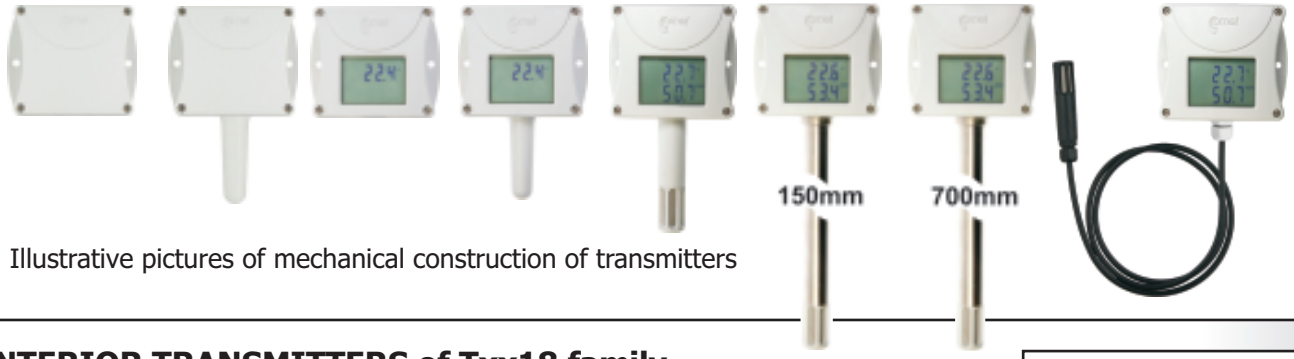
INDUSTRIAL TRANSMITTERS of Txxxx, Pxxxx family:

MEASURED VALUE /OUTPUT	4 to 20mA	0 to 10V	RS485	RS232	Ethernet
temperature	**P0120** figure 2 page 42	**T4211** figure 3 page 47	**T0410** figure 4 page 49	**T0310** figure 4 page 51	**P86xx** figure 2 page 53
	Px1x1 figure 1 page 42		**T4411** figure 3 page 49	**T4311** figure 3 page 51	**P85xx** figure 2 page 55
	T0110 figure 4 page 43				**T0510** figure 4 page 57
	T4111 figure 3 page 43				**T4511** figure 3 page 59
humidity	**T1110** figure 5 page 43				
atmospheric pressure	**T2114** figure 3 page 45	**T2214** figure 3 page 45	**T2414** figure 3 page 49	**T2314** figure 3 page 51	**T2514** figure 3 page 59
temperature+humidity	**T3110** figure 5 page 43	**T0210** figure 5 page 47	**T3411** figure 5 page 49	**T3311** figure 5 page 51	**T3510** figure 5 page 57
	T3113 figure 6 page 43	**T0213** figure 6 page 47	**T3413** figure 6 page 49	**T3313** figure 6 page 51	**T3511** figure 8 page 59
	T3117 figure 7 page 43	**T0211** figure 8 page 47	**T3417** figure 7 page 49	**T3319** figure 8 page 51	
	T3111 figure 8 page 43		**T3419** figure 8 page 49		
temperature+humidity +atmospheric pressure			**T7410** figure 5 page 49 **T7411** figure 8 page 49	**T7310** figure 5 page 51 **T7311** figure 8 page 51	**T7510** figure 5 page 57 **T7511** figure 8 page 59
CO_2	**T5140** figure 3 page 46 **T5141** figure 8 page 46	**T5240** figure 3 page 47 **T5241** figure 8 page 47	**T5440** figure 3 page 49 **T5441** figure 8 page 49	**T5340** figure 3 page 51 **T5341** figure 8 page 51	**T5540** figure 3 page 57 **T5541** figure 8 page 59
temperature+humidity+ CO_2			**T6440** figure 5 page 49	**T6340** figure 5 page 51	**T6540** figure 5 page 57

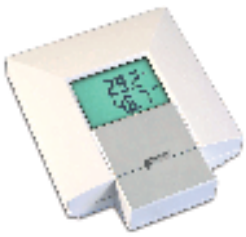
figure 1 figure 2 figure 3 figure 4 figure 5 figure 6 figure 7 figure 8



Illustrative pictures of mechanical construction of transmitters

INTERIOR TRANSMITTERS of Txx18 family

MEASURED VALUE / OUTPUT	4 to 20mA page 63	0 to 10V page 63	RS485 page 65	RS232 page 65
temperature	T0118	T0218	T0418	T0318
atmospheric pressure	T2118	T2218		
temperature + humidity	T3118	T3218	T3418	T3318
temperature + humidity + atmospheric pressure			T7418	T7318



TEMPERATURE, HUMIDITY, ATMOSPHERIC PRESSURE
CO_2 TRANSMITTERS with serial RS232 output

temperature*barometric pressure*relative humidity*dew point temperature* absolute humidity*specific humidity*mixing ratio*specific enthalpy*CO_2

APPLICATIONS

- server rooms
- telecommunication devices
- warehouses
- manufacturers
- museums, archives, galleries
- air-conditioned rooms
- weather stations

Measured temperature, atmospheric pressure, CO_2 concentration is converted to digital serial output with the RS485 link parameters. Large dual line LCD for display of temperature, humidity, pressure or other calculated humidity interpretation is an advantage. Computerized design ensures maximum long term stability and fail indication. The 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. Instrument works always in slave mode, i.e. responds only to master device query.

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 and guarantees high reliability, long term stability and eliminates the need of periodical recalibration in the field.

TECHNICAL PARAMETERS

Applied temperature sensor:	RTD, Pt1000-3850ppm/°C
Supported temperature units:	degrees Celsius, degrees Fahrenheit
Operating temperature range of the electronics:	-30 to +80°C (-30 to +60°C CO2 transmitters T5340, T6340)
Accuracy of temperature measurement:	±0.4°C, accuracy of T4411 transducer input is ±0.2°C
Range of temperature measurement:	0 to 100%
Accuracy of relative humidity measurement:	±2.5%RH from 5 to 95% at 23°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:	± 1.3hPa at 23°C, range: 600 to 1100hPa
Supported pressure units:	hPa, kPa, mbar, mmHg, inHg, inH_2O, PSI, oz/in^2
Accuracy of CO2 level measurement T5340,T6340:	±(50ppm +2% from reading) 0 to 2000ppm at 25°C and 1013hPa NEW
Accuracy of CO2 level measurement T5341:	±(100ppm +5% from reading) 0 to 10000ppm at 25°C and 1013hPa
Range of temperature compensation of RH sensor:	all temperature range
Power:	9 to 30 V DC, consumption approximately 6mA
Protection - temperature and humidity transmitters:	IP65 electronics with terminals, IP40 humidity and temperature sensors
Protection - transmitters measuring pressure: :	IP54 electronics with terminals, IP40 humidity and temperature sensors
Filtering ability of the humidity sensor cover:	0,025mm
Communication protocols:	ModBus RTU, ADAM Advantech, HW group
Communication speed:	110 to 115200 Bd
Dimensions of the case without cable glands:	89 x 73 x 39.5 mm

TEMPERATURE, HUMIDITY, ATMOSPHERIC PRESSURE
CO_2 TRANSMITTERS with serial RS232 output

AVAILABLE MODELS - electronic circuitry is not galvanically isolated from power:

MODEL	MEASURED VALUE	MAXIMUM TEMPERATURE AND PRESSURE MEASURING RANGE	STEM LENGTH	DESCRIPTION	Figure
T4311	T	-200 to +600°C	-	**Temperature transducer** for external probes with Pt1000-3850 sensor (not included), input accuracy ±0.2°C	3
T0310	T	-30 to +80°C	53mm	Thermometer - outdoor, indoor use	1
T3311	T+H	-30 to +80°C	75mm	Thermometer-hygrometer - outdoor, indoor use	2
T3313	T+H	-30 to +125°C[1)]	150mm	**Thermometer-hygrometer** - duct mount, T3313, T3313D	5
T3319	T+H	-30 to +105°C[1)] probe including cable	probe cable 1,2,4m	**Thermometer-hygrometer** - T+RH probe with 1 m cable, diameter 18mm. Available also with cable lengths 2m or 4m.	6
T7310	T+H+P	-30 to +80°C 600 to 1100hPa	75mm	**Thermometer-hygrometer-barometer** - outdoor, indoor use	2
T7311	T+H+P	-30 to +105°C[1)] 600 to 1100hPa	probe cable 1,2,4m	**Thermometer-hygrometer-barometer** - T+RH probe with 1m cable, diameter 18mm. Available also with cable 2m or 4m.	6
T2314	P	600 to 1100hPa	-	**Barometer** - outdoor, indoor use.	4
T5340	CO_2	0 to 2000ppm CO_2	-	**CO_2 level transmitter**, built-in sensor, outdoor, indoor use.	3
T5341	CO_2	0 to 10000ppm CO_2 -30 to +60°C	probe cable 1,2,4m	**CO_2 level transmitter**, probe with 1 m cable, diameter 18.5mm. Available also with cable lengths 2m or 4m. **NEW**	6
T6340	T+H+CO_2	0 to 2000ppm CO_2	75mm	**Temperature humidity CO_2** transmitter, outdoor, indoor use.	2

T - temperature **H** - humidity **P** - barometric pressure **CO_2** - carbon dioxid concentration

1] Maximum temperature only at the measuring end with sensors. +105°C is allowed also for the cable. Relative humidity at temperature over +85°C is limited in accordance with the graph. Near plastic case with electronics maximum temperature is +80°C.

Fig.1 Thermometer T0310

Fig.2
Transmitter T3311,T7310,T6340

Fig.3
Transducer T4311,T5340

Fig.4 Barometer T2314

Fig.5
T3313

Fig.6 Transmitter T3319, T7311, T5341

Included accessory:

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.

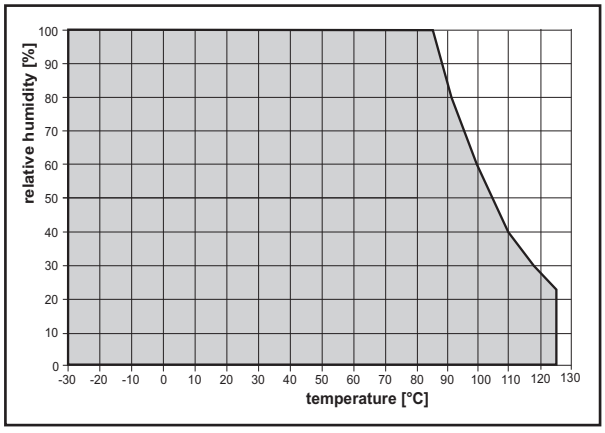
Free program SensorReader for logging values from one thermometer to a PC disk file is ready to download. Recorded values in CSV format are easy to process in e.g. Excel.

Optional accessory:

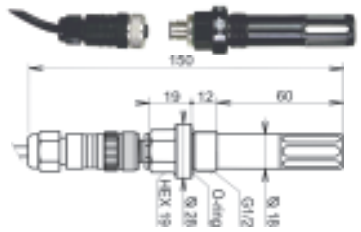
MP006 - RS232/USB converter for easy connection to the PC USB port

- Comet probes with Pt1000 sensors are directly connectable to T4311 transducer - see further. There is a symbol /0 behind probe name.

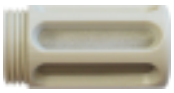
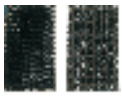
Other accessories - see further



OPTIONAL ACCESSORIES FOR HUMIDITY TRANSMITTERS

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.

OPTIONAL ACCESSORIES FOR HUMIDITY TRANSMITTERS

	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