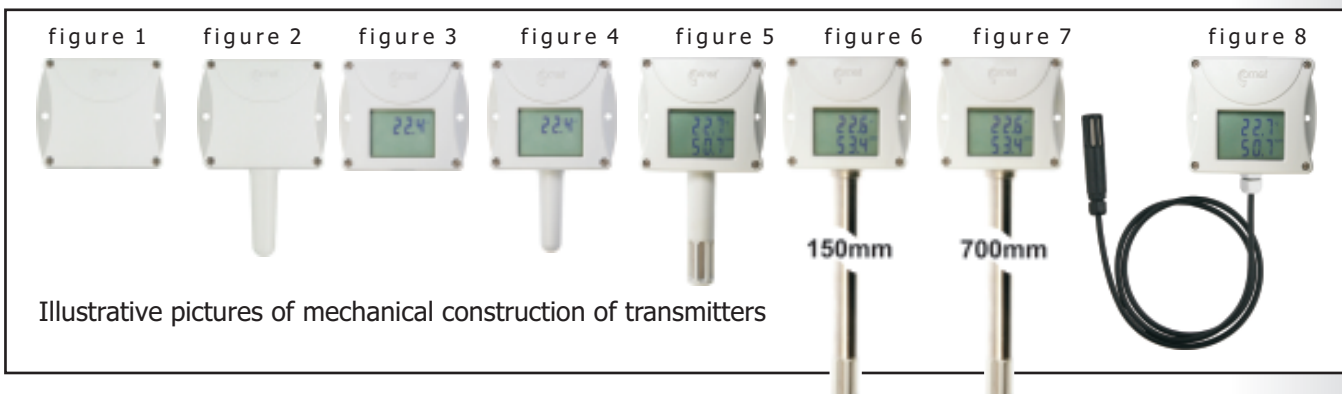


# SELECTION TABLES OF TEMPERATURE, HUMIDITY, PRESSURE CO<sub>2</sub> TRANSMITTERS Txxxx, Pxxxx

## INDUSTRIAL TRANSMITTERS of Txxxx, Pxxxx family:

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

Pxxxx, Txxxx



## 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<sub>2</sub> TRANSMITTERS with serial RS485 output

temperature\*barometric pressure\*relative humidity\*dew point temperature\*  
absolute humidity\*specific humidity\*mixing ratio\*specific enthalpy\*CO<sub>2</sub>



## APPLICATIONS

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



Measured temperature, atmospheric pressure, CO<sub>2</sub> concentration is converted to digital serial output with the RS485 link parameters. Transmitter circuitry is galvanically isolated from power circuitry to prevent collision in RS485 network. 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<sub>2</sub> - 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<sub>2</sub> sensor engineers, technical advisors, environmental experts and health specialists can optimize the ventilation for creation of a healthy interior climate.

The CO<sub>2</sub> measurement is based on a 2-source, 2-beam process. CO<sub>2</sub> measurement with long-term stability is guaranteed thanks to the proven non-dispersive infrared (NDIR) CO<sub>2</sub> 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 CO <sub>2</sub> transmitters T5440, T6440)
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 <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
Accuracy and range of barometric pressure:	± 1.3hPa at 23°C, range: 600 to 1100hPa
Supported pressure units:	hPa, kPa, mbar, mmHg, inHg, inH <sub>2</sub> O, PSI, oz/in <sup>2</sup>
Accuracy of CO <sub>2</sub> level measurement T5440,T6440:	±(50ppm +2% from reading) 0 to 2000ppm at 25°C and 1013hPa <b>NEW</b>
Accuracy of CO <sub>2</sub> level measurement T5441:	±(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 0,5W
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<sub>2</sub> TRANSMITTERS with serial RS485 output

temperature\*barometric pressure\*relative humidity\*dew point temperature\*  
absolute humidity\*specific humidity\*mixing ratio\*specific enthalpy\*CO<sub>2</sub>

**AVAILABLE MODELS - electronic circuitry GALVANICALLY ISOLATED from power:**

MODEL	MEASURED VALUE	MAXIMUM TEMPERATURE AND PRESSURE MEASURING RANGE	STEM LENGTH	DESCRIPTION	Figure
T4411	T	-200 to +600°C	-	<b>Temperature transducer</b> for external probes with Pt1000-3850 sensor (not included), input accuracy ±0.2°C	1
T0410	T	-30 to +80°C	53mm	<b>Thermometer</b> - outdoor, indoor use	2
T3411	T+H	-30 to +80°C	75mm	<b>Thermometer-hygrometer</b> - outdoor, indoor use	3
T3413	T+H	-30 to +125°C <sup>1)</sup>	150mm	<b>Thermometer-hygrometer</b> - duct mount, T3413, T3413D	4
T3417	T+H	-30 to +125°C <sup>1)</sup>	700mm	<b>Thermometer-hygrometer</b> - bar type	4
T3419	T+H	-30 to +105°C <sup>1)</sup> probe including cable	probe cable 1,2,4m	<b>Thermometer-hygrometer</b> - T+RH probe with 1 m cable, diameter 18mm. Available also with cable lengths 2m or 4m.	5
T7410	T+H+P	-30 to +80°C 600 to 1100hPa	75mm	<b>Thermometer-hygrometer-barometer</b> - outdoor, indoor use	3
T7411	T+H+P	-30 to +105°C <sup>1)</sup> 600 to 1100hPa	probe cable 1,2,4m	<b>Thermometer-hygrometer-barometer</b> - T+RH probe with 1m cable, diameter 18mm. Available also with cable 2m or 4m.	5
T2414	P	600 to 1100hPa	-	<b>Barometer</b> - outdoor, indoor use.	6
T5440	CO <sub>2</sub>	0 to 2000ppm CO <sub>2</sub>	-	<b>CO<sub>2</sub> level transmitter</b> , built-in sensor, outdoor, indoor use. <b>NEW</b>	6
T5441	CO <sub>2</sub>	0 to 10000ppm CO <sub>2</sub> -30 to +60°C	probe cable 1,2,4m	CO <sub>2</sub> level transmitter, probe with 1 m cable, diameter 18.5mm. Available also with cable lengths 2m or 4m.	5
T6440	T+H+CO <sub>2</sub>		75mm	<b>Temperature humidity CO<sub>2</sub> transmitter</b> , outdoor, indoor use.	3

T - temperature H - humidity P - barometric pressure CO<sub>2</sub> - carbon dioxide 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.

Pxxxx Txxxx



Fig.1 Transducer T4411



Fig.2 Transmitter T0410



Fig.3 Transmitter T3411, T7410, T6440



Fig.4  
Transmitter T3413 length 150mm  
Transmitter T3417 length 700mm



Fig.6 Transmitter T2414, T5440

### 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](http://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:

Comet probes with Pt1000 sensors are directly connectable to T4411 transducer - see further. There is a symbol /0 behind probe name.

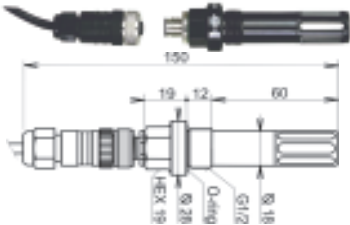






Other accessories - see further

Transmitters are directly compatible with sixteen channel Comet data acquisition system MSx.



Fig.5 Transmitter T3419, T7411, T5441

# OPTIONAL ACCESSORIES FOR HUMIDITY TRANSMITTERS

<p>New - probe for compressed air</p>	<p>Order code</p>	
	<p><b>TxxxxP</b> <b>Hxxxx1P</b></p>	<p>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.</p>
	<p><b>SH-PP</b></p>	<p>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.</p>
	<p><b>TxxxxL</b> <b>HxxxxL</b></p>	<p>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</p>
	<p><b>K1427</b></p>	<p>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.</p>
	<p><b>without LCD</b></p>	<p>Transmitter version with blind lid without LCD. Specify please the requirement in your order.</p>
	<p><b>OEM</b></p>	<p>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.</p>
	<p><b>F8000</b></p>	<p>Solar radiation shield for transmitters with T+RH probe on a cable.</p>

# OPTIONAL ACCESSORIES FOR HUMIDITY TRANSMITTERS

	<b>Order code</b>	
	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
	MD046	<b>ACCESSORIES FOR EASY RELATIVE HUMIDITY CALIBRATION AND ADJUSTMENT</b> 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