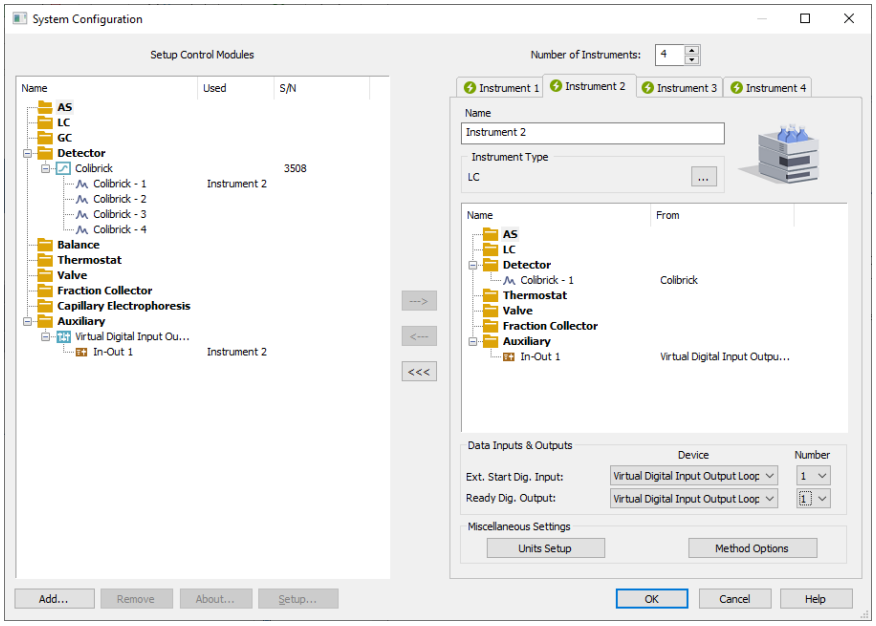
How to use Clarity to analyse continuous signals with no peaks (e.g., from moisture analysers)

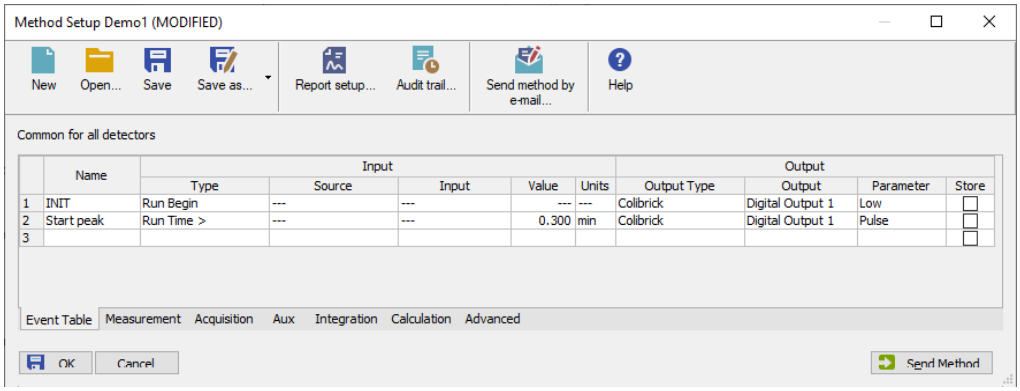
Clarity can analyse even signal without peaks. It can be useful for automatic evaluation of the data from continuous analyzators such as moisture analysers or total hydrocarbon analysers, Colibrick A/D converter is used for analog data acquisition. The signal from the analyzer is short-circuited by the digital output and connected only for a brief moment to emulate an evaluable peak.

- Use Colibrick to acquire the data.
- Configure the Virtual Digital Input Output loop as the Ext. Start Dig. Input and Ready Out Dig. Output.



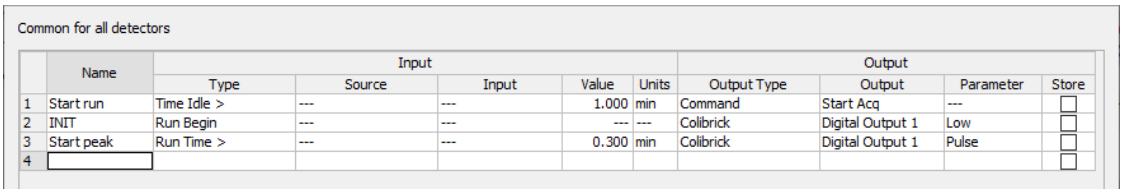
Note: The analysis could be started by Colibrick, in such case use different Digital outputs to start the analysis (need to be interconnected with the Digital input set as Ext.Start.Dig.Input) and to modulate signal (by events from Event Table).

- In the Event table define the times for opening (setting it to a high state) the relay contact (Out1r) connected in parallel to the signal input (DET1) for a suitable time, set the autostop to stop the analysis after the pulse.



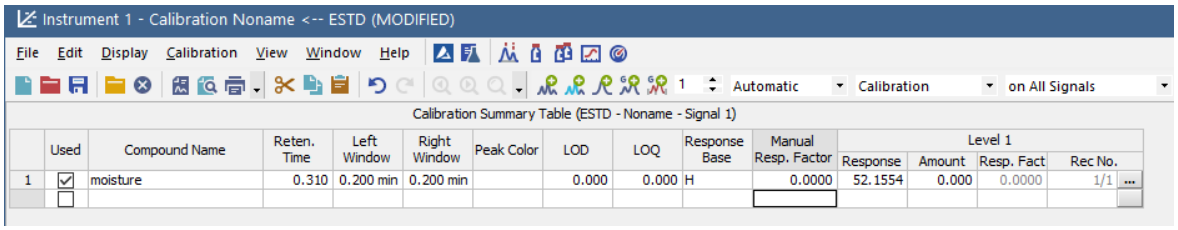
Note: The first row of the event table is used just to ensure the initial state (relay closed), the next one defines the time for the actual measurement using the *Pulse* parameter. If *Pulse* is too short, two *Run Time* rows changing *Output* state to *High* and *Low* in desired time interval can be used.

- The *Time Idle* in the event table event can be used to ensure that the measurement takes place each time after the set time elapses until the Instrument is closed, or another method is sent.

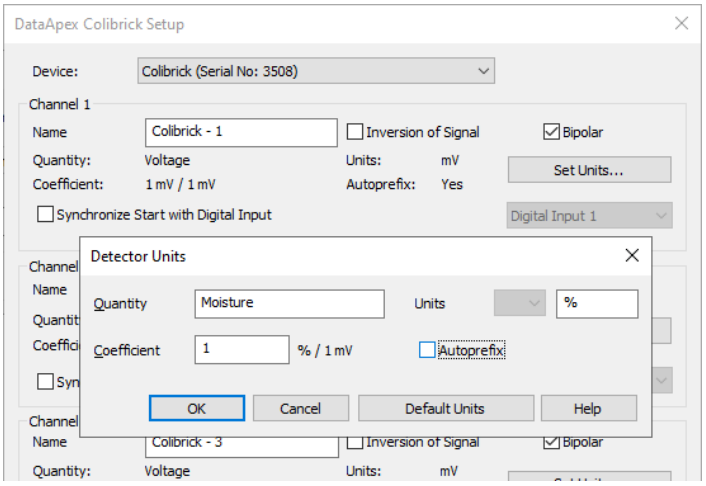


Note: If you want to perform a predefined number of measurements, you can use the sequence as well. *Time Idle* shouldn't be used for measurement in Sequence.

- *Peak Integration:* The Clarity algorithm tends to miss square peaks. Suggested Integration parameters are:
  - To suppress integration using the baseline lock
  - Then the Add Peak operation in the expected area
- *Calibration:* To calibrate these square peaks some adjustments have to be made.
  - Change the response base in the calibration table to H (Height).



Note: If the zero signal corresponds to the zero value the conversion from voltage to analyser units can be made in DataApex Colibrick Setup – Set Units…



Note: If the zero signal does not correspond to zero, use a multiple point calibration with the Origin option - Ignore origin to obtain correct results. To calibrate, enter the device monitor's actual values in the Amount field of the Calibration window, and use different concentration levels to determine different values.

Advanced Tip: Using multiple digital outputs, it is possible to connect outputs from several analyzers sequentially during the run and get readings of their values within a single run.