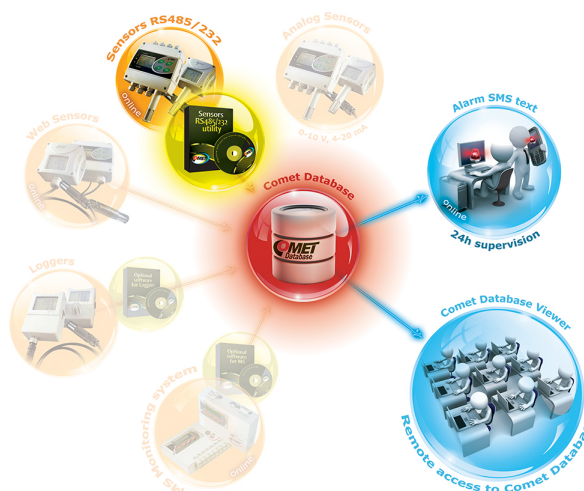
Free configuration utility for Comet Transmitters and Regulators.

- **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	CO ₂ + Temperature + Relative Humidity
Construction Type	Ambient Air
Design	Industrial
Temperature Measuring Range	-30 to 60 °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 2000ppm
Accuracy of CO2 concentration measurement	$\pm(50\text{ppm} + 2\% \text{ from reading})$ at 25°C and 1013hPa
Optional range of CO2 concentration measurement	0 to 10000ppm $\pm(100\text{ppm} + 5\% \text{ from reading})$ at 25°C and 1013hPa
Relative humidity range	0 to 100%
Accuracy of relative humidity measurement	$\pm 2.5\%$ relative humidity from 5 to 95% at 23°C
Accuracy of temperature output	$\pm 0.4^\circ\text{C}$
Available temperature units	degrees Celsius, Fahrenheit
Accuracy and range of dew point temperature output - for more details see graphs	$\pm 1.5^\circ\text{C}$ at ambient temperature $T < 25^\circ\text{C}$ and $\text{RH} > 30\%$ range -60 to +80 °C
Accuracy and range of absolute humidity output	$\pm 1.5\text{g}/\text{m}^3$ at ambient temperature $T < 25^\circ\text{C}$ range 0 to 400 g/m ³
Accuracy and range of specific humidity output	$\pm 2\text{g}/\text{kg}$ at ambient temperature $T < 35^\circ\text{C}$ range 0 to 550 g/kg
Accuracy and range of mixing ratio output	$\pm 2\text{g}/\text{kg}$ at ambient temperature $T < 35^\circ\text{C}$ range 0 to 995 g/kg
Accuracy and range of specific enthalpy output	$\pm 3\text{kJ}/\text{kg}$ at ambient temperature $T < 25^\circ\text{C}$ range: 0 to 995 kJ/kg
Measuring interval of CO2	15s
Temperature operating range	-30 to +60°C
Filtering ability of sensor cover	0.025mm - filter with stainless steel mesh
Communication protocol	ModBus RTU, ARION and Advantech ADAM compatible protocol
Communication speed	110 to 115200 Bd
IP protection	IP30 electronics, IP40 sensors
Power	9-30Vdc, power consumption approximately 1W
Dimensions	136 x 213 x 45 mm (W x H x D), stem length 75 mm
Weight	approximately 360g
Warranty	3 years