

## APPLICATIONS:

- temperature and humidity control
- monitoring of temperature, humidity, pressure and three binary signals: server and computer rooms, air-conditioned rooms, building management and automation, warehouses, glasshouses, telecommunications, museums, archives, galleries, weather stations

**New !**



Temperature and humidity regulators are designed for two-state control of e.g. heating, ventilation, humidifier, dehumidifier, etc. 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.

Fully equipped transmitter contains temperature, humidity, pressure sensors. Measured temperature and relative humidity is recalculated to other humidity interpretations - dew point temperature, absolute humidity, specific humidity, mixing ratio or specific enthalpy. Reading and pressure output are available in these units: hPa, kPa, mbar, mmHg, inHg, inH<sub>2</sub>O, PSI, oz/in<sup>2</sup>. Degrees Celsius and Fahrenheit are user selectable. Parameters are easy adjustable from regulator keyboard or from the computer.

Large dual line LCD for simultaneous display of temperature, pressure or relative humidity or other calculated humidity interpretation is an advantage.

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 can be optionally equipped with three binary inputs for detection of two-state events - e.g. water, smoke, glass break detection, door contact.

### COMMON TECHNICAL PARAMETERS

Maxim. switching current,voltage,power of the relay:	2A, 50V, 60VA
Audible alarm:	from built-in beeper - switchable
Operating relative humidity range:	0 to 100%
Accuracy of relative humidity:	±2.5% relative humidity at range 5 to 95% at 23 °C
Accuracy of temperature:	±0.4 °C from -30 to +100 °C, ±0.4% from reading over +100 °C
Accuracy and range of dew-point temperature:	±1.5 °C at ambient temperature < 25 °C and RV>30%,range -60 to+80 °C
Accuracy and range of absolute humidity:	±3g/m <sup>3</sup> at ambient temperature T < 40 °C, range 0 to 400 g/m <sup>3</sup>
Accuracy and range of specific humidity:	±2g/kg at ambient temperature T < 35 °C, range 0 to 550 g/kg
Accuracy and range of mixing ratio:	±2g/kg at ambient temperature T < 35 °C, range 0 to 995 g/kg
Accuracy and range of specific enthalpy:	± 3kJ/kg at ambient temperature T < 25 °C, range: 0 to 995 kJ/kg
Operating temperature range of the case:	-30 to +80 °C
Operating temperature range of the LCD display:	readable up to operating temperature +70 °C
Temperature range of RH sensor compensation:	-30 to +125 °C
Signal for binary inputs:	from voltage-less contact, open collector or two-state voltage signal. Inputs are not galvanically isolated.
Minimum pulse length at binary input:	500 ms (shorter pulse may not be detected)
Voltage at open contact:	3.3 V
Low voltage level:	0 to +0.2 V
High voltage level:	+3.0 to +30V
Filtering ability of RH sensor cover:	0.025mm - filter from stainless steel mesh
Power:	9-30Vdc
Dimension of the case with electronics (W x H x D):	135 x 136 x 45 mm
Protection -temperature humidity transmitters:	IP65 electronics with terminals, IP40 humidity sensor
Protection - transmitters measuring pressure:	IP54 electronics with terminals, IP40 humidity and temperature sensors

## AVAILABLE MODELS:

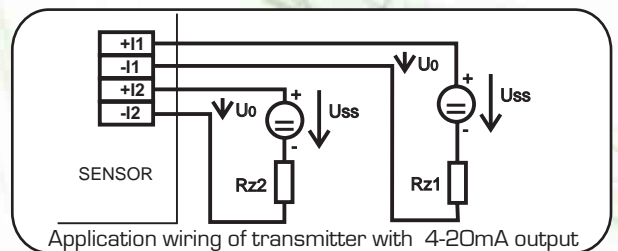
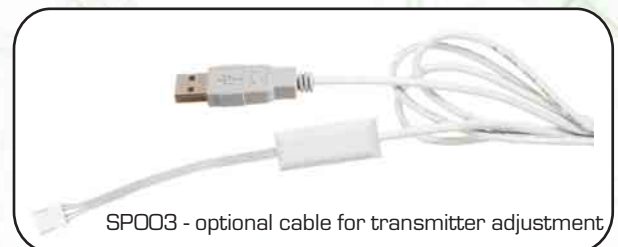
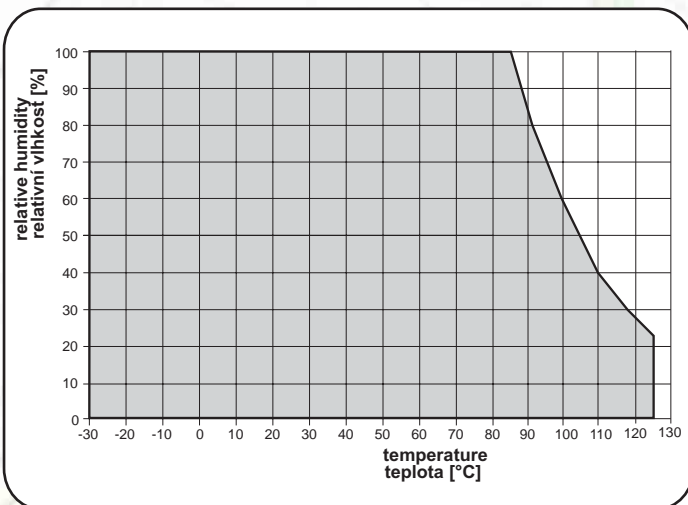
MODEL	MEASURED VALUE	MAXIMUM MEASURING RANGES	STEM LENGTH	OUTPUT	OTHER OUTPUT	DESCRIPTION
H3020	temperature+humidity	-30 to +80 °C	75mm	2x relay	-	outdoor and indoor use
H3023	temperature+humidity	-30 to +125 °C <sup>1)</sup>	150mm	2x relay	-	duct mount
H3021	temperature+humidity	-30 to +105 °C <sup>1)</sup> probe including cable	probe cable 1,2,4m	2x relay	-	T+RH probe of 18mm diameter, 88mm length with 1m cable. Cable lengths 2m or 4m available optionally.
H3120	temperature+humidity	-30 to +80 °C	75mm	2x relay	2x4-20mA <sup>2)</sup>	outdoor and indoor use - <b>Preliminary !</b>
H0430	temperature+3 binary	-30 to +80 °C	53mm	2x relay	RS485 <sup>3)</sup>	outdoor and indoor use
H4431	temperature+3 binary	-200 to +600 °C	-	2x relay	RS485 <sup>3)</sup>	transducer for Pt1000 probes
H3430	temp+humidity+3binary	-30 to +80 °C	75mm	2x relay	RS485 <sup>3)</sup>	outdoor and indoor use
H3431	temp+humidity+3binary	-30 to +105 °C <sup>1)</sup> probe incl. cable	probe cable 1,2,4m	2x relay	RS485 <sup>3)</sup>	T+RH probe of 18mm diameter, 88mm length with 1m cable. Cable lengths 2m or 4m available optionally.
H3433	temp+humidity+3binary	-30 to +125 °C <sup>1)</sup>	150mm	2x relay	RS485 <sup>3)</sup>	duct mount
H7430	temperature+humidity+ bar.pressure+3binary	-30 to +80 °C	75mm	2x relay	RS485 <sup>3)</sup>	Thermometer-hygrometer-barometer. Outdoor and indoor use.
H7431	temperature+humidity+ barometric pressure +3 binary inputs	-30 to +105 °C <sup>1)</sup> probe incl. cable  Pressure: 600 to 1100hPa accuracy: ±1,3hPa at 23 °C	probe cable 1,2,4m	2x relay	RS485 <sup>3)</sup>	Thermometer-hygrometer-barometer. Outdoor and indoor use. T+RH probe of 18mm diameter, 88mm length with 1m cable. Cable lengths 2m or 4m available optionally. Reading and pressure output in these units: hPa, kPa, mbar, mmHg, inHg, inH <sub>2</sub> O, PSI, oz/in <sup>2</sup> .

1) Relative humidity at temperature over +85 °C is limited in accordance with the graph. Near plastic case with electronics and probe cable maximum temperature is +80 °C.

2) Preliminary - available from April 2009

**Current outputs 4-20mA** are galvanically isolated. Any measured value - temperature, relative humidity, dew point temperature, absolute humidity, specific humidity, mixing ratio or specific enthalpy can be assigned to any from both current outputs. Outputs are adjusted to maximum range from the manufacturer (-30 to +80 °C, 0 to 100%RH). Output range is user adjustable from the PC by means of the optional cable SPO03 - see photo. Free configuration program TSensor for transmitter adjustment is ready to download anytime. If different adjustment of outputs and output ranges are required, please specify required output values (RH, T, Tdp, ...) and required ranges.

3) **Serial output RS485** is galvanically isolated from other circuitry to prevent collisions on the RS485 bus. The 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 0 to 255. Communication speed is 110 to 115200Bd.



**Included accessories - Traceable calibration certificate** from the manufacturer, instruction manual. Calibration certificate with declared metrological traceability of etalons is based on requirements of EN ISO/IEC 17025 standard. Free program TSensor for configuring of the transmitter is ready to download from [www.cometsystem.cz](http://www.cometsystem.cz)

**Optional accessories** - see further in catalog