

**Thermostats**  
**TST**

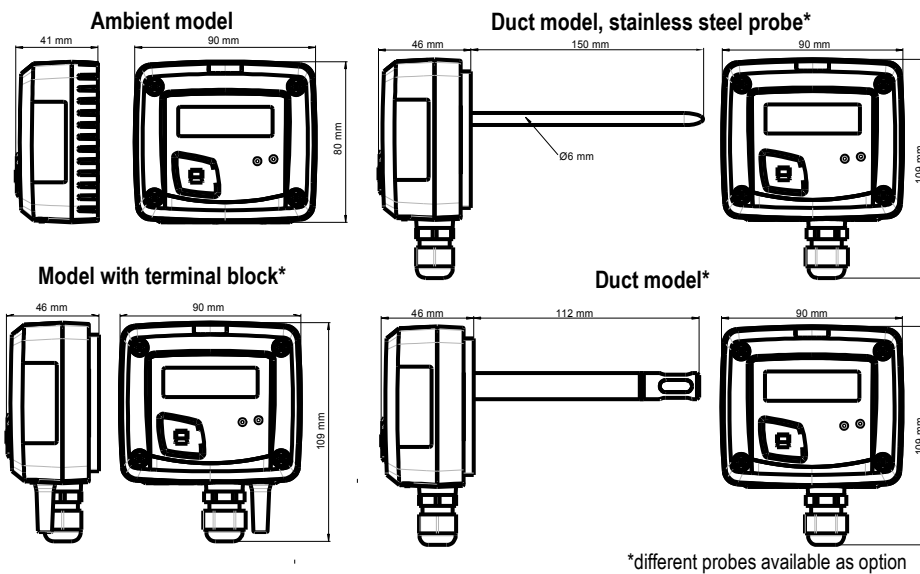


**KEY POINTS**

- Range from 0 to 50 °C (ambient model), from -20 to +80 °C (duct model) and from -100 to 400 °C (modèle avec bornier Pt100 ou CTN)
- RCR relay output 3A/230 Vac, power supply 24 Vac/Vdc
- Visual and audible alarm, red led in front
- ABS V0 IP65 housing (duct and remote model) or IP20 (ambient model)
- "¼ turn" system mounting with wall-mount plate
- Housing with simplified mounting system



**FEATURES OF THE HOUSING**



**Material :** ABS V0 as per UL94

**Protection :**  
- duct model and model with terminal block : IP65  
- ambient model : IP20

**Display :** LCD 10 digits. Size : 50 x 17 mm

**Height of digits :** Values : 10 mm ; Units : 5 mm

**Cable gland (duct and terminal block models)**  
For cables Ø 8 mm maximum

**Weight :** 162 g

**Cable of remote probe :** length 2 m and Ø 4.8 mm in PVC

\*different probes available as option

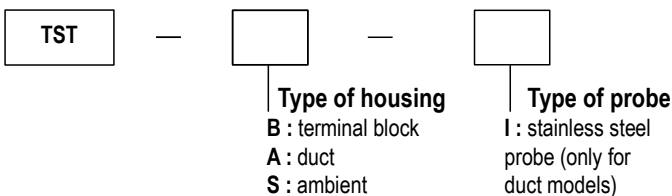
**TECHNICAL FEATURES**

<b>Units of measurement</b>	°C, °F
<b>Measuring range</b>	From 0 to 50 °C (ambient model), from -20 to +80 °C (duct model) and from -100 to +400 °C (model with terminal block)
<b>Accuracy*</b>	Pt100 : ±0.5 % of reading ±0.5 °C NTC : ±0.3°C (from -40°C to 70°C) ; ±0.5°C outside
<b>Type of sensor</b>	Pt100 or NTC (model with terminal block and stainless steel duct model) NTC (ambient model and duct model)
<b>Response time</b>	1/e (63%) 5 sec. (ambient) 1/e (63%) 20 sec. (airtight)
<b>Resolution</b>	0.1 °C
<b>Type of fluid</b>	Air and neutral gas
<b>Operating temperature</b>	From 0 to +50 °C
<b>Storage temperature</b>	From -10 to +70 °C

\*All the accuracies indicated in this technical datasheet were stated in laboratory conditions, and can be guaranteed for measurements carried out in the same conditions, or carried out with calibration compensation.

**PART NUMBER**

To order, just add the codes to complete the part number :

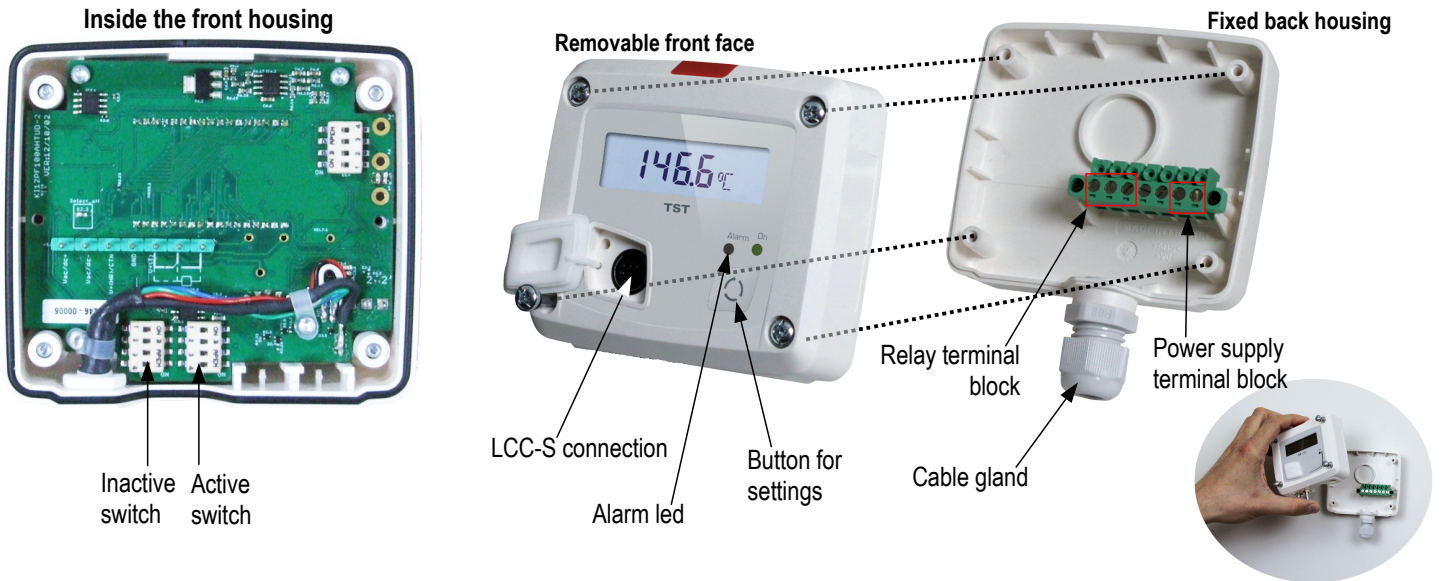


**Example : TST-AI**  
Thermostat with stainless steel duct probe

## TECHNICAL SPECIFICATIONS

<b>Output</b>	1 RCR relay 3 A / 230 Vac
<b>Power supply</b>	24 Vac/Vdc $\pm 10\%$
<b>Consumption</b>	2 VA
<b>Relay and alarm status</b>	Red led in front and internal buzzer
<b>Electromagnetical compatibility</b>	EN61326
<b>Electrical connection</b>	Terminal block for cables $\varnothing 0.05$ to $2.5\text{ mm}^2$
<b>PC communication</b>	USB-mini Din Kimo cable
<b>Environment</b>	Air and neutral gases

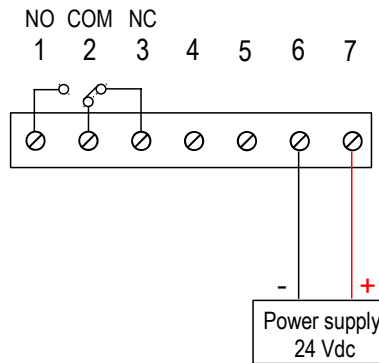
## CONNECTIONS



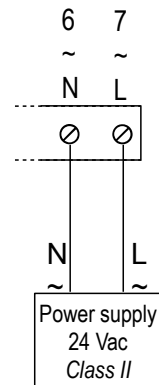
## ELECTICAL CONNECTIONS – as per *NFC15-100 standard*



This connection must be made by a qualified technician. **To make the connection, the transmitter must not be energized.**



or

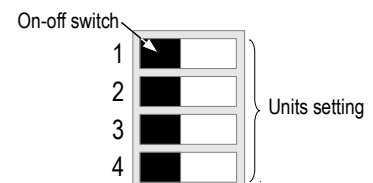


## SETTINGS AND USE OF THE TRANSMITTER

### > Configuration



To configure the transmitter, it must not be energized. Then, you can make the settings required, with the DIP switches (as shown on the drawing below). When the transmitter is configured, you can power it up.




### > Units setting – active switch

To set a unit of measurement, put the on-off switch 4 of the units as shown beside.

Configurations	°C	°F
<b>Combinations</b>	1 <input type="checkbox"/> <input type="checkbox"/>	1 <input type="checkbox"/> <input type="checkbox"/>
	2 <input type="checkbox"/> <input type="checkbox"/>	2 <input type="checkbox"/> <input type="checkbox"/>
	3 <input type="checkbox"/> <input type="checkbox"/>	3 <input type="checkbox"/> <input type="checkbox"/>
	4 <input type="checkbox"/> <input type="checkbox"/>	4 <input type="checkbox"/> <input type="checkbox"/>

## > Thresholds configuration

The button  allows to activate or not an alarm (threshold), to set the action of the alarm (edge), to set the threshold(s) value, to set the time-delay and to acknowledge the alarm.

### Working principle :

- By pressing on the button more than 3 seconds, you can validate the setting and go to the next setting.
- By pressing quickly on the button, you can increment a value and scroll down the different option or values.

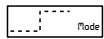
### Setting procedure :

#### • Activate or deactivate an alarm :

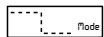
- > Press on the button for 3 seconds, “CONF” is displayed then “NEG”, meaning that the relay is in negative security, it is excited during an alarm condition.
- > If needed, press quickly on the button to switch the relay in positive security, the relay is de-energized during an alarm condition or a current breaking, “POS” is displayed.
- > Press 3 s on the button, “Alarm” screen is displayed with “On” or “Off” blinking (according to the last saved configuration).
- > Press quickly on the button, the display changes from “On” (activated alarm) to “Off” (deactivated alarm).
- > Press 3 seconds on the button to confirm the setting. If the alarm is deactivated, the instrument displays the measurement ; if the alarm is activated, the instrument displays the following setting.

#### • Set the action of the alarm (rising edge or falling edge)

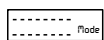
The edge determines the action of the alarm according to the trespassing direction of the threshold(s).



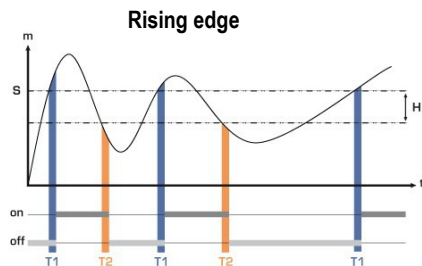
Rising edge (1 threshold) : the alarm goes off when the measurement **exceeds** the threshold and stops when it is **below** the threshold.



Falling edge (1 threshold) : the alarm goes off when the measurement is **below** the threshold and stops when it **exceeds** the threshold.

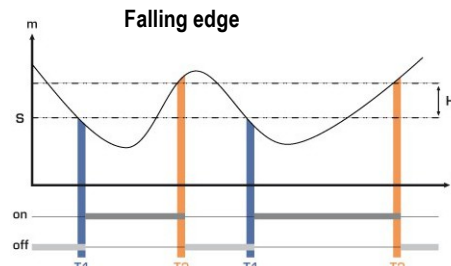


Monitoring (2 thresholds) : the alarm goes off when the measurement is outside the defined low and high thresholds.



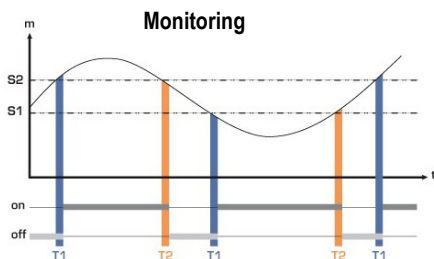
Measurement (m) > Threshold (S) during the time-delay T1 → Alarm activation.

Measurement (m) < Threshold (S) - Hysteresis (H) during the time-delay T2 → Alarm deactivation.



Measurement (m) < Threshold (S) during the time-delay T1 → Alarm activation.

Measurement (m) > Threshold (S) + Hysteresis (H) during time-delay T2 → Alarm deactivation.



The alarm goes off when the measurement is outside the low and high thresholds.

- > Press briefly on the button to select the trespassing direction then press the button more than 3 seconds to validate this direction and set the thresholds.

#### • Set the threshold(s) value

The first digit blinks, it corresponds to the positive (0) or negative (-) setting of the threshold value. Press briefly on the button to select the sign for the threshold value. Press on the button more than 3 seconds to validate.

The second digit blinks, press briefly on the button to scroll the numbers. Press the button more than 3 seconds to validate.

Repeat the process until the last digit to configure the threshold value, validate the threshold and go to the following setting.

If the monitoring edge has been selected, the transmitter displays the setting of the second threshold.

#### • Set the hysteresis

The hysteresis is only for the rising edge and the falling edge modes.

In rising edge mode, the hysteresis allows to the transmitter to stay in alarm when the measurement is between the threshold and the threshold minus the hysteresis.

Ex : for a 70 °C threshold and a 10 °C hysteresis, the instrument will stay in alarm when the measurement will be between 70 and 60 °C.

In falling edge mode, the hysteresis allows to the transmitter to stay in alarm when the measurement is between the threshold and the threshold plus the hysteresis.

Ex : for a 70 °C threshold and a 10 °C hysteresis, the instrument will stay in alarm when the measurement will be between 70 and 80 °C.

The first digit blinks, set it pressing the button briefly several times then press on the button more than 3 seconds to set the following digit..

Once the hysteresis is set, press the button more than 3 seconds to validate and set the time-delays.

