
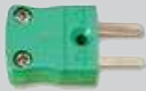


MB-TP Temperature converter



Important: only one temperature sensor type can be used at a time.

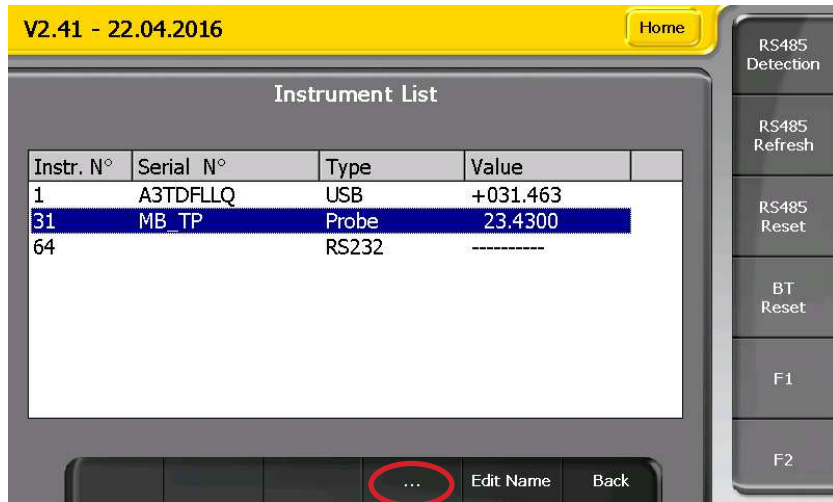
Supported sensors

PT 100/1000: Basic setting: PT100	Type K						
<p>Specifications: Specifications depend on the type of sensor used: PT 100 DIN A Class: $\pm 0.15^{\circ} + 0.002 \times t[^{\circ}]$ PT 100 DIN B Class: $\pm 0.30^{\circ} + 0.005 \times t[^{\circ}]$ PT 100 2x B Class: $\pm 0.60^{\circ} + 0.005 \times t[^{\circ}]$ PT 100 1/3 B+ Class: $\pm 0.10^{\circ} + 0.0017 \times t[^{\circ}]$ PT100 1/3 B- Class: $\pm 0.10^{\circ} + 0.005 \times t[^{\circ}]$</p> <p>Converter: Sensor $\pm 0.5^{\circ}\text{C}$</p>	<p>Specifications: Specifications depend on the type of sensor used: Standard: $\pm 2.2^{\circ}$ Special: $\pm 1.1^{\circ}$</p> <p>Converter: Sensor $\pm 0.25^{\circ}\text{C}$</p>						
<p>Connection: Binder M8 serie 768 - 4 poles</p>  <p>Compatible 2/4 wires</p> <p>Recommended wiring: 4 wires wiring</p> <table border="0"> <tr> <td>4 wires wiring:</td> <td>2 wires wiring:</td> </tr> <tr> <td>-Red / Red: 1-2</td> <td>- Red: 2</td> </tr> <tr> <td>-White/White: 3-4</td> <td>- White: 3</td> </tr> </table> <p>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</p>	4 wires wiring:	2 wires wiring:	-Red / Red: 1-2	- Red: 2	-White/White: 3-4	- White: 3	<p>Connection : Thermocouple connector with flat pins</p>  <p>Standard wiring:</p> <ul style="list-style-type: none"> - Yellow: (+) - Red: (-)
4 wires wiring:	2 wires wiring:						
-Red / Red: 1-2	- Red: 2						
-White/White: 3-4	- White: 3						

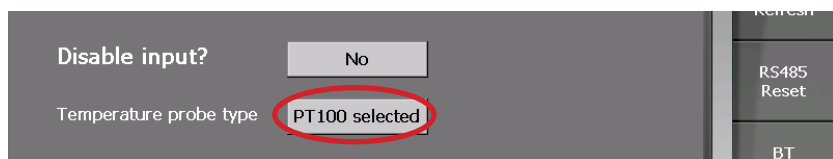


Use with D300S

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 «...»

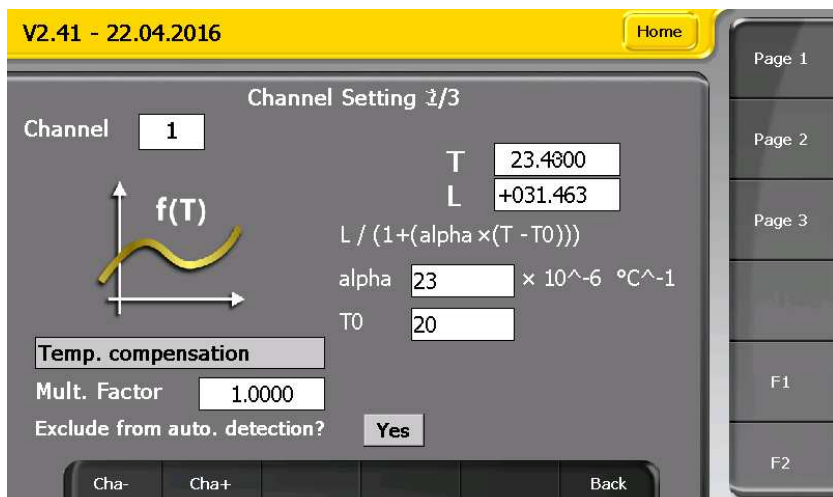


- 6) Select Sensor type (PT100/Type K)

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



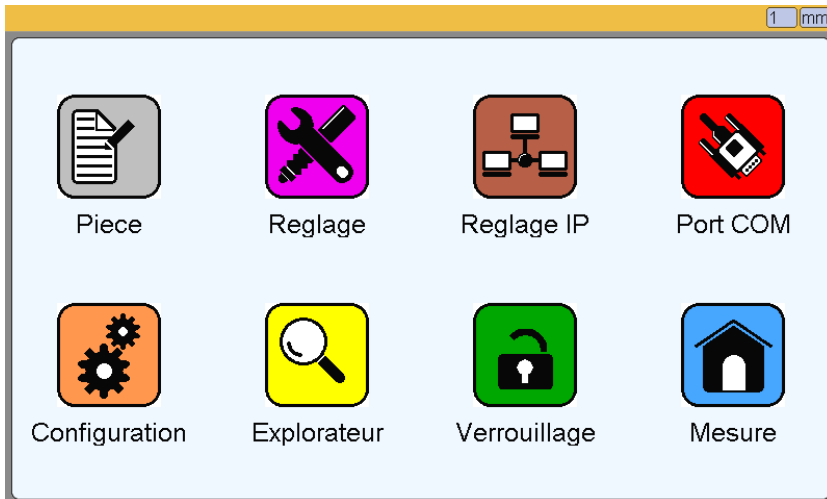
Temperature compensation formula:

$$\text{Result value} = \frac{\text{measured value}}{(1 + \alpha * (T - T_0))}$$

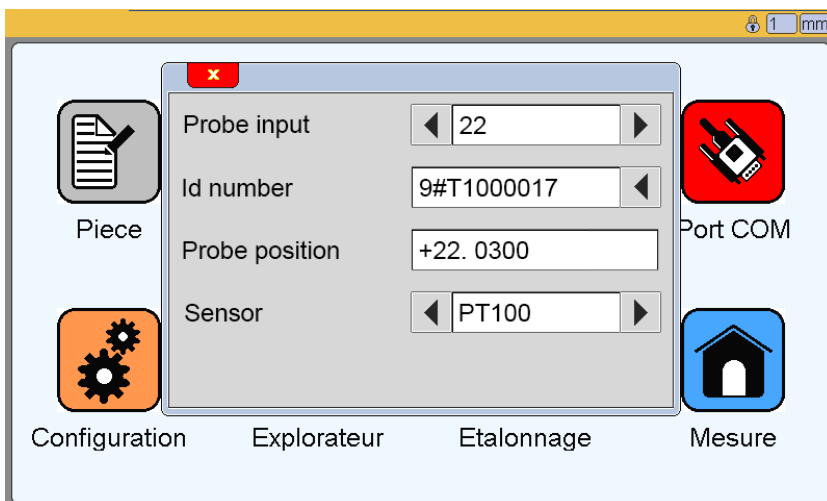
- T: Sensor value (temperature)
- L: Measured value
- T0: Reference temperature
- alpha: coefficient of expansion of material



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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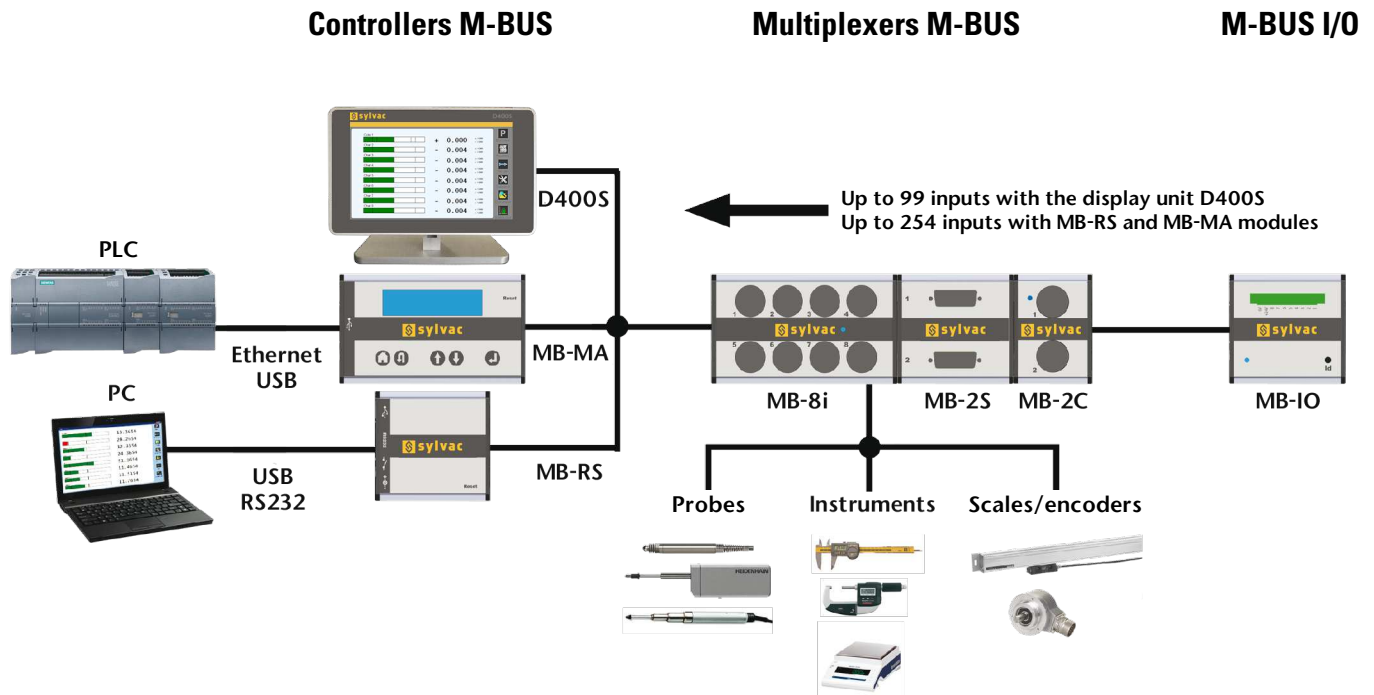


Changes without prior notice

www.sylvac.ch

Edition : 2016.11 / 681.127-120

Connection principle general M-Bus



Description

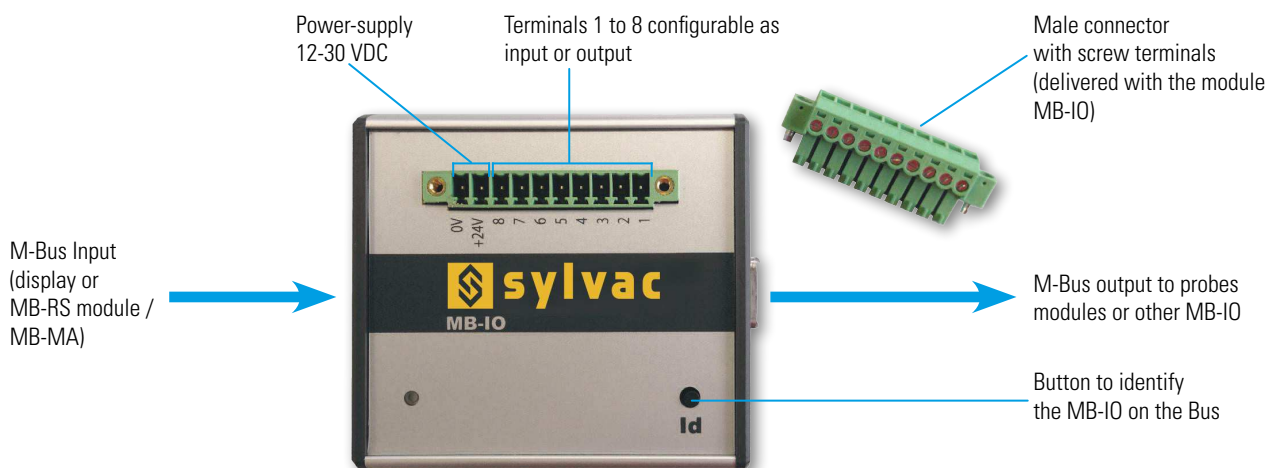
The MB-IO module allows to connect external devices to M-Bus network (actuators, safety, PLC...). 8 inputs/outputs isolated by optocoupler are available.

The outputs are similar to «PNP open collector» type and can be used with an external power-supply from 12 to 30 volts max. The maximal drained stream of each output is 50mA.

The inputs represent a charge of 2.2 Kohms connected to 0 volt.

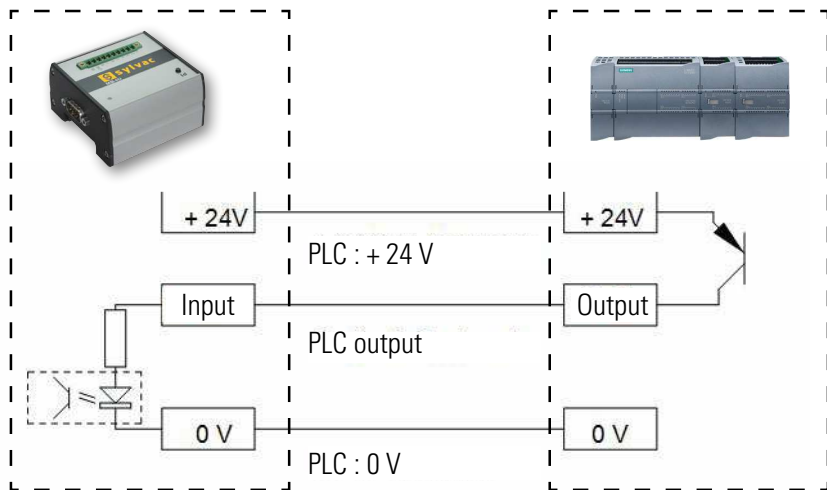


Cabling

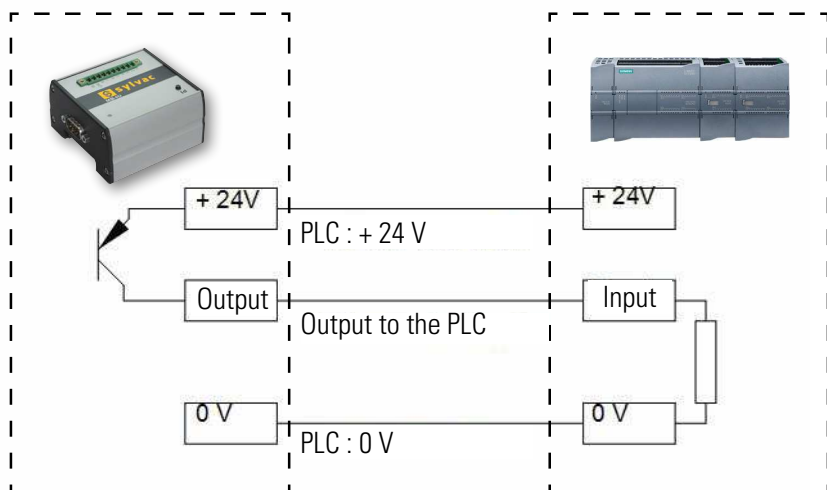




Connection example with a PLC



PLC output connected on an entry from MB-IO module



MB-IO module output connected to a PLC input

Mechanical characteristics and assembly

The M-Bus modules are made with a sturdy aluminium profile, declined in several lengths described in the dimension table below.

All M-Bus modules are attached on a standard DIN rail, width 35mm and height 7.5mm.



Module	Length	Height	Width
MB-PS, MB-2C, MB-BA	51mm	40mm (without connectors)	74mm
MB-IO, MB-2M, MB-4M, MB-4C, MB-2S, MB-2T, MB-RS	76mm		
MB-4D, MB-8D	96mm		
MB-8I, MB-MA	126mm		