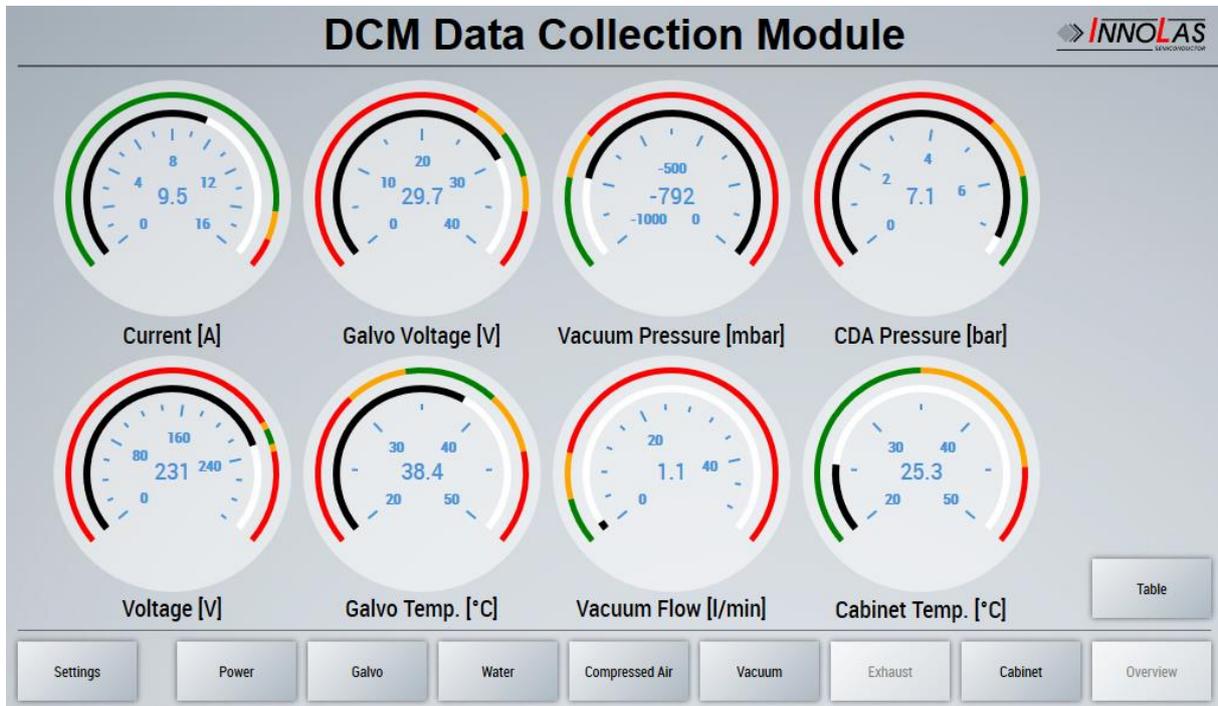


DCM Data Collection Module

The DCM is an option to show and collect measurement data that describe the actual state of the tool. These data are merely consumption values like electrical current or compressed air flow.

Overview

The main view shows up to eight gauges, a selection of all measured quantities.



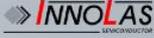
By click on a gauge or on a button at the bottom of the screen (navigation bar), one can select a different view. The exhaust view is not used yet.

The actual measured value is shown at the center of the gauge. This value is symbolized by the black arc. Normal values are marked in green. Critical values are marked in orange (less critical) and red.

Alternatively one can select a table view (button *Table*).

Table

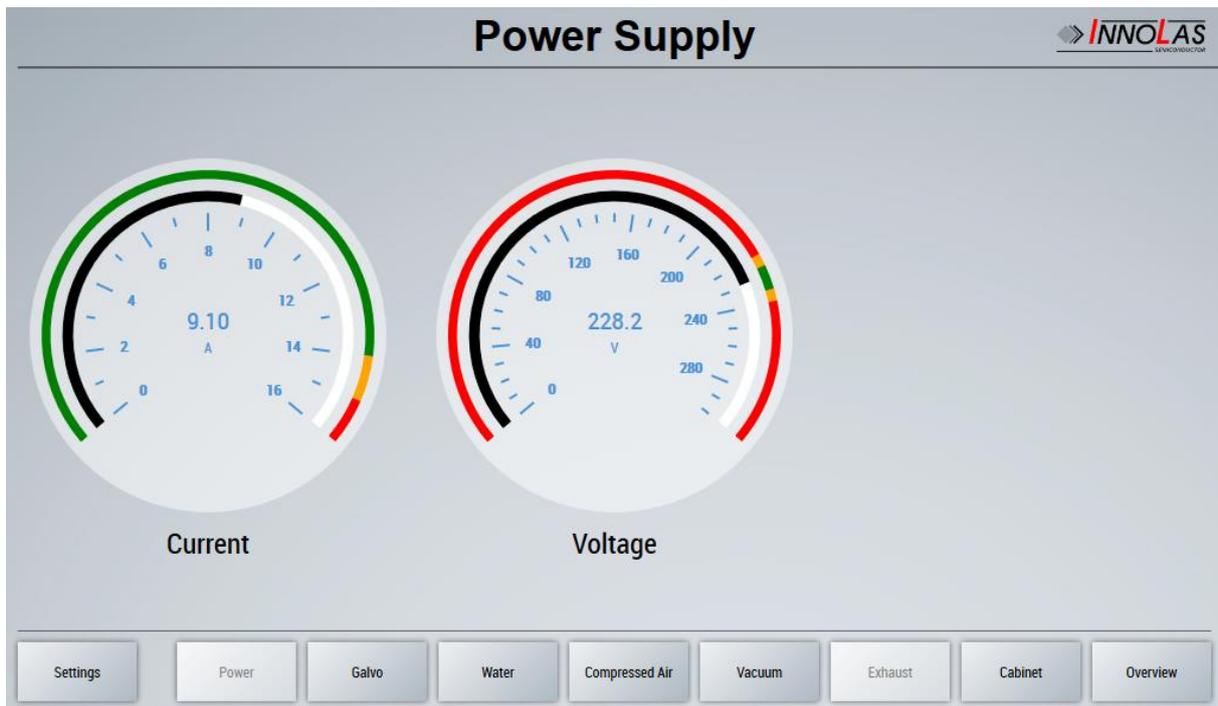
This view shows the values of all measured quantities. Each row shows a specific submodule of the tool. Similar quantities are organized in the same column (Voltage, Current, Temperature, Flow and Pressure).

DCM Data Collection Module						
Name	Voltage	Current	Temperature	Flow	Pressure	
Power	228.1	8.72				
Cabinet			25.1			
Galvo	29.7		38.5			
Water			16.0	5.10		
CDA				20.80	6.7	
Vacuum				1.10	-792.3	

Settings	Power	Galvo	Water	Compressed Air	Vacuum	Exhaust	Cabinet	Overview
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Power Supply

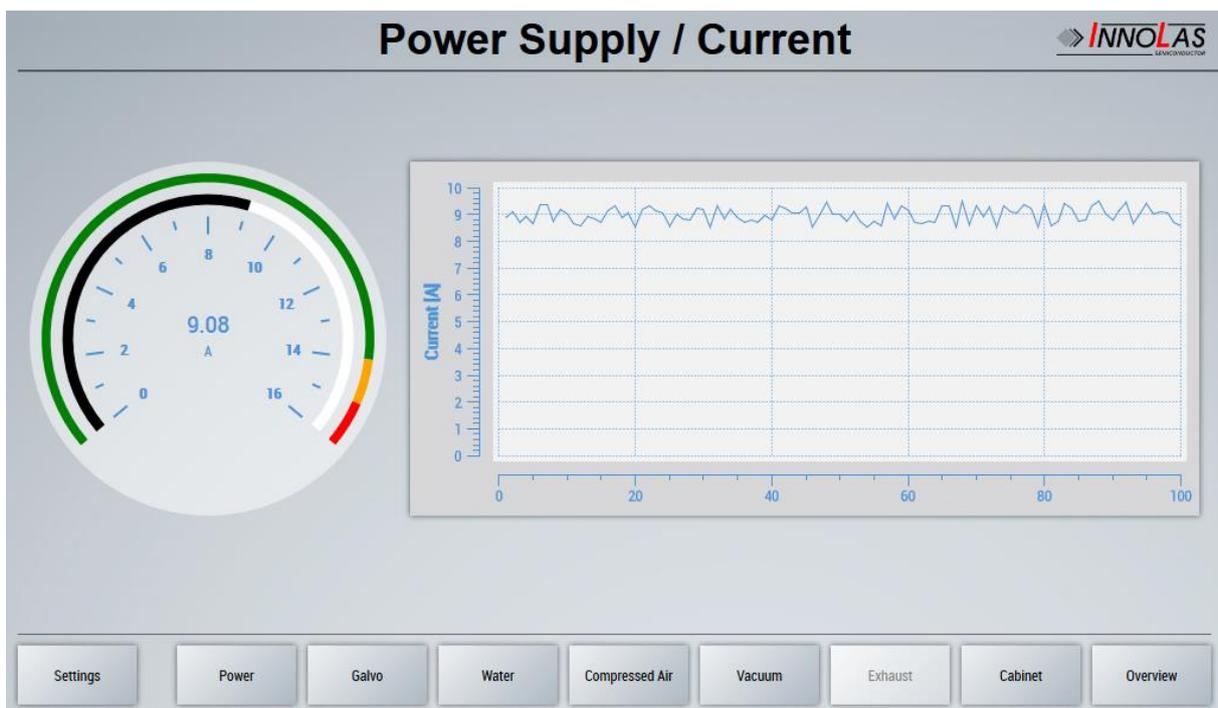
All measured quantities of the power supply will be shown within this view (Current, Voltages).



By click on a gauge, one can select a specific view.

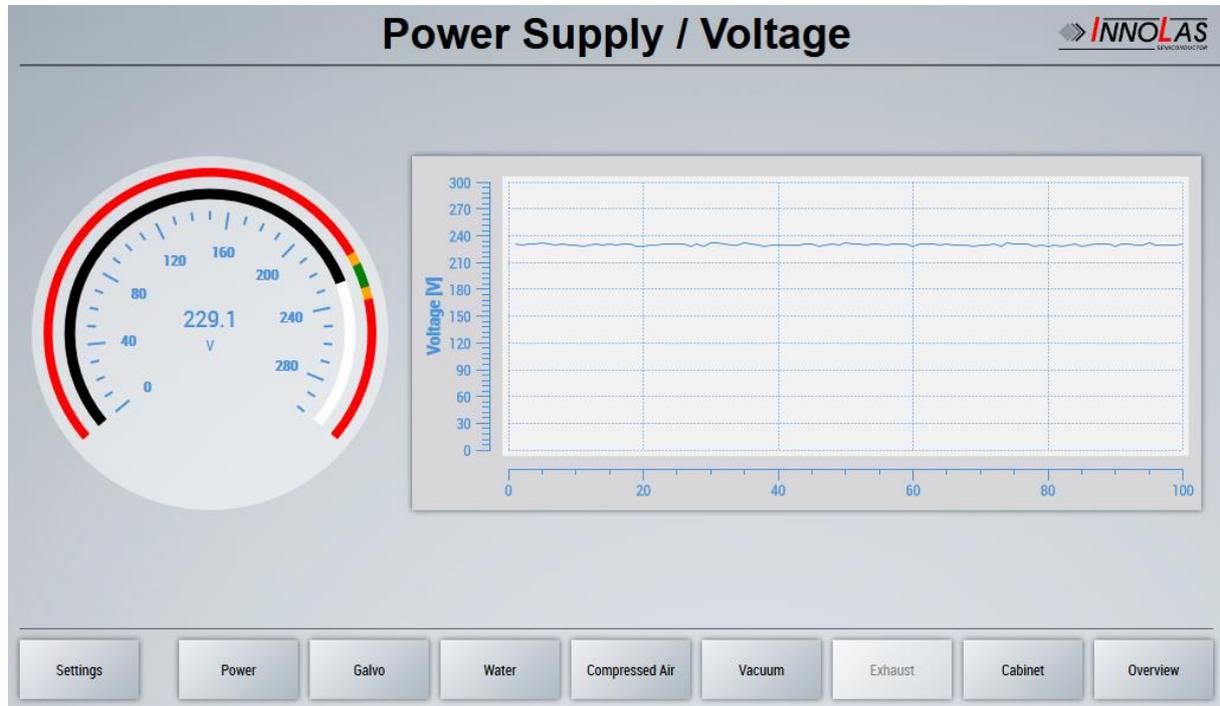
Current

The measured current is shown within this view. The graph shows the last one hundred periods. The length of the period can be adjusted via the view *Settings*.



The current is measured by a Beckhoff digital multimeter terminal EL3681 in combination with a current transformer (Phoenix contact PACT MCR-V1-21-44-50-5A-1).
The accuracy is better than 50 mA. The resolution is 38 μ A.

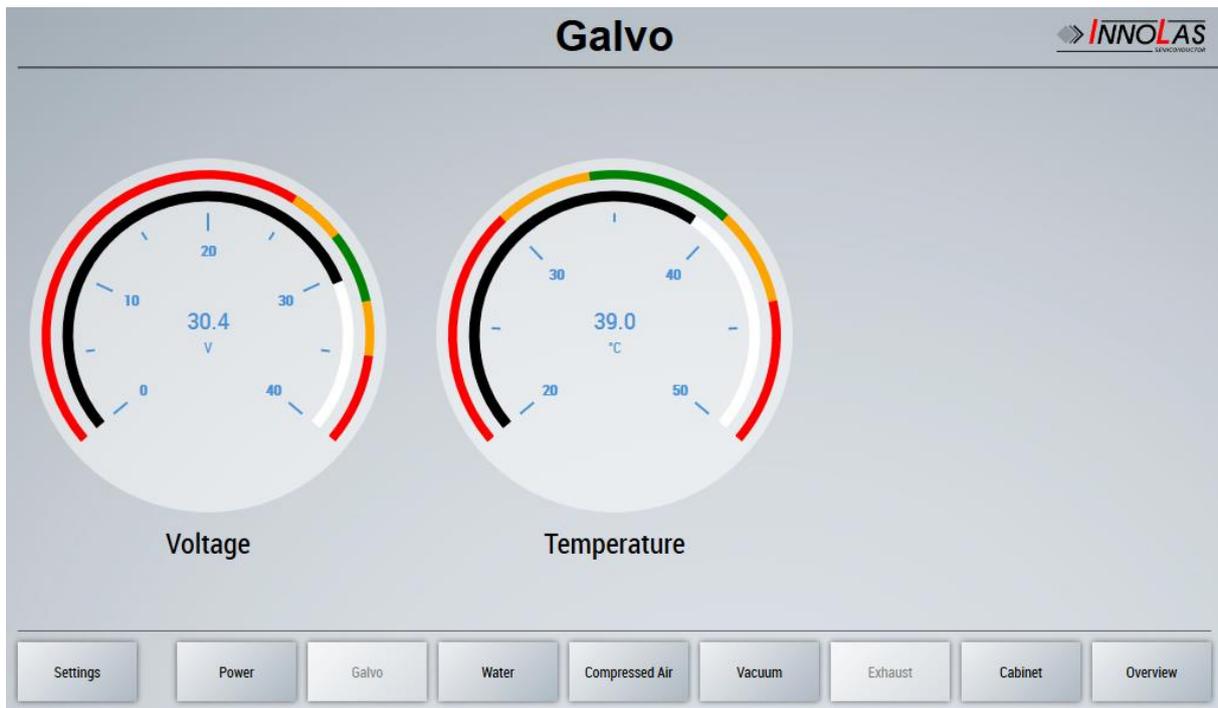
Voltage



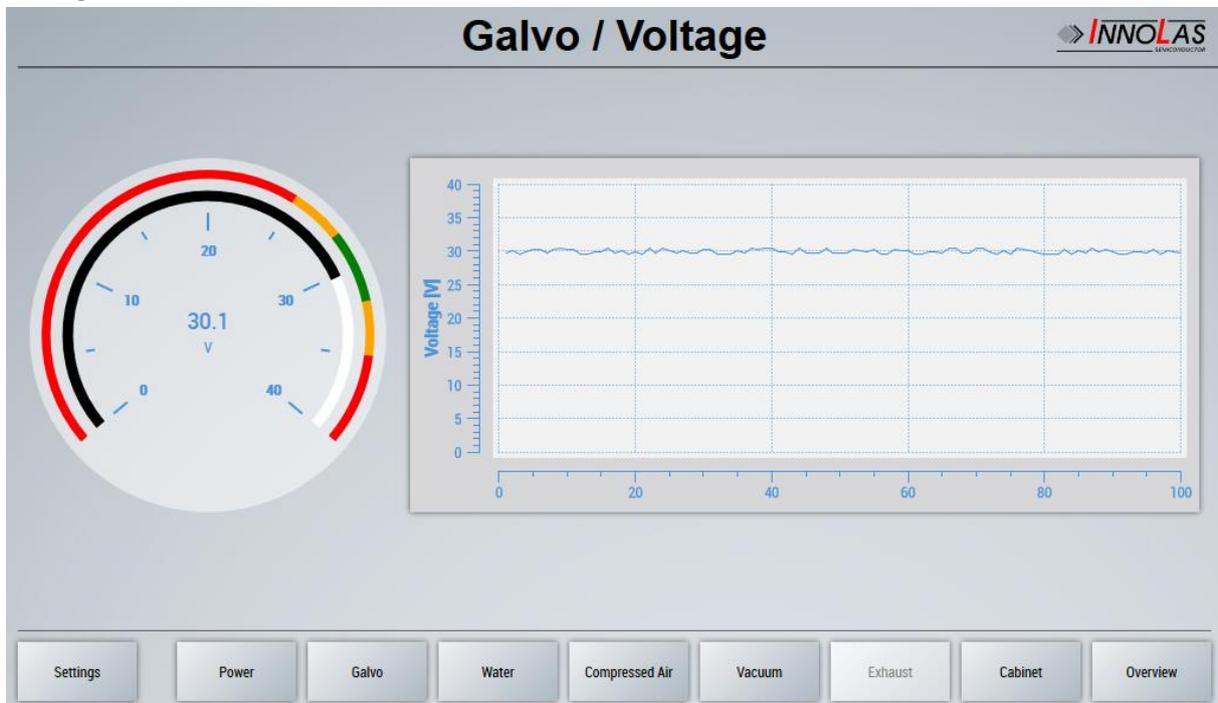
The voltage is measured by a Beckhoff digital multimeter terminal EL3681.
The accuracy is better than 0.75 V. The resolution is 1.14 mV.

Galvo

All measured quantities of the galvo will be shown within this view (Voltage, Temperature).



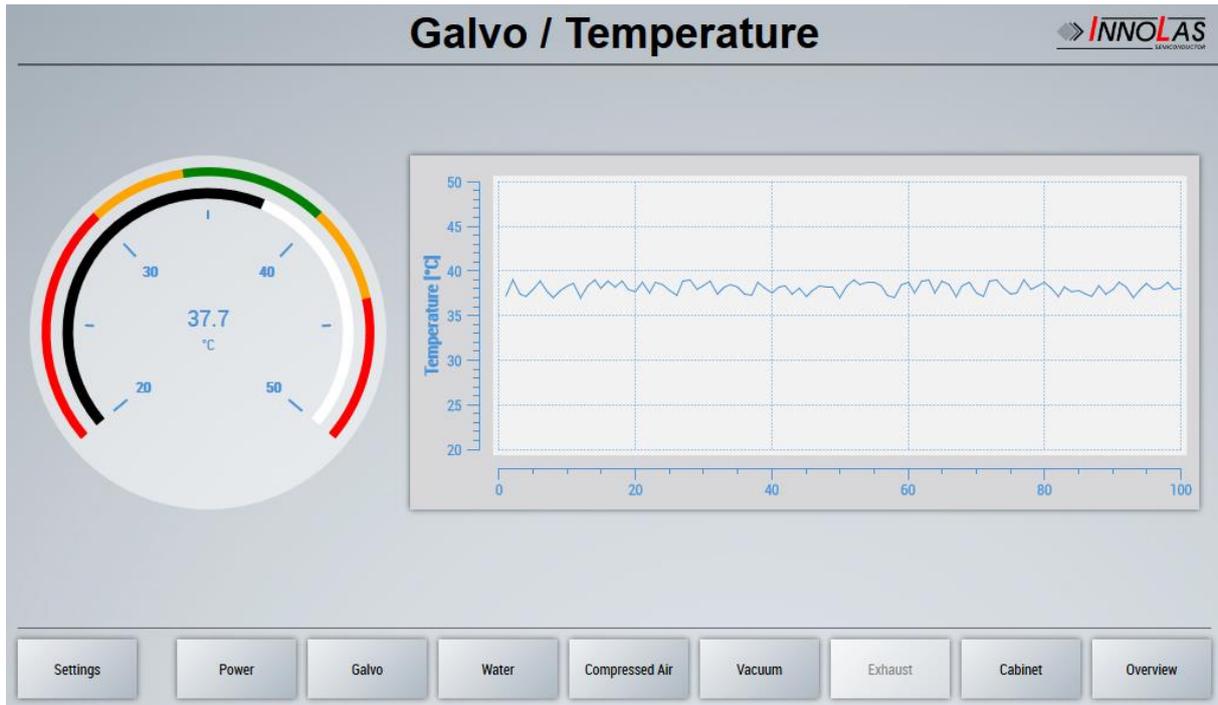
Voltage



The voltage is measured by a Beckhoff digital multimeter terminal EL3681.

The accuracy is better than 30 mV. The resolution is 1.14 mV.

Temperature

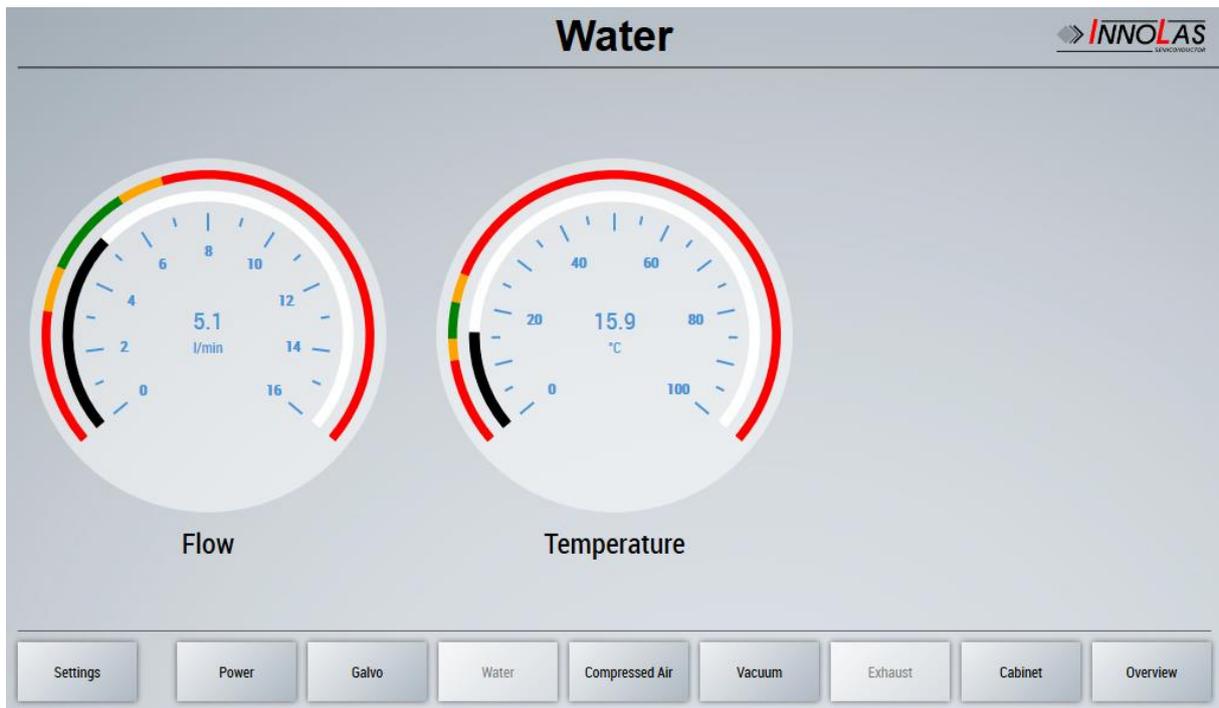


The temperature is measured by a Beckhoff PT100 terminal EL3202.

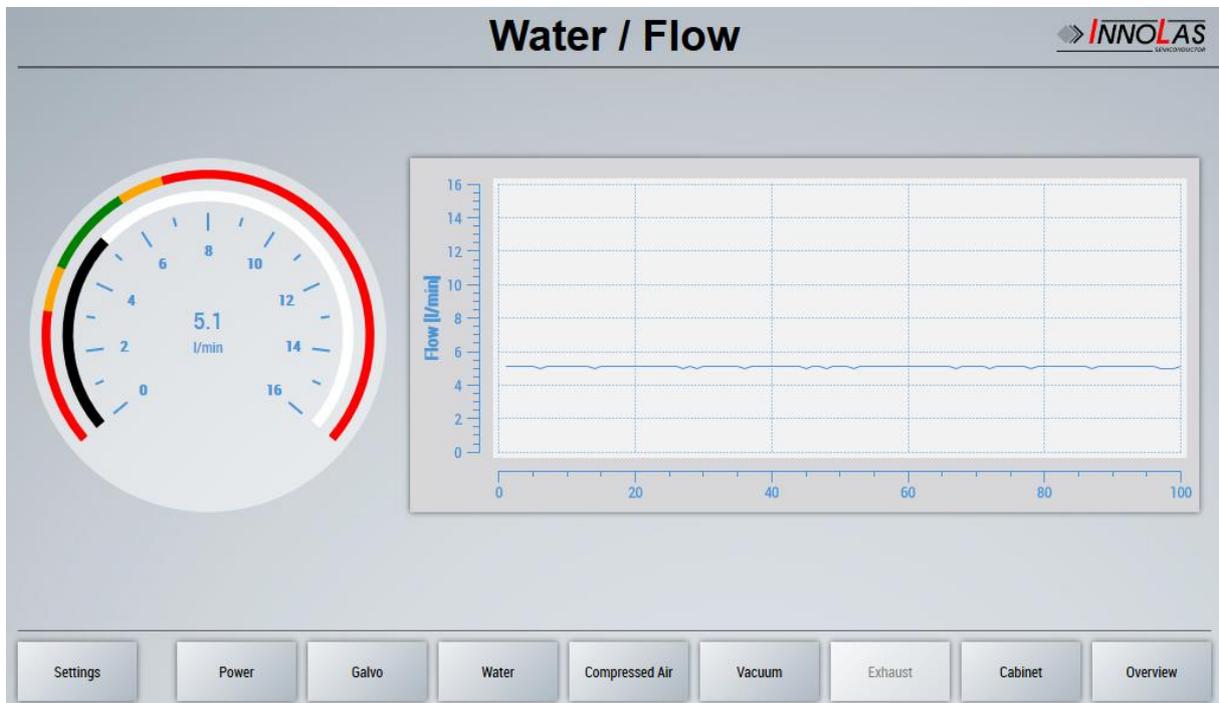
The accuracy is better than 0.5 °C. The resolution is 0.1 °C.

Water

All measured quantities of the water supply will be shown within this view (Flow, Temperature).



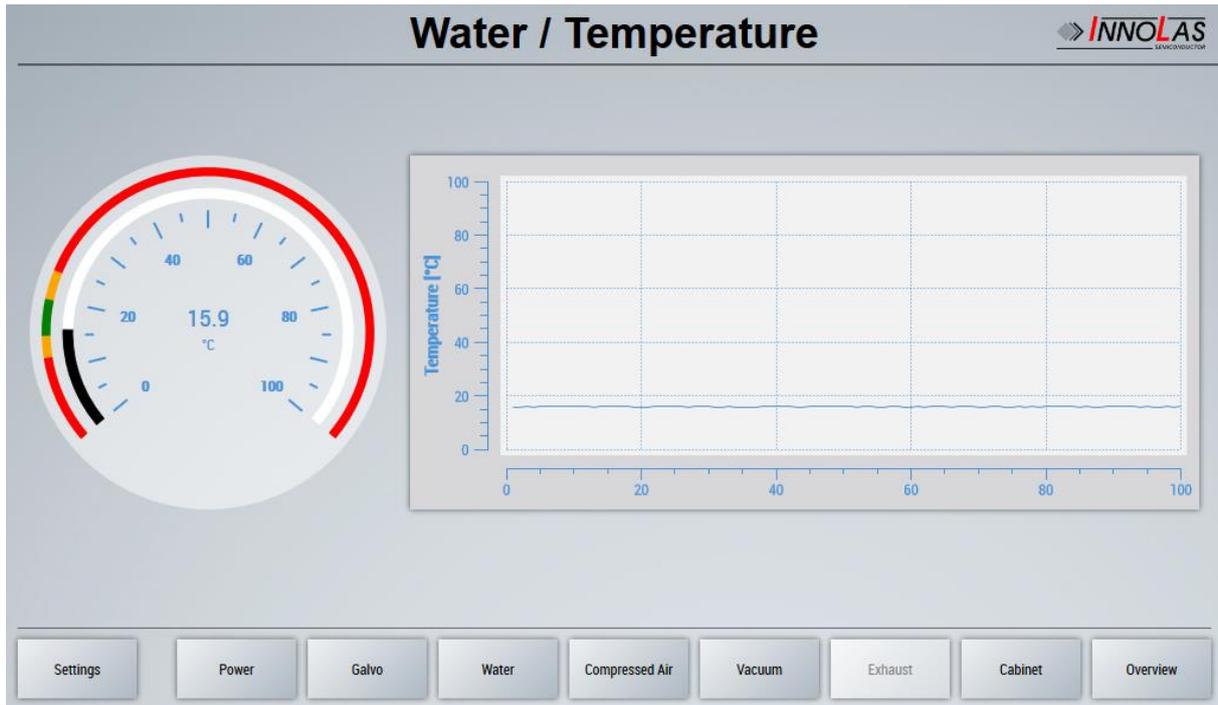
Flow



The flow is measured by a SMC PF3W520-F03-2TN-R-X128 sensor.

The accuracy is better than 320 ml/min. The resolution is 0.5 ml/min.

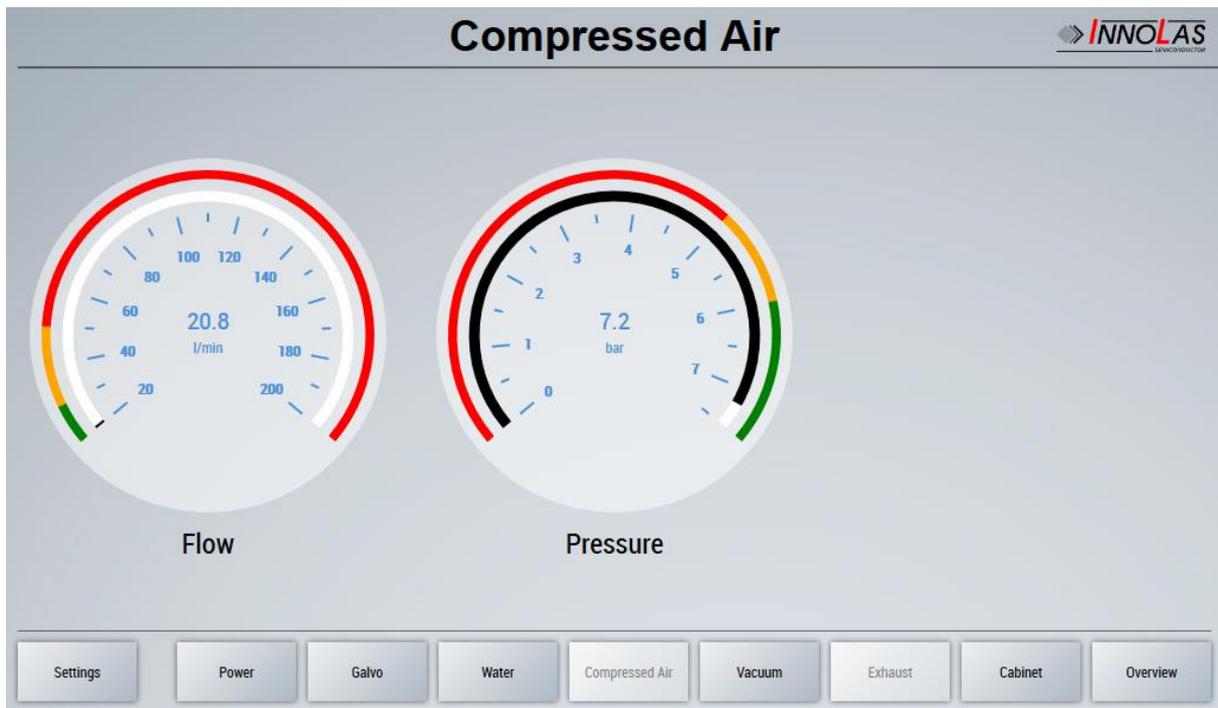
Temperature



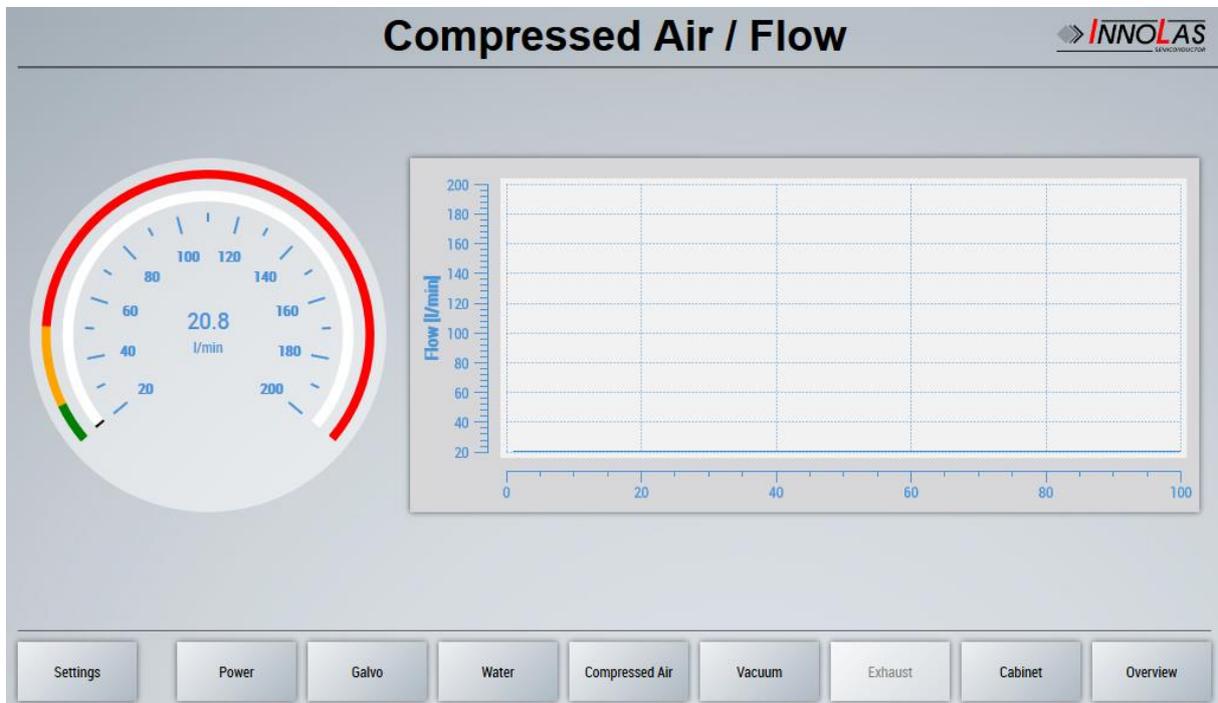
The temperature is measured by a SMC PF3W520-F03-2TN-R-X128 sensor.
The accuracy is much better than 3 °C. The resolution is 0.0031 °C.

Compressed Air

All measured quantities of the compressed air supply will be shown within this view (Flow, Pressure).



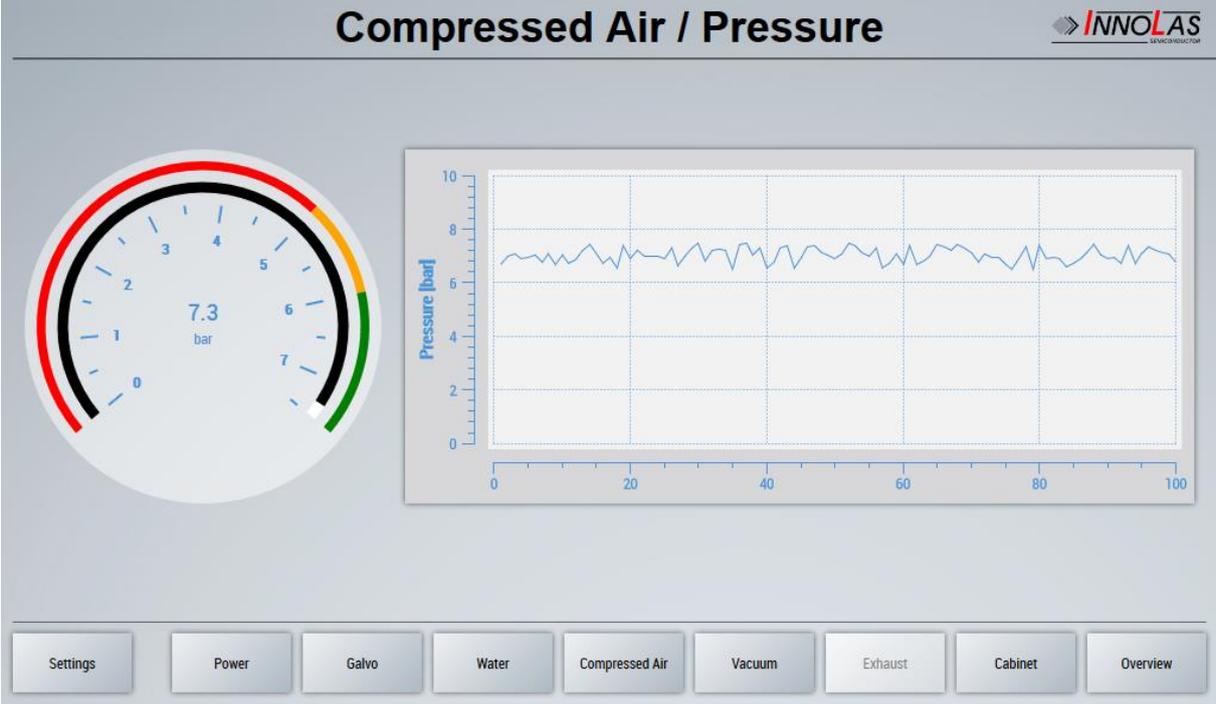
Flow



The flow is measured by a SMC PF2A521-F03N-2 sensor.

The accuracy is better than 2 l/min. The resolution is 6.1 ml/min.

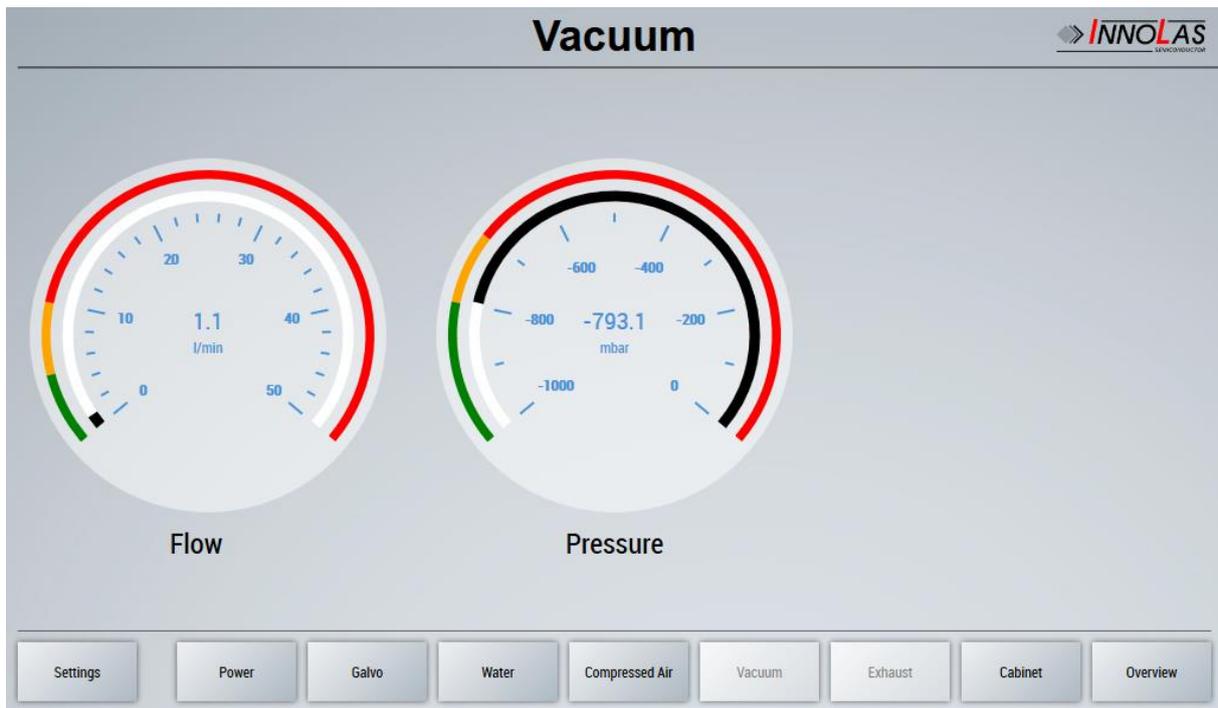
Pressure



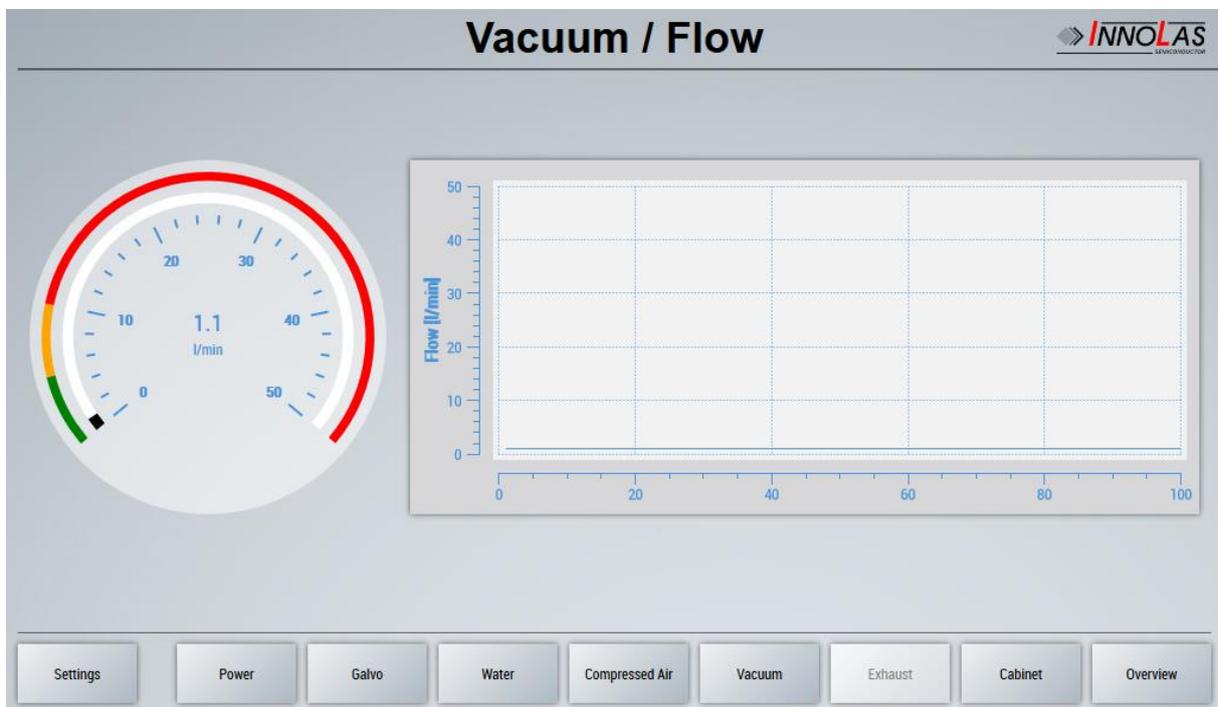
The pressure is measured by a Beckhoff pressure measuring terminal EM3702.
The accuracy is better than 230 mbar. The resolution is 1 mbar.

Vacuum

All measured quantities of the vacuum supply will be shown within this view (Flow, Pressure).



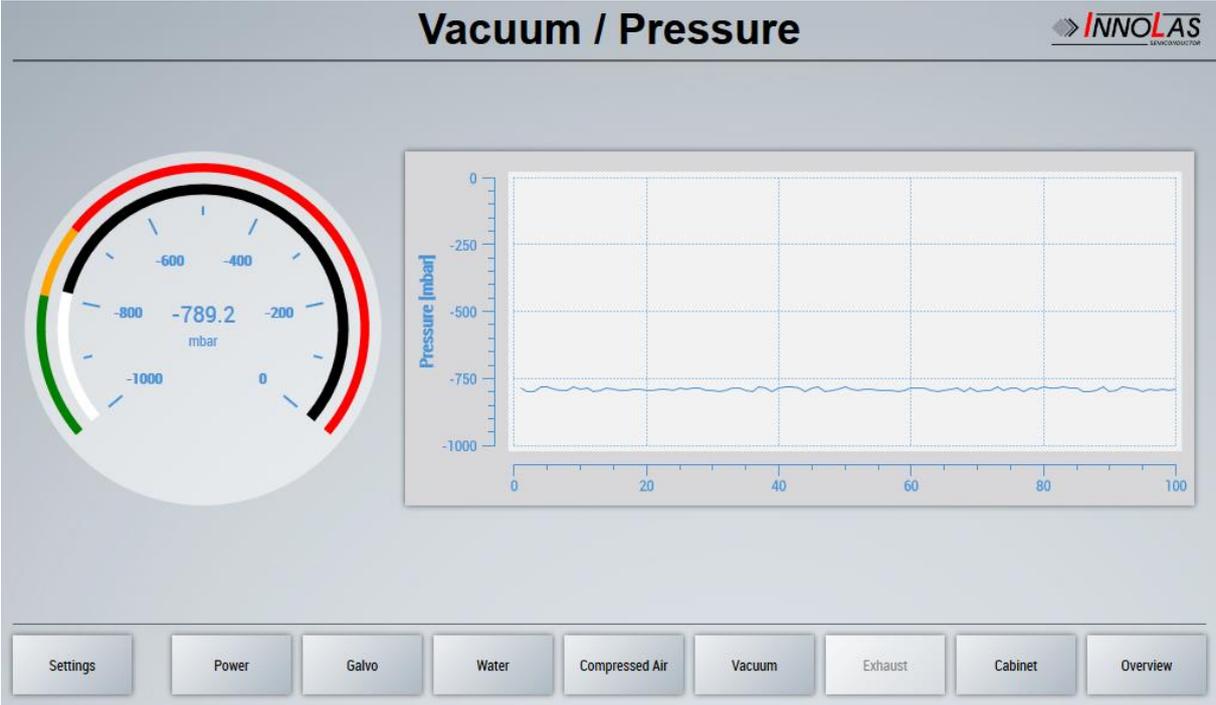
Flow



The flow is measured by a SMC PFM550S-C8-2-S sensor.

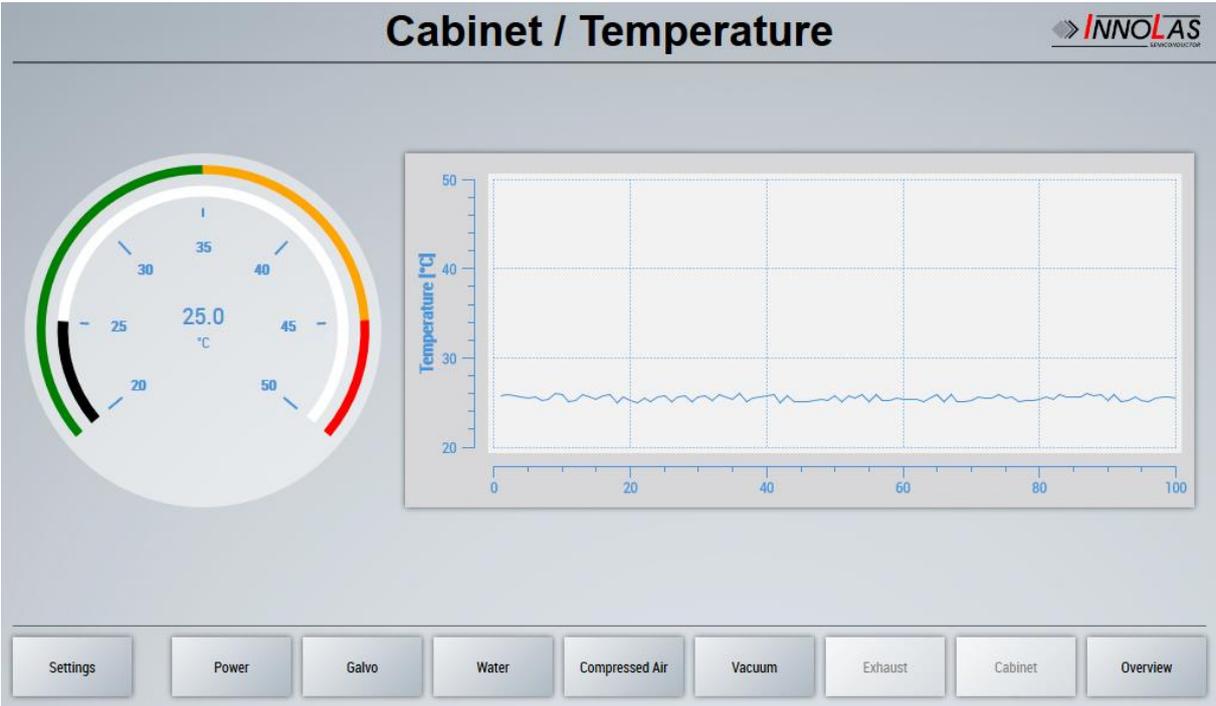
The accuracy is better than 0.5 l/min. The resolution is 1.5ml/min.

Pressure



The pressure is measured by a Beckhoff pressure measuring terminal EM3712.
The accuracy is better than 30 mbar. The resolution is 1 mbar.

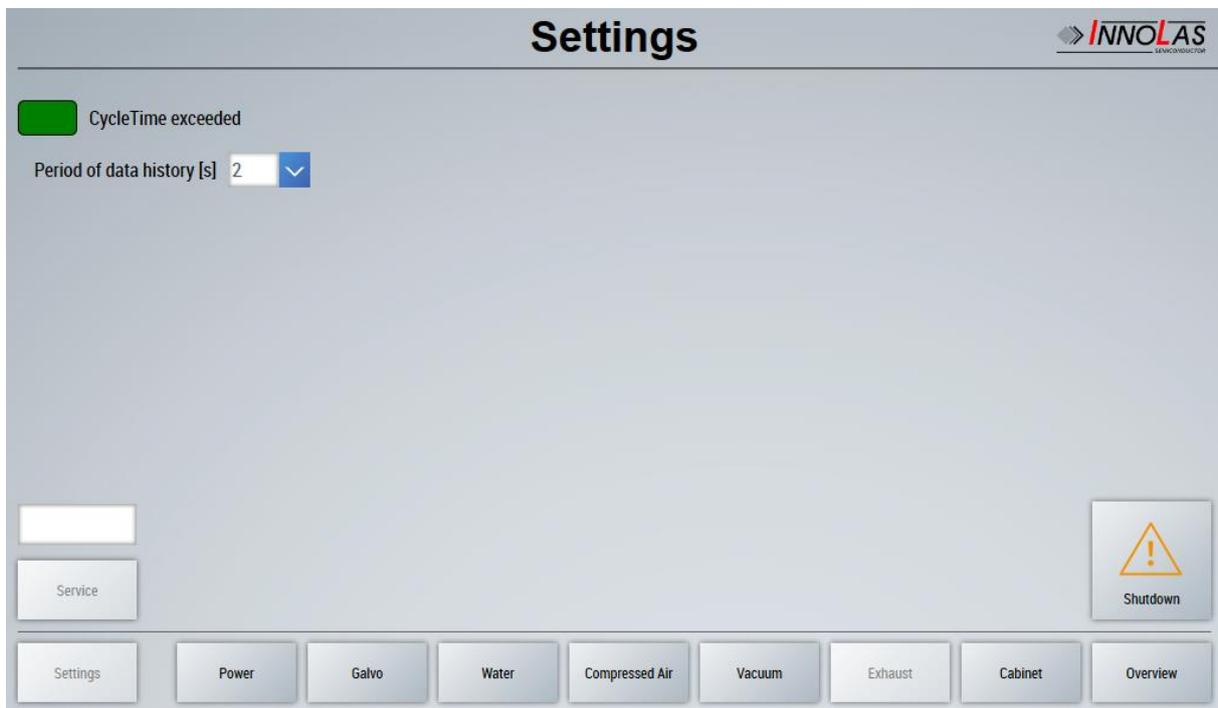
Cabinet Temperature



The temperature is measured by a Beckhoff PT100 terminal EL3202.
The accuracy is better than 0.5 °C. The resolution is 0.1 °C.

Settings

This view allows to change the period that is used within the internal value history. If the control system has a problem this will be indicated by color (green: normal, orange: abnormal).



The screenshot shows the 'Settings' interface with the following elements:

- Header: 'Settings' and 'INNOLAS' logo.
- Warning: A green box with the text 'CycleTime exceeded'.
- Control: 'Period of data history [s]' with a dropdown menu set to '2'.
- Buttons: 'Service' (disabled), 'Shutdown' (with a warning icon), and a row of navigation buttons: 'Settings', 'Power', 'Galvo', 'Water', 'Compressed Air', 'Vacuum', 'Exhaust', 'Cabinet', 'Overview'.

To shut down the DCM PC the button at the right side of this view has to be pressed.

After typing of the internal password at the left side the button *Service* will be enabled.

If this button is pressed a special view to configure the DCM will be shown:



The screenshot shows the 'Settings' interface with the following elements:

- Header: 'Settings' and 'INNOLAS' logo.
- Configuration options: 'Water' (checked), 'Voltage (int)' (unchecked), and 'Exhaust Flow' (unchecked).
- Buttons: 'Exit' (with a warning icon) and a row of navigation buttons: 'Settings', 'Power', 'Galvo', 'Water', 'Compressed Air', 'Vacuum', 'Exhaust', 'Cabinet', 'Overview'.

Some of the submodules can be disabled.

If the button *Exit* is pressed the browser will be shut down.