

KELLER

infrared
temperature
solutions **ITS**

Customized adjustment of a PA via CellaView



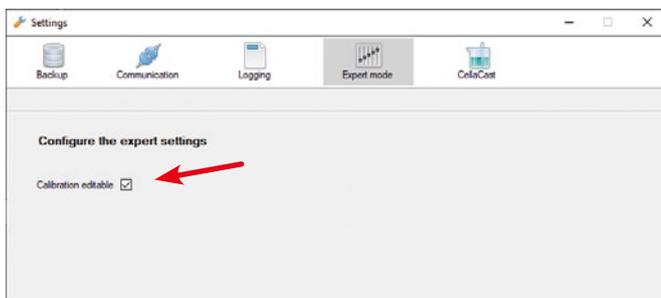
CELLAVIEW

Requirements

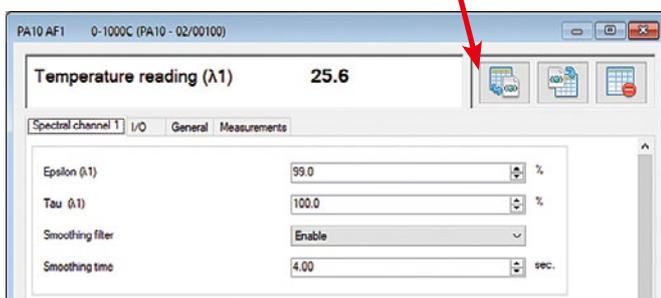
- Temperature reference radiator (black body radiator) with the following data
 - Temperature adjustable within the device measuring range
 - Emissivity of the body radiator neutral and close to 100%
 - Opening at least 2 times the size of the measuring spot diameter
- Alignment and focussing of the pyrometer on the furnace opening

Preparation

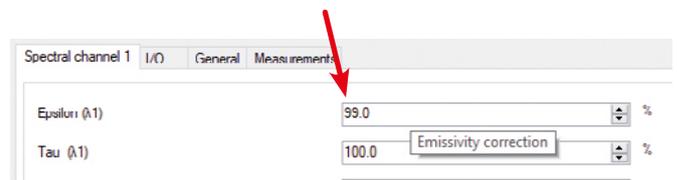
- Install and start CellaView
- Activate calibration access
 - Display the settings dialog via the "Extras -> Settings" menu
 - Select the "Expert mode" field
 - Tick the "Calibration editable" box



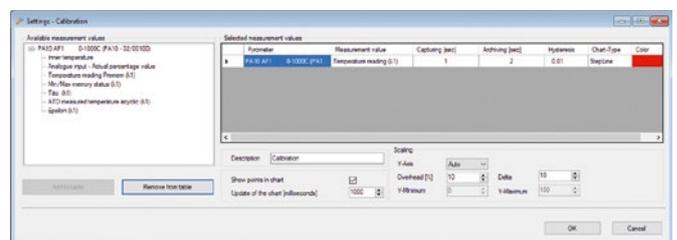
- Connect PA pyrometer with CellaView (in this example PA 10 AF 1/L)
 - See chapter x.x of this manual
- Currently set parameters of the PA
 - Display of the parameter dialog -> see chapter x.x
- Export parameters as XML file
 - To do this, select the "Export settings" button and save the pyrometer settings.



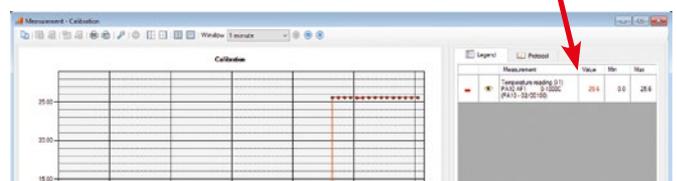
- Set the emissivity correction to 100% for each measured value to be calibrated (one-colour channel 1,2 + two-colour).
 - DTo do this, select the tab for the desired channels (here one-colour channel 1) and set the epsilon to 100%. Complete the entry with "Enter".



- The so-called PreMem temperatures are observed to calibrate the pyrometer. These measured values do not include any temperature hold function that may have been set, but only the directly determined value. A measurement series is now created for the display.
 - Open the measurement series via the "Measurement -> New measurement series" menu
 - Enter "Calibration" as name
 - Compile the list of measured values via "Add" or "Remove". Here "Measuring temperature PreMem (λ1)" as we have a pure one-colour pyrometer in this example.
 - For two-colour pyrometers, also select the temperatures for one-colour channel 2 and two-colour.

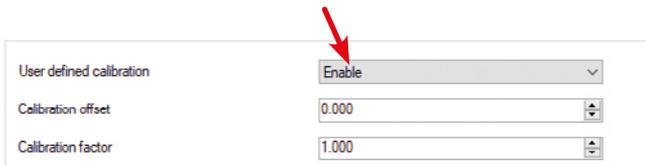


- Press "OK" to start the measurement and the selected temperatures can be read online.

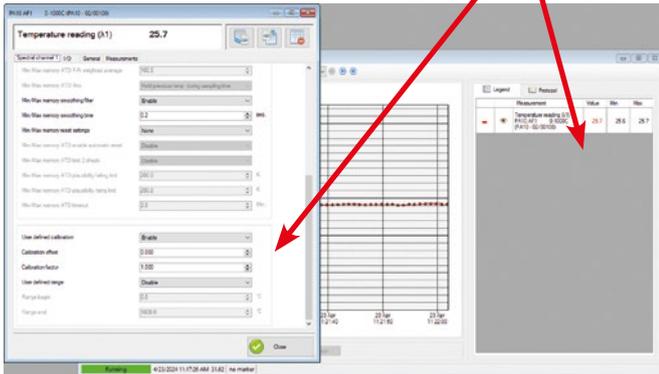


Adjustment

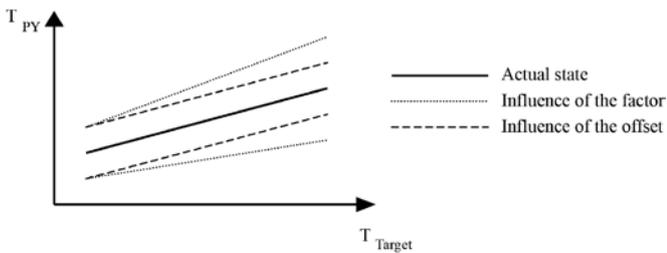
- The user-defined calibration must be activated separately for all affected measuring channels. To do this, set the value "User-defined calibration" to "On" in the parameter dialog for each desired measuring channel.



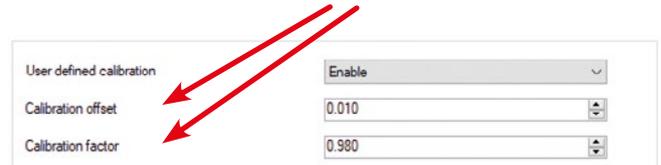
- The windows should now be arranged so that the current measured values can be observed and the parameters "Offset" and "Factor" can be set simultaneously.



- Perform an adjustment at 2 temperatures:
 - Subsequent calibration is only carried out at 1 to 2 points. The calibration points are at the end of the measuring range and, if necessary, at the start of the range. The temperatures in the middle of the range are thus automatically influenced. At the end of the range, the measured value is influenced by the gradient (factor) and at the start of the range by an offset.



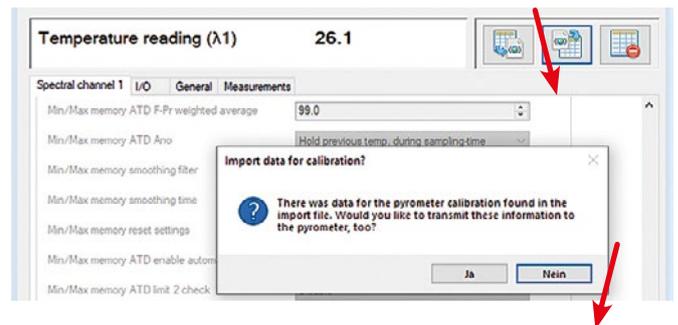
- Correct the measured temperature by adjusting the offset and factor parameters. The offset should be adjusted at the start of the measuring range and the factor at the end.
- Check the measuring accuracy at several temperatures as the offset and factor parameters influence each other to a certain extent. It is recommended to repeat this process at least 2 times.



Note: After manually entering a new value, this must be acknowledged with Enter.

Finishing

- The originally set parameters of the PA pyrometer must now be re-imported from the XML file.
 - Select "Import settings" in the device parameter dialog and load the XML file saved at the beginning.
 - The original calibration data must not be transmitted. Therefore answer the following query with "No".



- Note: If necessary, it may be advisable to document the adjustment process manually. This makes it easier to assess the progress over several adjustment processes.
- The connection to the pyrometer can now be disconnected. All data was automatically saved and the original emissivity correction was restored.