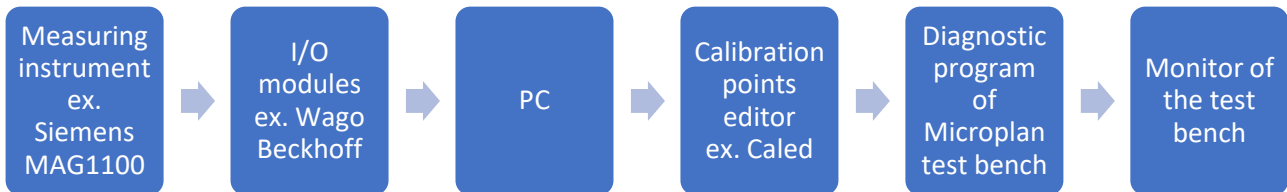




Sensors – transducers troubleshooting

The following diagram shows the typical process of acquisition of the output signal of a measuring instrument fitted into a Microplan test bench.



Whenever you find a malfunction of a sensor (transducer) the following troubleshooting might help.

Possible reason	Possible solution
Transducer problem	

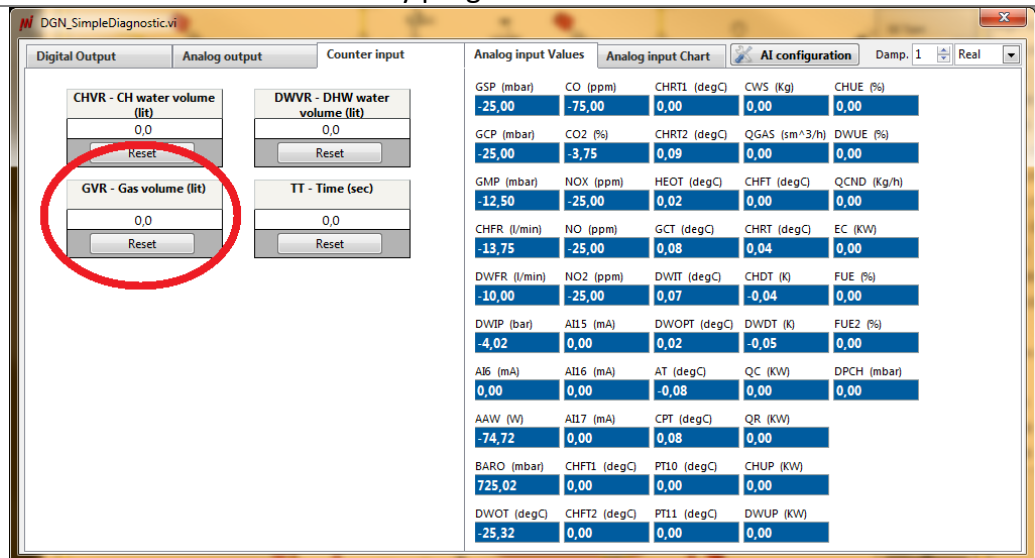
- The diagnostic program allows users to check the analog signal input “Electric” against the corresponding value “Real”. Most used transducers give a 4-20 mA output signal; in this case – with no flow, no pressure etc. - you should get a value around 4 (mA) under the "Electric" menu and a value around zero under the "Real" menu. Use the drop-down menu - yellow circled in the above image – to switch from Electric to Real menu.
- (When applicable) cross check the value shown by the diagnostic program of the test bench against the value shown by the display of the transducer. They should give similar values.
- (When authorized by Microplan staff) wire the transducer into different available channels of the I/O modules, enter the appropriate theoretical values into the calibration points editor and check the values displayed for that transducer in the diagnostic program.



Possible reason	Possible solution
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- | | |
|----------------------------|--|
| Transducer settings | <ul style="list-style-type: none"> • Check that correct (coherent) values have been entered into calibration editor of the test bench (usually Caled). Read more. • Some transducers need to be set prior to their use. These settings can be executed with a keypad onboard the instrument or with external devices. In both cases check that values such end scale, cut-off, unit of measurement are correctly programmed. |
|----------------------------|--|

Gas counter problem



- Open the diagnostic program of the test bench and select “Counter Input”, generate a flow rate of gas and check if values are read by the system, read circled number in the figure above should increase
- Read [Can the gas meter – counter be damaged by overpressurization?](#)

Temperature sensor problem (PT100, TC)

- Use the diagnostic program of the test bench and check the value returned by the system for that temperature sensor. When a temperature probe loses its insulation it usually gives a very high value.
- (When possible) Cross check the measurement of the fault temperature probe with the one of another probe along the same circuit.
- Remove the temperature sensor from its seat and keep it in your hand, the temperature should increase, check the value on the diagnostic program.
- (When authorized by Microplan staff) wire the temperature sensor into a different available channel of the I/O modules, enter the appropriate theoretical values into the calibration points editor ([read more](#)) and check the values displayed for that transducer in the diagnostic program.

Transducers not powered

- Check if any thermal switch or fuse is down/broken inside the electric cabinet.
- Inspect wirings
- (When applicable) ensure electrical connector is inserted/plugged properly.

I/O modules problem

- Check the status of the led on the I/O electronic modules inside the electric cabinet
- Read [Compact Field Point electronic I/O modules troubleshooting](#)



Possible reason	Possible solution
	<ul style="list-style-type: none">• Read Beckhoff bus coupler (BK9050) troubleshooting• Read Wago and Beckhoff electronic modules troubleshooting• Read cDAQ electronic modules troubleshooting
Transducer segregated from the process	<ul style="list-style-type: none">• Ensure suitable manual valves are open
Test bench in emergency mode	<ul style="list-style-type: none">• Ensure safety conditions and reset the test bench