SELECTION TABLE OF TEMPERATURE, HUMIDITY, PRESSURE CO$_2$ TRANSMITTERS Hxxxx

MEASURED VALUE / OUTPUT	2 x Relay	2 x Relay RS485	2 x Relay RS232	2 x Relay Ethernet
temperature + 3 binary inputs		H0430 fig.2 page 70 H4431 fig.1 page 70	H4331 fig.1 page 72	H0530 fig.2 page 74 H4531 fig.1 page 74 H4531R page 24
temperature + humidity	H3060 fig.3 page 68 H3061 fig.5 page 68 H3020 fig.3 page 68 H3021 fig.5 page 68 H3023 fig.4 page 68			
temperature + humidity + 3 binary inputs		H3430 fig.3 page 70 H3431 fig.5 page 70 H3433 fig.4 page 70	H3331 fig.5 page 72	H3530 fig.3 page 74 H3531 fig.5 page 74 H3531R page 24
temperature +humidity +atmos. pressure + 3 binary inputs		H7430 fig.3 page 70 H7431 fig.5 page 70	H7331 fig.5 page 72	H7530 fig.3 page 74 H7531 fig.5 page 74 H7531R page 24
CO$_2$ concentration CO$_2$ + temperature + humidity	H5024 fig.1 page 68 H5021 fig.5 page 68 H6020 fig.3 page 68	H5424 fig.1 page 70 H5421 fig.5 page 70 H6420 fig.3 page 70	H5324 fig.1 page 72 H5321 fig.5 page 72 H6320 fig.3 page 72	H5524 fig.1 page 74 H5521 fig.5 page 74 H6520 fig.3 page 74

| fig. 1 | fig. 2 | fig. 3 | fig. 4 | fig. 5 |

Illustrative pictures of mechanical construction of Hxxxx transmitters
- number of cable glands of particular models may differ

APPLICATIONS - temperature and humidity control and monitoring:

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

H4331
H5324

H6320

H3331
H7331

H5321

Note:
number of cable glands of particular models may differ
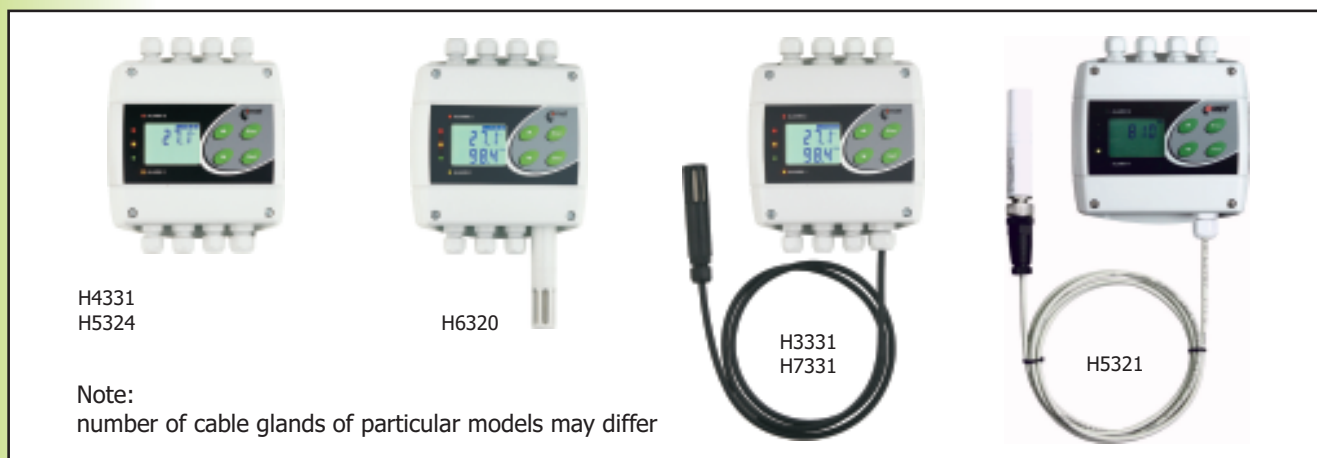
Humidistats are designed for two-state control of e.g. heating, ventilation, humidifier, dehumidifier, etc.

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. Measured values are converted to RS232 serial output .

Measured temperature and relative humidity is recalculated to other humidity interpretations - dew point temperature, absolute humidity, specific humidity, mixing ratio or specific enthalpy.

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.

Transmitters, except CO_2 transmitters, are also equipped with three binary inputs for detection of two-state events - e.g. water, smoke, glass break detection, door contact.

NEW   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.

The CO_2 measurement is based on a 2-source, 2-beam process. CO_2 measurement with long-term stability is guaranteed thanks to the proven non-dispersive infrared (NDIR) CO_2 measurement cell.

The unique patented auto-calibration procedure compensates for aging of the infrared source.

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/m³ at ambient temperature T < 40°C, range 0 to 400 g/m³
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, inH₂O, PSI, oz/in²
Accuracy and range of CO_2 level H5324, H6320:	±(50ppm +2% from reading) 0 to 2000ppm at 25°C and 1013hPa NEW
Accuracy and range of CO_2 level measurement H5321:	±(100ppm +5% from reading) 0 to 10000ppm at 25°C and 1013hPa
Operating temperature range of electronics:	-30 to +80°C (-30 to +60°C for CO_2 transmitters H5324, H6320)
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 +0.5 V
High voltage level:	+3.0 to +30V
Filtering ability of humidity 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
Protection of instruments with built-in CO_2 sensor:	IP30

Hxxxx

TEMPERATURE, HUMIDITY, PRESSURE CO$_2$ REGULATORS AND TRANSMITTERS Hx3xx - RELAY OUTPUTS AND RS232 OUTPUTS

NEW CO$_2$ SENSOR

MODEL	MEASURED VALUE	MAXIMUM MEASURING RANGE	STEM LENGTH	OUTPUT	OTHER OUTPUT	DESCRIPTION
H4331	temperature+3 binary	-200 to +600°C	-	2x relay	RS232[2]	**Temperature transducer** for Pt1000 probes. Outdoor and indoor use.
H3331	temperature+humidity+ 3 binary inputs	-30 to +105°C[1] probe including cable	probe cable 1,2,4m	2x relay	RS232[2]	**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[2]	**Thermometer-hygrometer-barometer.** Outdoor and indoor use. T+RH probe with 1m cable. Cable lengths 2m or 4m available optionally.
H5324	CO$_2$ concentration	0 to 2000ppm	-	2x relay	RS232[2]	CO$_2$ transmitter, built-in sensor, outdoor.
H5321	CO$_2$ concentration	0 to 10000ppm	probe cable 1,2,4m	2x relay	RS232[2]	**CO$_2$ level transmitter,** probe with 1m cable, diameter 18.5mm. Available also with cable lengths 2m or 4m.
H6320	CO$_2$ concentration+ temperature+humidity	0 to 2000ppm	75mm	2x relay	RS232[2]	**Temperature humidity CO$_2$ transmitter,** outdoor, indoor use.

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 (+60°C for CO$_2$ transmitters H5324, H6320).
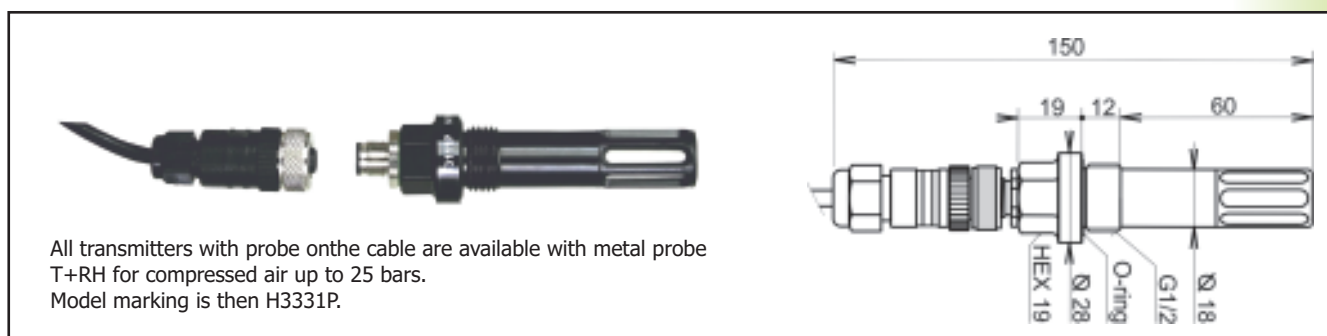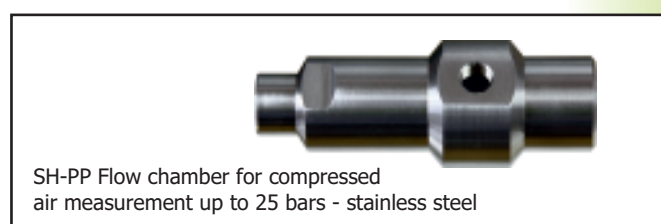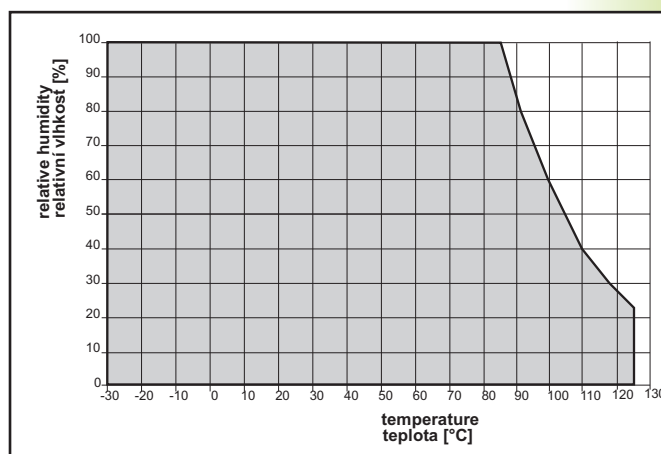Relative humidity at temperature over +85°C is limited in accordance with the graph.

2) Serial output RS232 is not galvanically isolated from other circuitry.
The transmitter works with ModBus RTU communication protocol or with Advantech ADAM compatible protocol - user selectable.
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.
Communication speed up to 115200Bd.

SH-PP Flow chamber for compressed air measurement up to 25 bars - stainless steel

All transmitters with probe onthe cable are available with metal probe T+RH for compressed air up to 25 bars.
Model marking is then H3331P.

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
Free program SensorReader for logging values from one thermometer to a PC disk file is ready to download.
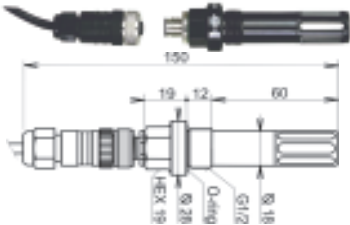
Optional accessories: - see further in catalog

Hxxxx

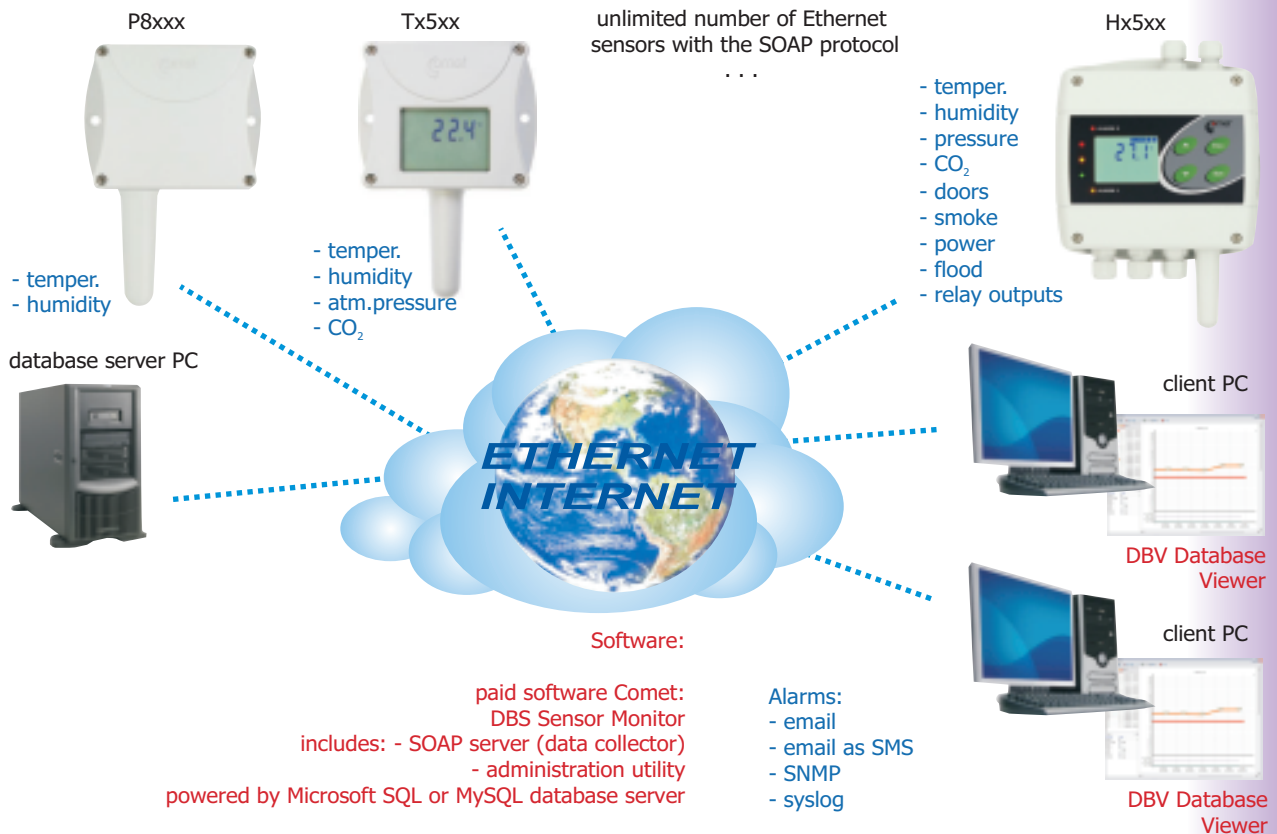| New - probe for compressed air	Order code	
	TxxxxP **Hxxx1P**	Optional temperature, humidity, dew-point probe designed for compressed air measurement up to 25 bars. Cable lengths 1, 2 or 4m available. Length 110mm, diameter 18mm, G1/2 thread. Available with TxxxxP, HxxxxP transmitters.
	SH-PP	Flow chamber for compressed air measurement up to 25 bars - stainless steel DIN 1.430. Inlet and outlet connection - G1/8 thread. Humidity probe connection - G1/2 thread. Screw-coupling not included.
	TxxxxL **HxxxxL**	Transmitter version with watertight male connector IP67 Lumberg RSFM4 instead of cable gland for easy connection/disconnection of the output. Specify please your order with letter L behind model code - e.g. T3110L or H3020L
	K1427	Female connector ELKA 4012PG7 for TxxxxL, HxxxxL transmitters with male connector Lumberg for easy connection/disconnection of the output. Cable is easily connected to screw terminals of the connector. IP67 protection.
	without LCD	Transmitter version with blind lid without LCD. Specify please the requirement in your order.
	OEM	Transmitters are also available without Comet logo as OEM products. Specify please the requirement in your order. Minimum order of OEM transmitters without Comet logo is 100 pcs.
	F8000	Solar radiation shield for transmitters with T+RH probe on a cable.

Accessories

Accessories

	Order code	
	F5200	grey sensor cover with filter from stainless steel mesh, filtering ability 0,025mm
	F5200B	black sensor cover with filter from stainless steel mesh, filtering ability 0,025mm
	SP003	Cable for transmitter adjustment via USB port - for models Tx1xx, Tx2xx with analog outputs and models Hx0xx.
	PP4	flat plastic circular flange for duct mounting
	PP90	right-angled stain-less steel flange for wall mounting
	SP004	plastic gland for direct mounting of the humidity probe to a 29 mm diameter hole
	SP005	tool for easy wire connection to WAGO terminals Wago - for transmitters with current and voltage output
	SP006	tool for easy wire connection to WAGO terminals Wago - for Txxxx transmitters with serial output RS485 and RS232 and Hxxxx transmitters
	MD036	self adhesive Dual Lock for easy installation
	A1515	ac/dc adapter 230V-50Hz/12Vdc for Ethernet transmitters Tx5xx, Hx5xx - with co-axial connector
	A1510	ac/dc adapter 230V-50Hz/12Vdc for serial output Txxxx transmitters and Hxxxx transmitters - for connection to terminals
		ACCESSORIES FOR EASY RELATIVE HUMIDITY CALIBRATION AND ADJUSTMENT
	MD046	anodized duraluminum vessel for relative humidity calibration and adjustment
	HM023	set of 5 humidity standards 10% RH with 5 application pads
	HM024	set of 5 humidity standards 80% RH with 5 application pads

ONLINE MONITORING SYSTEM WITH SENSORS
CONNECTED TO ETHERNET- DBS Sensor Monitor
New

Easy creation of online data acquisition system from Ethernet temperature, humidity, pressure sensors by using low cost database software Comet DBS Sensor Monitor.

P8xxx

Tx5xx

unlimited number of Ethernet sensors with the SOAP protocol
. . .

Hx5xx

- temper.
- humidity
- pressure
- CO_2
- doors
- smoke
- power
- flood
- relay outputs

- temper.
- humidity
- atm.pressure
- CO_2

- temper.
- humidity

database server PC

ETHERNET INTERNET

client PC

DBV Database Viewer

client PC

Software:

paid software Comet:
DBS Sensor Monitor
includes: - SOAP server (data collector)
- administration utility
powered by Microsoft SQL or MySQL database server

Alarms:
- email
- email as SMS
- SNMP
- syslog

DBV Database Viewer

Accessories

Database program DBS Sensor Monitor for online data acquisition and analysis from Comet sensors is a client-server data acquisition system.
It contains all necessary components for monitoring of sensors, incl. one licence of DBV Database Viewer.

Figure:
historical data in
table and graph