MB-TP Temperature converter

Status :
ON: connected
Blinking : not connected

Module detection
swich

PT100/PT1000 sensor input
Basic setting : PT100

Thermocouple: input (Type K)
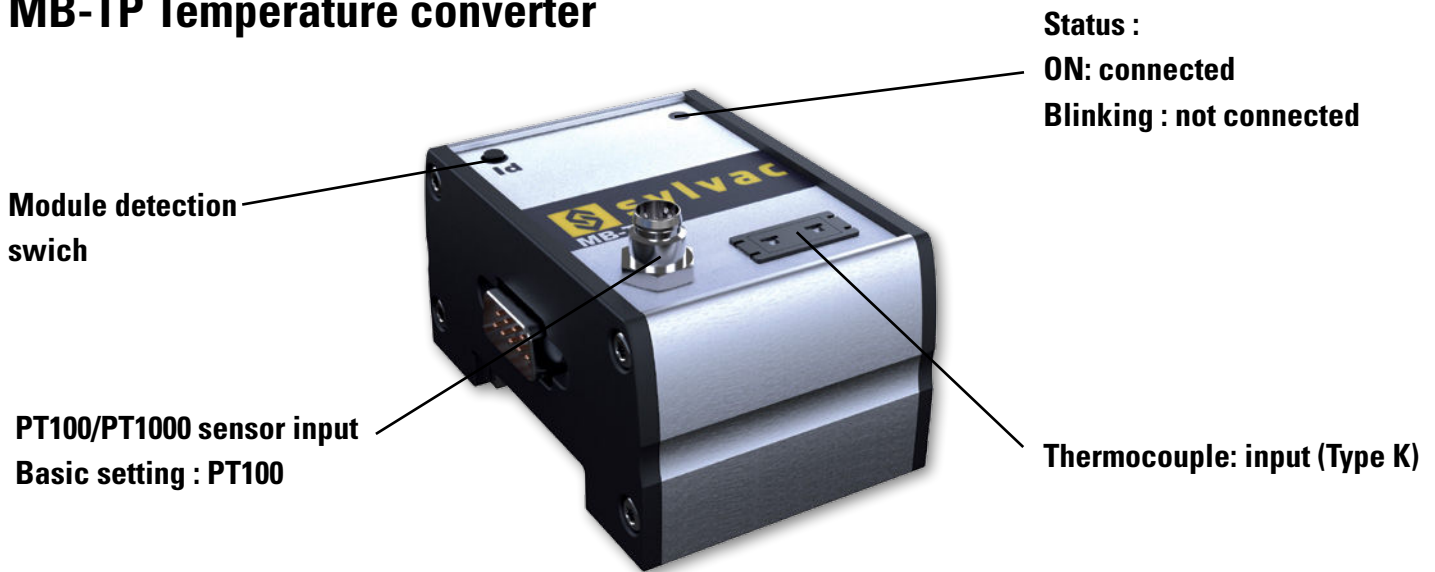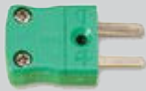
Important: only one temperature sensor type can be used at a time.
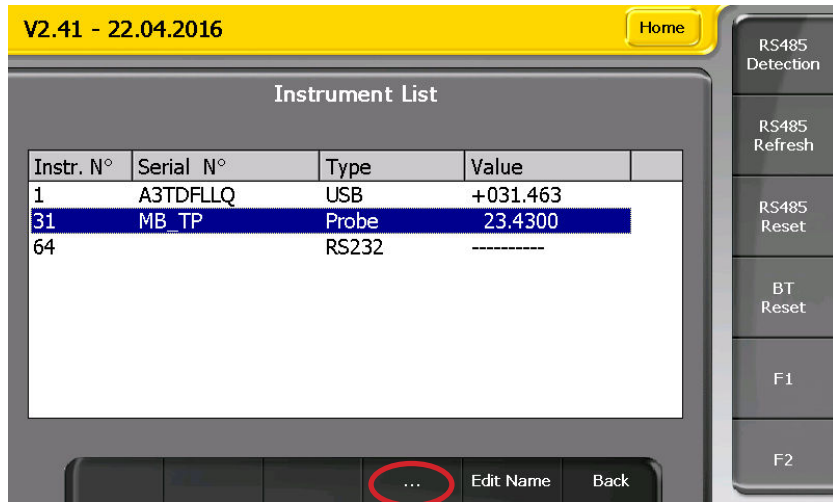
Supported sensors

| PT 100/1000: Basic setting: PT100	Type K
Specifications: Specifications depend on the type of sensor used: PT 100 DIN A Class: ±0.15° + 0.002 x t[°] PT 100 DIN B Class: ±0.30° + 0.005 x t[°] PT 100 2x B Class: ±0.60° + 0.005 x t[°] PT 100 1/3 B+ Class: ±0.10° + 0.0017 x t[°] PT100 1/3 B- Class: ±0.10° + 0.005 x t[°] **Converter:** Sensor ±0.5°C	**Specifications:** Specifications depend on the type of sensor used: Standard: ±2.2° Special: ±1.1° **Converter:** Sensor ±0.25°C
Connection: Binder M8 serie 768 - 4 poles Compatible 2/4 wires **Recommended wiring: 4 wires wiring** 4 wires wiring: 2 wires wiring: -Red / Red: 1-2 - Red: 2 -White/White: 3-4 - White: 3 Remark: depending on wire length and connection type, there may an error in temperature measurement (temperature offset). This error can be corrected by using the preset function on D300S	**Connection :** Thermocouple connector with flat pins Standard wiring: - Yellow: (+) - Red: (-)

Use with D300S

Important: MB-TP is only compatible with firmware from version 2.41 and up.

1) Connect the MB-TP on RS485/MB-X bus

2) In instrument list, press RS485 Detection

3) On MB-TP: press Module detection switch

4) Select MB-TP on the list

5) Press on tab «...»
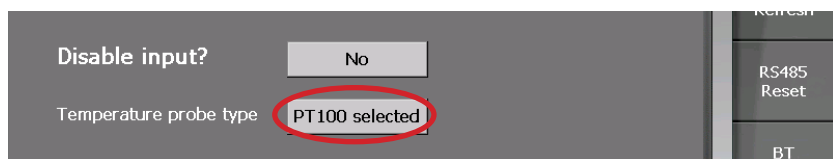
6) Select Sensor type (PT100/Type K)

Use of temperature measurement:

The temperature value may be used and displayed like any other channel input, but can also be used to adjust the measured value based on the coefficient of expansion of the material. Degree [°C] units must be set manually in channel setting.

To avoid automatic channel changes due to temperature variation, do not forget to exclude the temperature channel from automatic detection
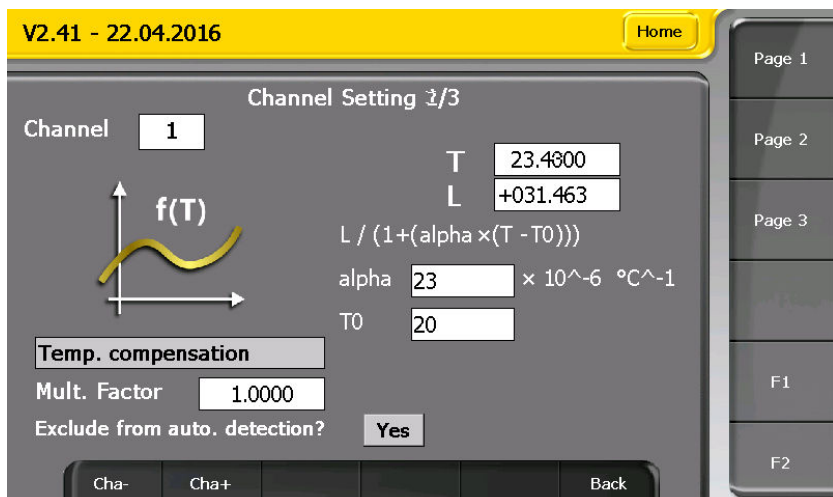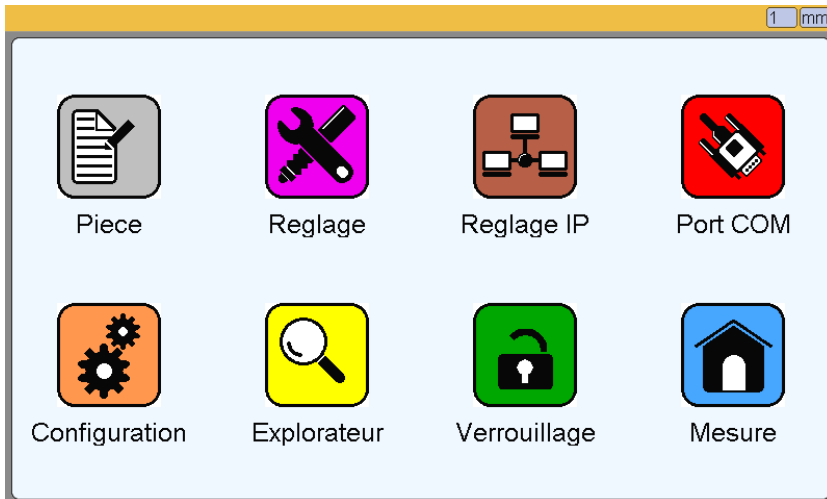

Temperature compensation formula:

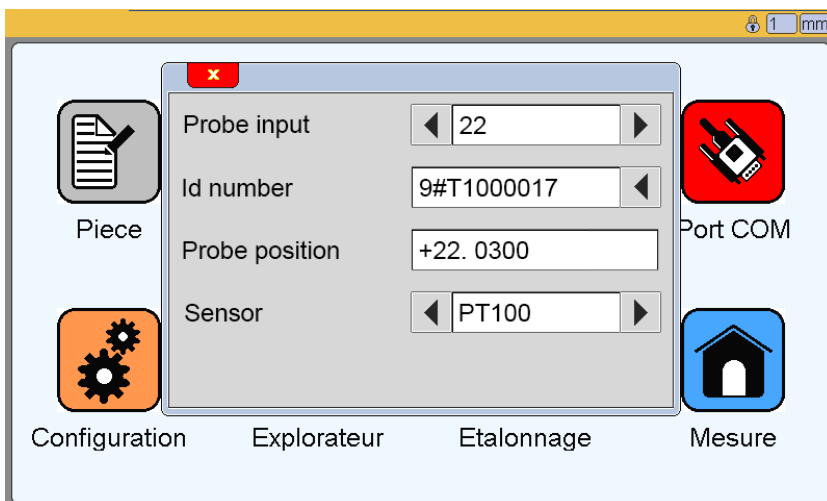$$\text{Result value} = \frac{\text{measured value}}{(1 + alpha * (T - T0))}$$

T: Sensor value (temperature)
L: Measured value
T0: Reference temperature
alpha: coefficient of expansion of material

Use with D400S

1)   Connect the MB-TP on RS485/MB-Bus

2)   On main screen, select Probes

3)   Search for the first empty input using right arrow of Probe input

4)   Press on ID button of MB-TP module (an address beginning with '9#Txxx' will be displayed)

5)   Check and select sensor type (PT100 or Type K)

6)   Quit menu and introduce your formula using Part-> Characteristic -> Calculation

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