



ATEX certified humidity and temperature transmitter. Use in potentially explosive atmosphere. Duct mount.



Relative humidity, temperature sensors at 150mm stem. Measured values are also converted to other humidity interpretation: dew point temperature, absolute humidity, specific humidity, mixing ratio, specific enthalpy.

ATEX certification for use in potentially explosive environments.

Included in delivery:

- Traceable calibration certif
- Quick start m
- Free program TSensor for configuring of the transmitter is ready to [Download](#)

Features

Programmable transmitters T3110Ex, T3111Ex, T3113Ex with 4-20 mA outputs are designed for measurement of relative humidity and temperature in a potentially explosive environments.

• Electrical equipments for use in potentially explosive atmospheres

Special devices that can be a source of potential danger. Such devices must be designed, installed, operated and maintained so as to not cause the explosion in potentially explosive atmosphere. The basic information about equipments intended for use in the potentially explosive atmosphere contains 94/9/EC (ATEX) Directive.

• **Potentially explosive atmosphere**

An area, in which could be present the mixture of air and flammable substances (gas, vapor, mist, combustible dust) in such concentration, that it may catch fire. Explosion may be initiated by a spark or hot surface.

• **T311xEx transmitters are intrinsically safe**

It is a way of equipment protection, which is based on the limitation of energy (electrical and thermal) at a level lower than the level that could cause ignition a specific hazardous atmospheric mixture.

• **The principle of intrinsic safety equipment**

Lies in limitation of the amount of electric energy supplied to electric circuits from power source and energy accumulated into parts of electric circuits. Intrinsically safe zener barriers and intrinsically safe isolation amplifiers are an elemental types of intrinsically safe interfaces designed to protect electrical circuits installed in a potentially hazardous areas.

Intrinsically safe transmitter is designed for use in potentially explosive atmosphere, zone 2.

Programmable temperature and humidity transmitter is 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. Degrees Celsius and Fahrenheit are user selectable.

Transmitter contains a microprocessor based control circuitry in a durable plastic case with connection terminals and sensors in a filter with stainless steel mesh. Humidity transmitters is equipped 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.



II 3G Ex ic IIC T6 Gc

Transmitters T311xEx in compliance with European Directive 94/9/EC conforms to European Standards EN 60079-0:2012 and EN 60079-11:2012.

- Type Examination Certificate: **FTZÚ 13 ATEX 0189X**
- Marking: **II 3G Ex ic IIC T6 Gc**

II	The product is intended to surface sites with the presence of explosive atmospheres.
3G	The product is intended for use in areas where an explosive mixture of gas (vapour, mist) and air is not likely to occur in normal operation and if it occurs it will exist only for a short time.
Ex	It identifies that a protection mode against explosions has been adopted
ic	The protection mode by intrinsic safety according standard EN 60079-11
IIC	The product is intended to surface sites with the presence of explosive atmosphere - subgroup of C gas
T6	The temperature class (maximum surface temperature of the device is 85 °C at ambient temperature 60 °C)
Gc	Equipment protection level (equipment for use in explosive atmospheres due to the presence of gas, with a level of protection "increased" that is not a source of ignition in normal operation).

Outputs are set to maximum range from the manufacturer (-30 to +80°C, 0 to 100%RH).

To set other range by the user buying of SP003 cable is necessary - see Optional accessory.

Free configuration program TSensor for transmitter adjustment is ready to download anytime.

If different adjustment of outputs is required, please specify required output values (RH, T, Tdp, ..) and required ranges in the order. Adjustment is free of charge.

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 the transmitter. Also identical value can be assigned to both outputs.

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

Technical Data

Technical parameters	Value
Output	4-20mA
Measured Value	Temperature + Relative Humidity
Construction Type	Duct Mount (150mm)
Design	Industrial
Temperature range	-30 to 125°C
Relative humidity range	0 to 100%
Accuracy of relative humidity measurement	±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
Available temperature units	degrees Celsius, Fahrenheit
Accuracy and range of dew point temperature output - for more details see graphs	±1.5°C at ambient temperature T<25°C and RH>30% range -60 to +80 °C
Accuracy and range of absolute humidity output	±1.5g/m3 at ambient temperature T < 25°C range 0 to 400 g/m3
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 case with electronics	-30 to +60°C
Temperature operating range (case surroundings)	up to +60°C
Temperature operating range of LCD display	readable to operating temperature +70°C, it is recommended to switch OFF the LCD over +70°C
Range of humidity sensor temperature compensation	all temperature range
Current outputs - two-wire connection	4-20mA, galvanic isolated with dual-output models
Configuration of outputs and output range	user adjustable from the PC
Filtering ability of sensor cover	0.025mm - filter with stainless steel mesh
Protection of the case with electronics	IP65 electronics, IP40 sensors
Power	9-30Vdc
Dimensions	display unit 88.5 x 250 x 39.5 mm (W x H x D), stem length 150 mm
Weight	approximately 225g
Warranty	3 years