

FEATURES

- high long-term stability
- almost linear characteristic curve - resistance to dew formation
- small hysteresis
- good dynamic performance



APPLICATION

- Industrial Process Monitoring / Air Conditioning / Environmental Ventilation Control
- Buildings, factories, hospitals, clean rooms, laboratories , weather stations Environmental monitoring
- steel and iron Industry, food, chemical, pharmaceutical, biotechnology industry.

TB750-Humidity/-temperature sensors in these series are used to measure relative humidity or temperature or relative humidity and temperature in air and other non-aggressive gases in explosion hazardous areas and in locations with inflammable dust.

The sensors comprise a sensor part with a sintered filter mounted on a robust aluminium die-cast housing (transmitter part), both made of stainless steel.

This information is based on current knowledge and is intended to provide details of our products and their possible applications. It does not, therefore, act as a guarantee of specific properties of the products described or of their suitability for a particular application. It is our experience that the equipment may be used across a broad spectrum of applications under the most varied conditions and loads. We cannot appraise every individual case. Purchasers and/or users are responsible for checking the equipment for suitability for any particular application. Any existing industrial rights of protection must be observed. The perfect quality of our products is guaranteed under our General Conditions of Sale.

Technical data

Humidity

Measuring range: 0...100%rh
 Accuracy (MR 5...95%rh at 10...40 °C): $\pm 2\%$ rh
 at $T < 10\text{ °C}$; $T > 40\text{ °C}$: 0.1%/K additional
 Output: 4...20 mA

Temperature

Measuring element (ref. DIN IEC 751): Pt 100 class B
 Measuring range: -20...+80 °C
 (special models with special measuring range on demand)
 Accuracy at 23 °C: $\pm 0.2\text{ K}$
 other ranges : $\pm 0.3\text{ K}$
 at $T < 10\text{ °C}$, $T > 40\text{ °C}$: $\pm 0.007\text{ K/K}$ additional
 Output : 4...20 mA

Others

Storage temperature -40...+80 °C
 Approved operating temperature range : -40...+80 °C
 Maximum surface temperature of housing : 95 °C
 Sensor operating voltage: 13...24V DC (intrinsically safe)

Maximum admissible input voltage U_i : 24V DC
 Maximum admissible input amperage I_i : 100 mA
 Maximum admissible input power P_i : 780 mW
 Maximum inner capacity C_i : negligible
 Maximum inner inductivity L_i : negligible
 Degree of protection : IP 66
 electrical equipment in instrument group II with
 protection provided by housing

Housing material

Sensor part : stainless steel
 Transmitter part : alu-diecast

Cable screwing M16 x 1.5

clamping range : 3...7 mm
 initial torque
 (for recommended cable type) : 4.0 Nm



II 1/2G Ex ia IIC T4

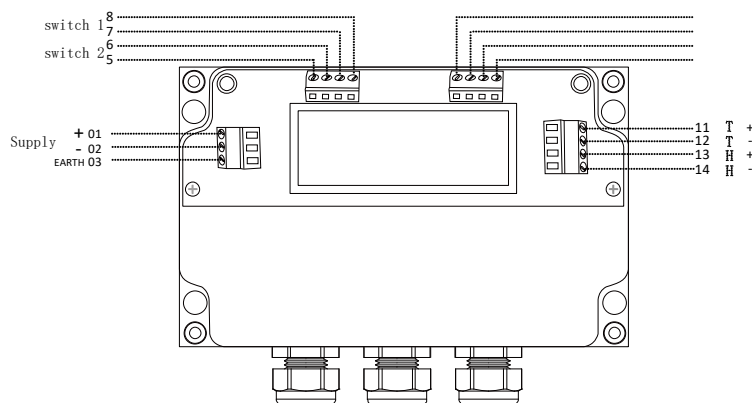
Conformity with European Standards

Explosion protection guideline **94/9/EC**
 General requirements : EN 60079-0:2009
 Intrinsic safety „i“ : EN 60079-11:2012
 Category 1 G electrical apparatus : EN 60079-26:2007
 Dust protection by enclosure „t“ : EN 60079-31:2009

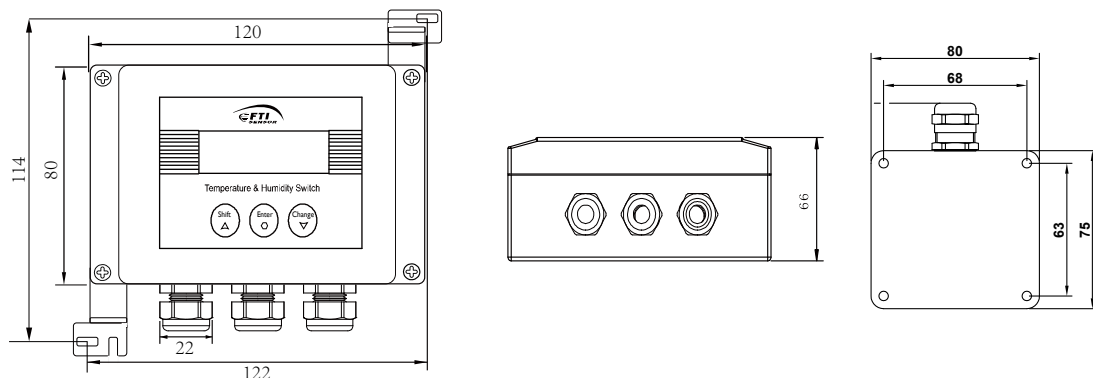
Directive about electromagnetic compatibility : 2004/108/EG

General requirements : EN 61326-1:2006
 Special requirements : EN 61326-2-3:2007

Potentiometer Configuration



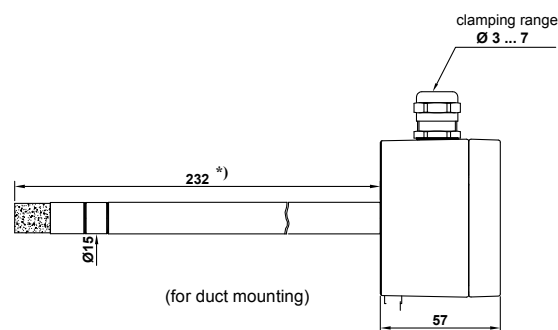
Dimensions .mm



Caution!
Do not open sensors in a location with explosive dust atmosphere!

The sensor may only be opened and operated while open when it is not in the potentially explosive atmosphere.

After calibration, the housing must be sealed tightly again. To do so, the screws in the cover must be tightened with a torque of 1.5 to 2.0 NM.



*) special type with sensor length 290 mm on demand

Dimension diagrams for connection to zone 0

