



HUMIDITY AND TEMPERATURE TRANSMITTERS with 4-20mA or 0-10V output

temperature
relative humidity
dew point temperature
absolute humidity
specific humidity
mixing ratio
specific enthalpy



Transmitter T3113, TO213



Transmitter T1110, T3110, TO210



Transmitter T3111

Programmable temperature and humidity transmitters are equipped with temperature and relative humidity sensors. Measured values are also converted to other humidity interpretation - dew point temperature, absolute humidity, specific humidity, mixing ratio or specific enthalpy. Transmitters with 4-20mA output for two-wire connection and voltage output 0-10V are available in wall-mount, duct-mount and bar types. Also types with T+RH probe on a cable are available. Transmitter contains a microprocessor based control circuitry in a durable plastic case with connection terminals and sensors in a stainless steel mesh filter. Humidity transmitters are also available with two galvanic isolated 4-20mA outputs. Configuration of outputs and output range are user adjustable. Large dual line LCD for simultaneous display of T+RH, or other humidity interpretation is an advantage. Display is possible to switch off. Computerized design ensures temperature compensation of the humidity sensor and fail indication. State-of-the-art capacitive polymer sensor ensures excellent calibration long term stability, inertia against water and condensation. Transmitters are designed for use in non-aggressive environment.

TECHNICAL PARAMETERS

Relative humidity operating range:	0 to 100%
Accuracy of relative humidity output:	±2.5% relative humidity from 5 to 95% at 23°C
Accuracy of temperature output:	±0.4°C from -30 to +100°C, ±0.4% from reading over +100°C
Accuracy of temperature output of T4111:	±0.15°C + 0.1% from adjusted output span (without temperat. probe)
Accuracy and range of dew point temperature output:	±1.5°C at ambient temperature < 25°C and RH>30%, range -60 to +80°C
Accuracy and range of absolute humidity output:	±3g/m ³ at ambient temperature T < 40°C, range 0 to 400 g/m ³
Accuracy and range of specific humidity output:	±2g/kg at ambient temperature T < 35°C, range 0 to 550 g/kg
Accuracy and range of mixing ratio output:	±2g/kg at ambient temperature T < 35°C, range 0 to 995 g/kg
Accuracy and range of specific enthalpy output:	± 3kJ/kg at ambient temperature T < 25°C, range: 0 to 995 kJ/kg
Temperature operating range of the case:	-30 to +80°C
Temperature operating range of the LCD display:	readable to +70°C, recommended to switch off LCD over +70°C
Range of temperature compensation of RH sensor:	-30 to +125°C
Current outputs - two-wire connection:	4-20mA, galvanic isolated with dual-output models
Voltage outputs:	0-10V, outputs are not galvanic isolated - have common ground
Configuration of outputs and output range:	user adjustable from the PC
Filtering ability of sensor cover:	0.025mm
Power:	9-30Vdc current transmitters 4-20mA 15-30Vdc voltage transmitters 0-10V, maximum consumption 20mA
Dimensions of the case with electronics (W x H x D):	88 x 98 x 37mm
Protection of the case with electronics:	IP65 electronics, IP40 sensors



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TRANSMITTERS ARE AVAILABLE IN FOLLOWING MODELS:

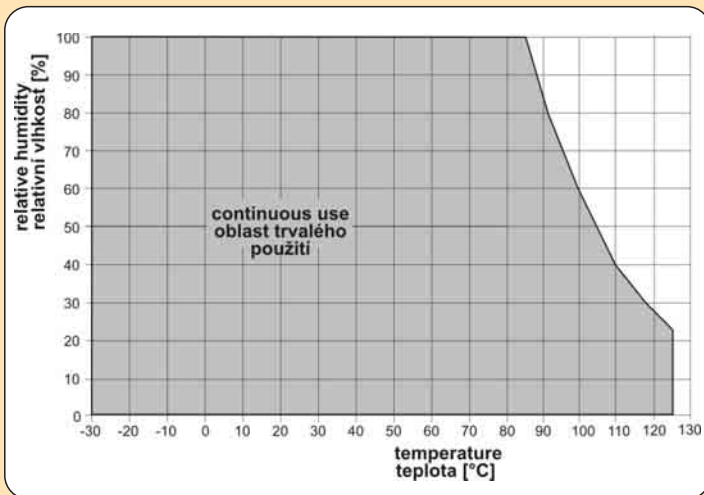
TYPE	MEASUR. VALUE	MAXIMUM RANGE OF TEMPERATURE MEASUREMENT	LENGTH	OUTPUT 1 ²⁾	OUTPUT 2 ²⁾	NOTE
TRANSMITTERS WITH 4-20mA OUTPUT						
T1110	RH	-30 to +80 °C	75mm	0-100%RH ²⁾	-	outdoor and indoor use
T3110	RH+T	-30 to +80 °C	75mm	0-100%RH ²⁾	-30to+80 °C ²⁾	outdoor and indoor use
T3113	RH+T	-30 to +125 °C ¹⁾	150mm	0-100%RH ²⁾	-30to+125 °C ²⁾	duct mount
T3117	RH+T	-30 to +125 °C ¹⁾	700mm	0-100%RH ²⁾	-30to+125 °C ²⁾	bar type
T3111	RH+T	-30 to +105 °C ¹⁾ probe including cable	probe cable 1,2,4m	0-100%RH ²⁾	-30to+105 °C ²⁾	T+RH probe with 1 m cable. Cable lengths 2m or 4m available.
T0110	T	-30 to +80 °C	53mm	-30to+80 °C ²⁾	-	outdoor and indoor use
T4111	T	-200 to +600 °C	-	-200to+600 °C ²⁾	-	transducer for Pt1000 probes, output range adjustable by the user
TRANSMITTERS WITH 0-10V OUTPUT						
T0210	RH+T	-30 to +80 °C	75mm	0-100%RH ²⁾	-30to+80 °C ²⁾	outdoor and indoor use
T0213	RH+T	-30 to +125 °C ¹⁾	150mm	0-100%RH ²⁾	-30to+125 °C ²⁾	duct mount

1) Maximum temperature only at the measuring end with sensors. Maximum temperature +105 °C for T3111 with cable probe 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.

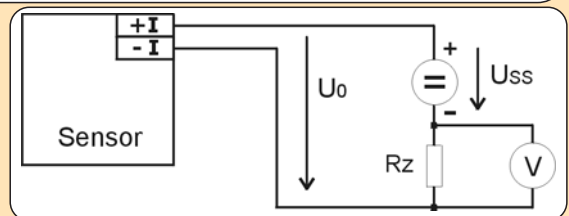
2) Any measured value - temperature, relative humidity, dew point temperature, absolute humidity, specific humidity, mixing ratio or specific enthalpy can be assigned to each output of dual output transmitters. Also identical value can be assigned to both outputs (e.g. relative humidity + relative humidity). The T1110 transmitter has only relative humidity output. Outputs are adjusted to maximum range from the manufacturer. Output range is user adjustable from the PC by means of the optional cable SPO03 - see photo. Free configuration program for transmitter adjustment is ready to download anytime from www.cometsystem.cz. If different adjustment of outputs and output ranges are required, please specify required output values (RH, T, Tdp, ..) and required ranges.

Ordering example: Transmitter T3110, output 1: RH 10 to 90%, output 2: temperature 0 to 35 °C

Ordering example: Transducer T4111, output: -100 to +30 °C



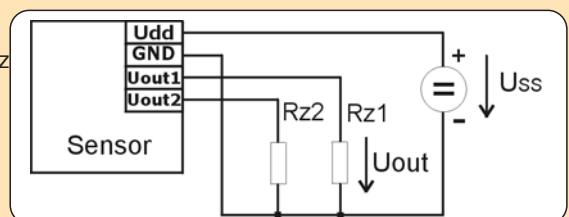
Optional cable SPO03 for transmitter adjustment



Typical application wiring of transmitter with 4-20mA output

Included accessory: calibration certificate from the manufacturer, instruction manual. Free configuration program for transmitter adjustment is ready to download anytime from www.cometsystem.cz

Other optional accessory: see further



Typical application wiring of transmitter with 0-10V output

Transmitters are directly compatible with sixteen channel Comet data acquisition system MS5D, MS5.