APPLICATIONS - temperature and humidity control and monitoring:

in building management and automation, warehouses, glasshouses, air-conditioned rooms, museums, archives, galleries, weather stations

H4431
H4331

HO430

H3430
H7430

H3433

H3431
H7431
H3331
H7331

Note: number of cable glands of particular models may differ

Humidistats 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.

Measured values are converted to galvanically isolated RS485 serial output or RS232 output.

Wireless data acquisition system via GSM can be built easily with Comet software package Database Sensor Monitor.

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, inH20, PSI, oz/in2.

Degrees Celsius and Fahrenheit are user selectable.

Parameters are easy adjustable from regulator keyboard or from the computer.

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 is also equipped with three binary inputs for detection of two-state events - e.g. water, smoke, glass break detection, door contact. Transmitter is equipped with internal terminals for powering of connected external detectors.

TECHNICAL PARAMETERS	
Maximum switching voltage, current, power:	50V, 2A, 60VA, resistive load
Audible alarm:	from built-in beeper - switchable
Range of relative humidity measurement:	0 to 100%
Accuracy of relative humidity measurement:	±2.5% relative humidity from 5 to 95% at 23°C
Accuracy of temperature measurement:	±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 RH>30%, range -60 to +80°C
Accuracy and range of absolute humidity:	±3g/m^3 at ambient temperature T < 40°C, range 0 to 400 g/m^3
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
Accuracy and range of barometric pressure output:	± 1.3hPa at 23°C range: 600 to 1100hPa
Supported pressure units:	hPa, kPa, mbar, mmHg, inHg, inH$_2$O, PSI, oz/in^2
Operating temperature range of electronics:	-30 to +80°C
Range of temperature compensation of RH sensor:	-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 sensor cover:	0.025mm, filter from stainless steel mesh
Power:	9 to 30Vdc
Dimensions of the case without cable glands:	135 x 136 x 45 mm (W x H x D)
Protection of instruments measuring T+H :	IP65 electronics with terminals, IP40 humidity and temperature sensor
Protection of instruments also measuring pressure:	IP54 electronics with terminals, IP40 humidity and temperature sensor

Hxxxx

- RELAY OUTPUTS
- RS485 OR RS232 OUTPUTS AVAILABLE MODELS:

MODEL	MEASURED VALUE	MAXIMUM MEASURED TEMPERATURE	STEM LENGTH	OUTPUT	OTHER OUTPUT	DESCRIPTION
H0430	temperature+3 binary	-30 to +80°C	53mm	2x relay	RS485[2]	Outdoor and indoor use.
H4431	temperature+3 binary	-200 to +600°C	-	2x relay	RS485[2]	Temperature transducer for Pt1000 probes.
H3430	temp.+humidity+3binar	-30 to +80°C	75mm	2x relay	RS485[2]	Outdoor and indoor use.
H3431	temperature+humidity+ 3 binary inputs	-30 to +105°C[1] probe including cable	probe cable 1,2,4m	2x relay	RS485[2]	**Thermometer-hygrometer.** T+RH probe with 1m cable. Cable lengths 2m or 4m available optionally.
H3433	temp.+humidity+3binar	-30 to +125°C[1]	150mm	2x relay	RS485[2]	**Thermometer-hygrometer.** Duct mount.
H7430	temp.+humidity+atm. pressure+3 binary	-30 to +80°C	75mm	2x relay	RS485[2]	**Thermometer-hygrometer-barometer.** Outdoor and indoor use.
H7431	temperature+humidity+ atmospheric pressure+ 3 binary inputs	-30 to +105°C[1] probe including cable	probe cable 1,2,4m	2x relay	RS485[2]	**Thermometer-hygrometer-barometer.** Outdoor and indoor use. T+RH probe with 1m cable. Cable lengths 2m or 4m available optionally.
H4331	temperature+3 binary	-200 to +600°C	-	2x relay	RS232[3]	Temperature transducer for Pt1000 probes.
H3331	temperature+humidity+ 3 binary inputs	-30 to +105°C[1] probe including cable	probe cable 1,2,4m	2x relay	RS232[3]	**Thermometer-hygrometer.** T+RH probe with 1m cable. Cable lengths 2m or 4m available optionally.
H7331	temperature+humidity+ atmospheric pressure+ 3 binary inputs	-30 to +105°C[1] probe including cable	probe cable 1,2,4m	2x relay	RS232[3] directly connectable to GSM modem	**Thermometer-hygrometer-barometer.** Outdoor and indoor use. T+RH probe with 1m cable. Cable lengths 2m or 4m available optionally.

1) Maximum temperature range for models with T+RH probe on the cable is valid for the whole T+RH probe including the cable. Near plastic case with electronics maximum temperature is +80°C. Relative humidity at temperature over +85°C is limited in accordance with the graph.

2) 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 up to 115200Bd.

3) Serial output RS232. Transmitter works with ModBus RTU communication protocol or with Advantech ADAM compatible protocol. Protocol is user selectable. Serial link enables to read actual readings and modify transmitter configuration. Communication speed up to 115200Bd.

relative humidity / relativní vlhkost [%] vs temperature / teplota [°C]
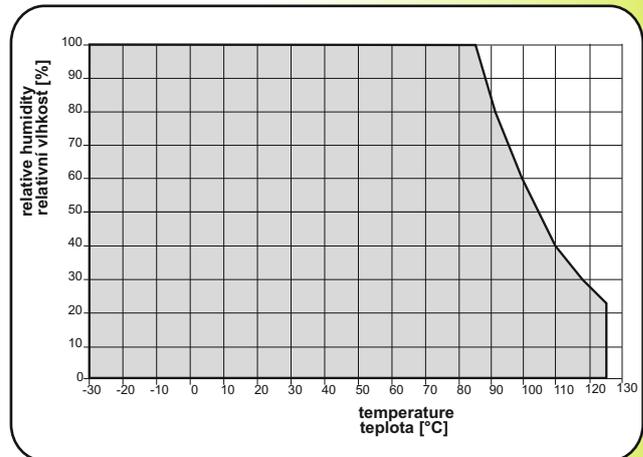
Hxxxx
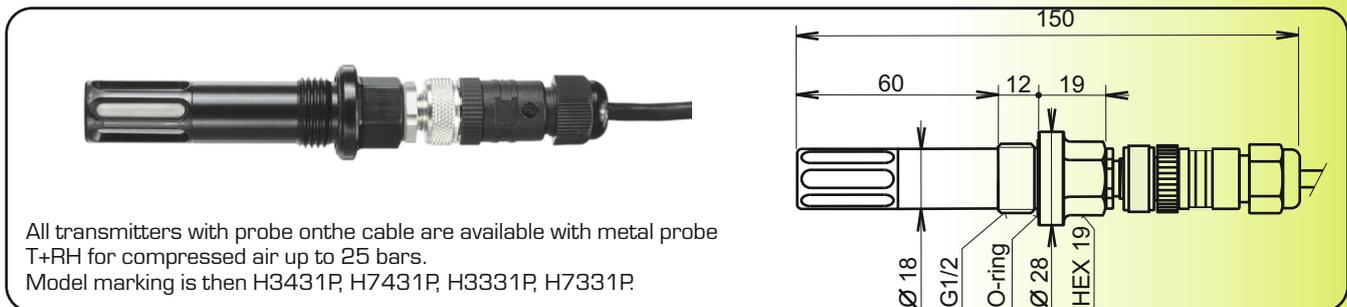
All transmitters with probe on the cable are available with metal probe T+RH for compressed air up to 25 bars.
Model marking is then H3431P, H7431P, H3331P, H7331P.

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 be downloaded from www.cometsystem.cz
Free program SensorReader for logging values from one thermometer to a PC disk file is ready to download.
Recorded values in CSV format are easy to process in e.g. Excel.