Instruction Manual
IncuControl Software

Version 1.0.3

Contact

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1 Introduction

The IncuControl software provides all functionalities for the full control of the ibidi Heating and Gas Incubation System, that are available on the Controller itself. Additionally, it provides monitoring functions to view and log the data of the actual run. The Temperature Controller and the Gas Mixer System has an USB interface for computer control. For this purpose, ibidi provides the IncuControl software that comes with the controllers.

IncuControl includes two modules, one for controlling the Temperature Controller and one for the Gas Mixer System, that can be run separately or simultaneously in the same window.

The Temperature Controller can be combined with the ibidi Heating System, Universal Fit, for 1 Chamber (#10918), the ibidi Heating System, Universal Fit, for 4 μ-Slides (#10927) and the ibidi Heating System, Multi-Well Plates, K-Frame (#10929).

The Gas Mixer System is available in two versions, the ibidi Gas Incubation System for CO_2 (#11920) and the ibidi Gas Incubation System for CO_2 and O_2 (#11922).

2 Installation and Compatibility

The IncuControl version 1.0.3 can be used with Microsoft Windows 7 and upwards versions (64 bit only).

It is compatible with all versions of the ibidi Heating and Gas Incubation System.

To install IncuControl on your computer, proceed as follows:

1. Insert the USB flash drive with IncuControl (included in the shipment) into the PC's USB slot or download the installer package from https://ibidi.com/instrument-software/201-incucontrol-software.html.

2. Unpack the setup package on your hard disk.

3. Run the "setup.exe" and follow the installation wizard. Please make sure that you have administrator rights.

4. Wait until the installation is completed.

5. Confirm driver installation.

6. Finally, it is recommended to restart the computer.

7. Open the program by double–clicking on the IncuControl desktop icon.

3   StartCenter

When starting the software, the StartCenter window shows up. It provides three buttons for the available modules: TempControl, GasControl, and both modules together. After starting the program, the components are automatically recognized and initialized. A bright green dot beneath the modules indicates that the devices are ready for operation.
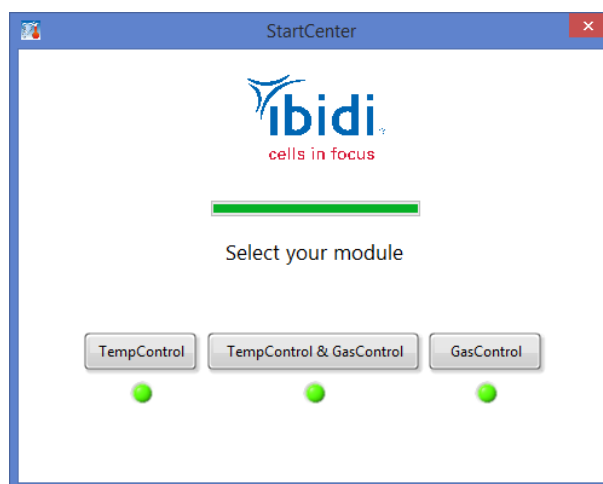

Figure 1 – IncuControl StartCenter

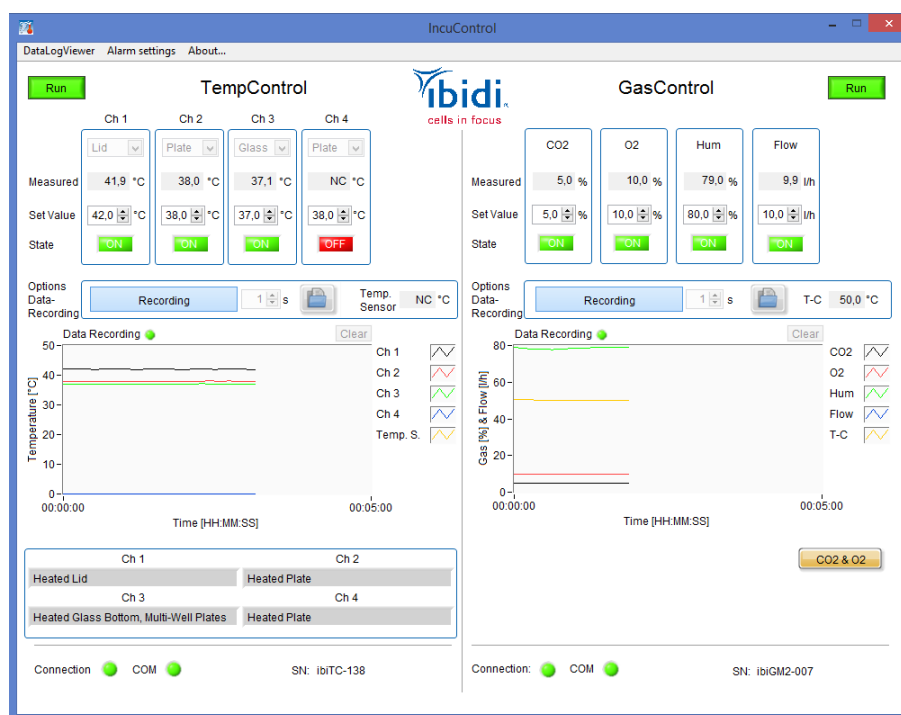Click on the respective button to open the module(s) you need.

Figure 2 – Main window with Temperature Controller module and Gas Mixer System module.

4 TempControl Module

The functions of the TempControl Module are:

- The operation of the device can be started and stopped by clicking on the button on the upper left. When it shows "Run" the system is in operation. Click on the "Run" button to stop it. After clicking it shows "Stop".

- Define the components that are connected to each channel by choosing the respective one in the drop down menue. This will load the control parameters for the specific component. This will not interfere with the calibration of the channels. If another heating device was selected in the drop down the current setting will be displayed in the respective field in the lower part of the window. If the drop down is left empty the current settings will be untouched.

- Set temperatures for each individual channel under "Set Value".

- The box "Measured" shows the current value of the respective component.

- Turn the individual channels on or off by using the green "on" and red "off" buttons, respectively.

- The currently measured temperature of the external temperature sensor is shown in the "Temp. Sensor" box.

- To record the measured values use the "Record" button. When recording, the button will change to "Recodring" and the data will be shown simultaneously in the graph window. The details are explained in Section 6.

- At the bottom of the window you will find two signal lights and the serial number of the Temperature Controller. A green light at "Connection" indicates that the software has identified the Temperature Controller. A green light at "COM" indicates that that the software is able to communicate with the Temperature Controller. Otherwise the lights turn red.
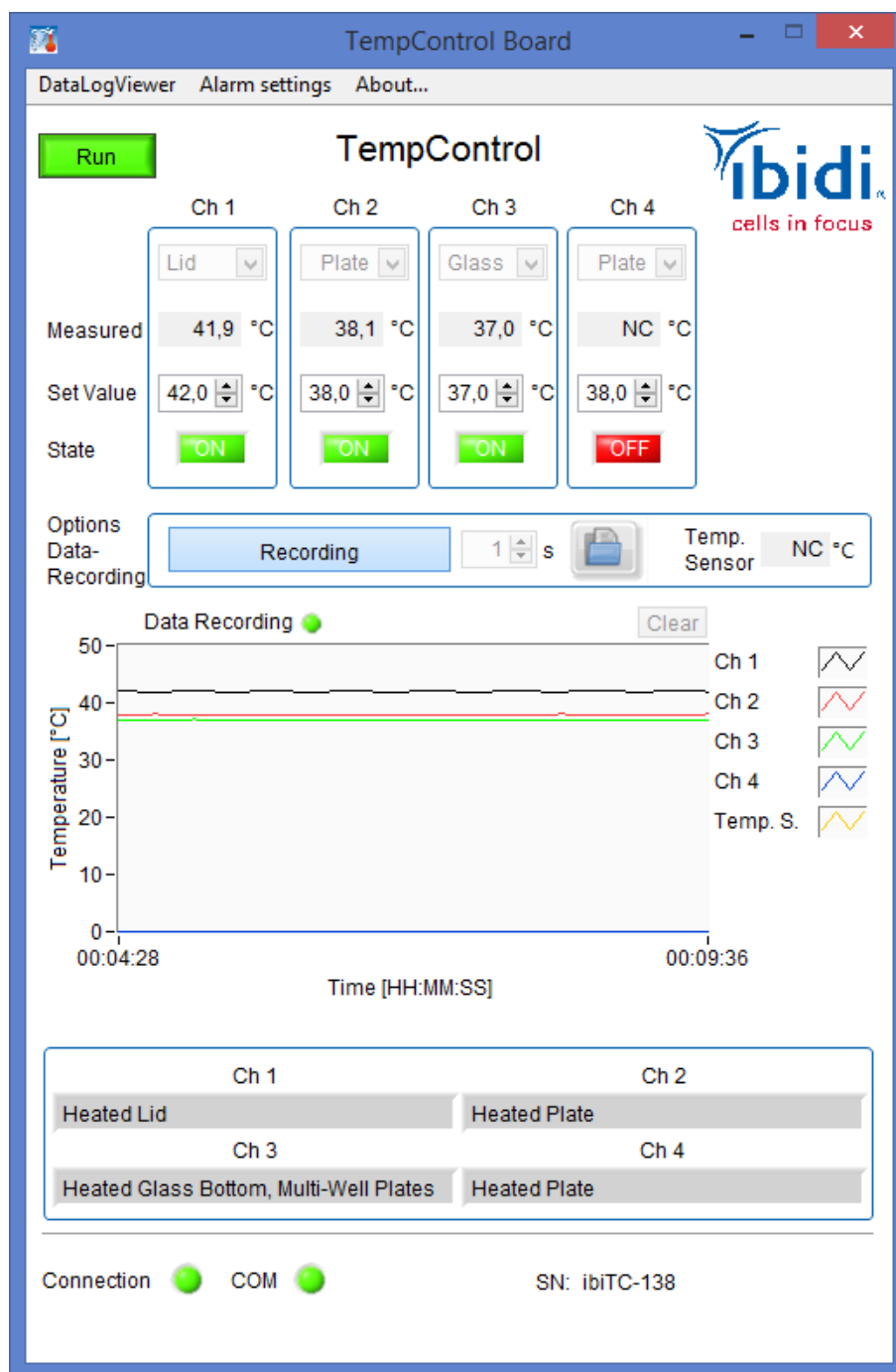
Figure 3 – Main window with Temperature Controller Module dialog.

5 GasControl Module

The functions of the GasControl Module are:

- The operation of the device can be started and stopped by clicking on the button on the upper right. When it shows "Run" the system is in operation. Click on the "Run" button to stop it. After clicking it shows "Stop".

- Set the CO_2 and O_2 (optional) concentrations, as well as the humidity and gas flow rate for each individual channel under "Set Value".

- The box "Measured" shows the actual value of the respective component.

- Turn the individual channels on or off by using the green "on" and red "off" buttons, respectively.

- The currently measured temperature in the humidifying column is shown in the "T-C" box.

- The button in the lower right corner switches the operation modes of the Gas Mixer System between CO_2 and CO_2 & O_2 mode. The CO_2 mode sets the O_2 value to a default value of 21% and turns the O_2 channel off.

- To record the measured values use the "Record" button. When recording, the button will change to "Recording" and the data will be shown simultaneously in the graph window. The details are explained in Section 6.

- At the bottom of the window you will find two signal lights and the serial number of the Gas Mixer System. A green light at "Connection" indicates that the software has identified the Gas Mixer System. A green light at "COM" indicates that the software is able to communicate with the Gas Mixer System. Otherwise the lights turn red.
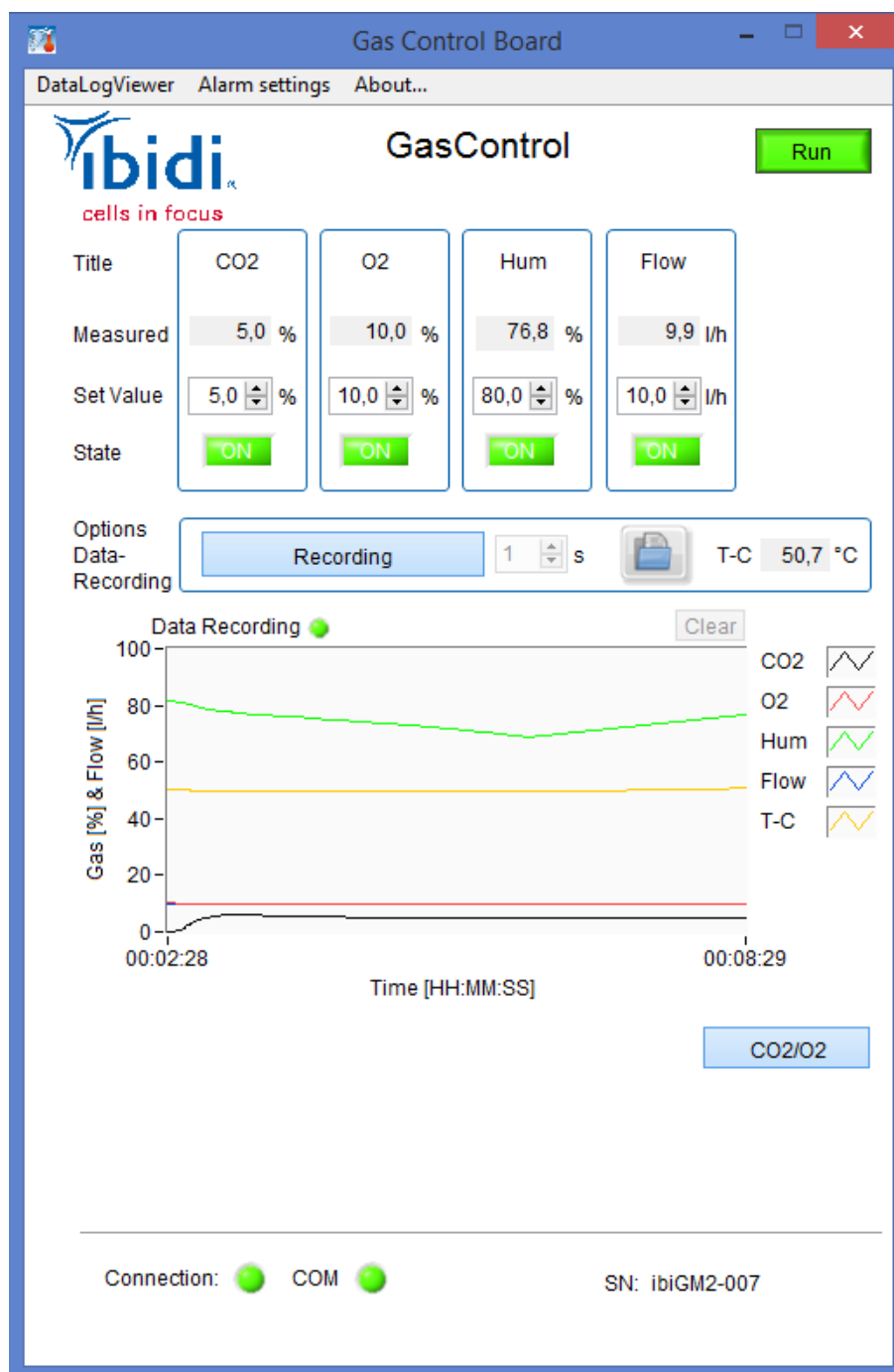
Figure 4 – Main window with Gas Control Module dialog.

6 Data Logging

To log data over time, click on the "Record" button. The recording will start immediately and will be visible in the graph window. The logfile will be saved in a temporary default folder. Another click on the "Recording" button will stop the logging. A window will open to set a file and location where to save the data. If you skip this step by pressing "Cancel" the file stays in the default folder, and will be overwritten by the next data recording.

> **Note!**
>
> Use the "open folder" button to get to the logfiles in the default folder (e.g.: C:\Users\ibidi\AppData\Local\Temp\IncuControl). In case of a computer crash unsaved logging data can also be found in this folder.

The "open folder" button on the right side, opens the folder where the last logfile was saved. Additionally it is possible to change the logging interval by changing the numeric value in the box next to the "Record" button. The number will determine the time interval in seconds between the recorded time points.

The axis scaling can be changed by clicking on the minimum or maximum value and typing in the desired value. This will change the axes to your preference. The axes can be automatically scaled by a right clicking on the axes and checking "autoscale Y" or "autoscale X" option.

The "Clear" button will clear previous recorded data. The data will be stored in plain text format and can be viewed in a text editor or the DataLogViewer.
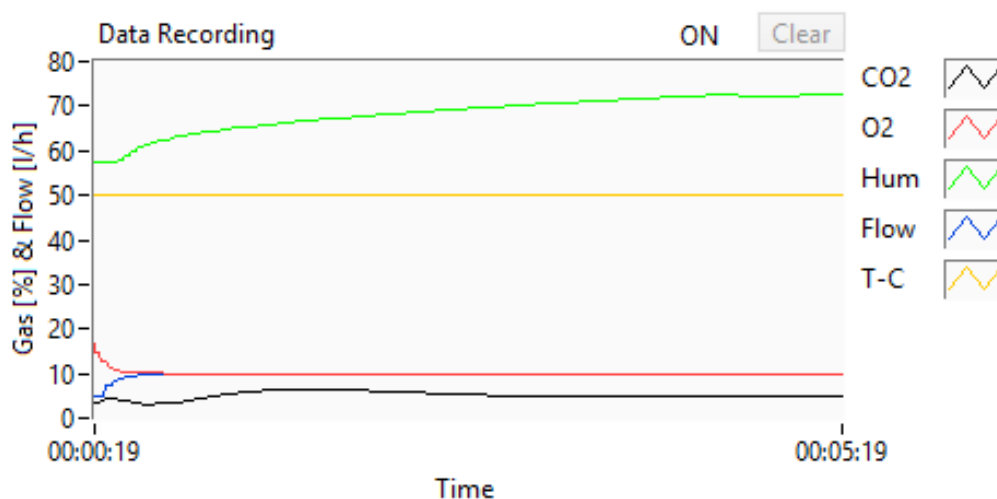

Figure 5 – Logging Menu.

7   DataLogViewer

The DataLogViewer enables the user to view the curves of your logfiles. Determining the file path and clicking on the "open file" button will show the curves.
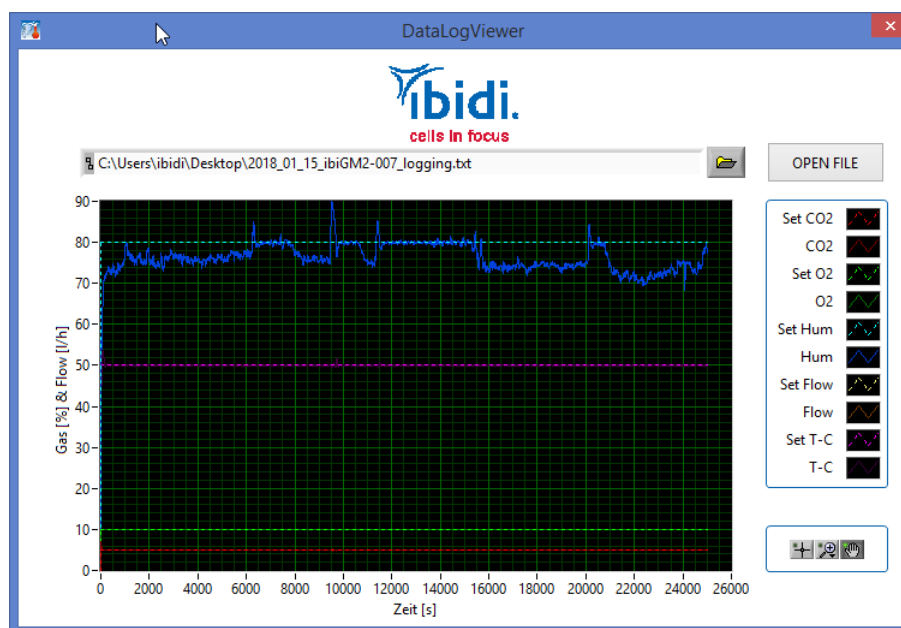

Figure 6 – DataLogViewer window.

8   Alarm settings

The Alarm settings window shows the intervals of permitted values are for every channel. If values are out of these intervals an alarm sound will be triggered. In this window the threshold values of the intervals can be adjusted.
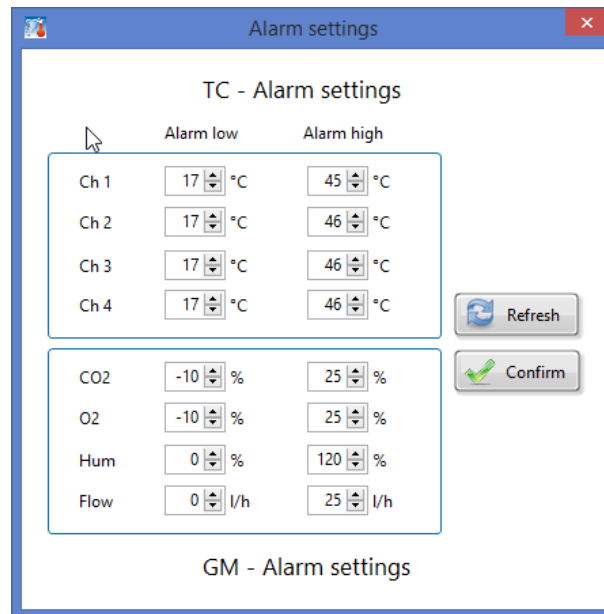

Figure 7 – Alarm settings window.

Note!

The channels are calibrated and therefore have pre-defined offset values. Changing the values may compromise the serviceability of the controller.

9   Prohibitions on the use of ibidi software

The following actions are prohibited:

- Copying software for other than backup purposes
- Transferring or licensing of the right to use software to a third party
- Disclosure of confidential information regarding software
- Modification of software