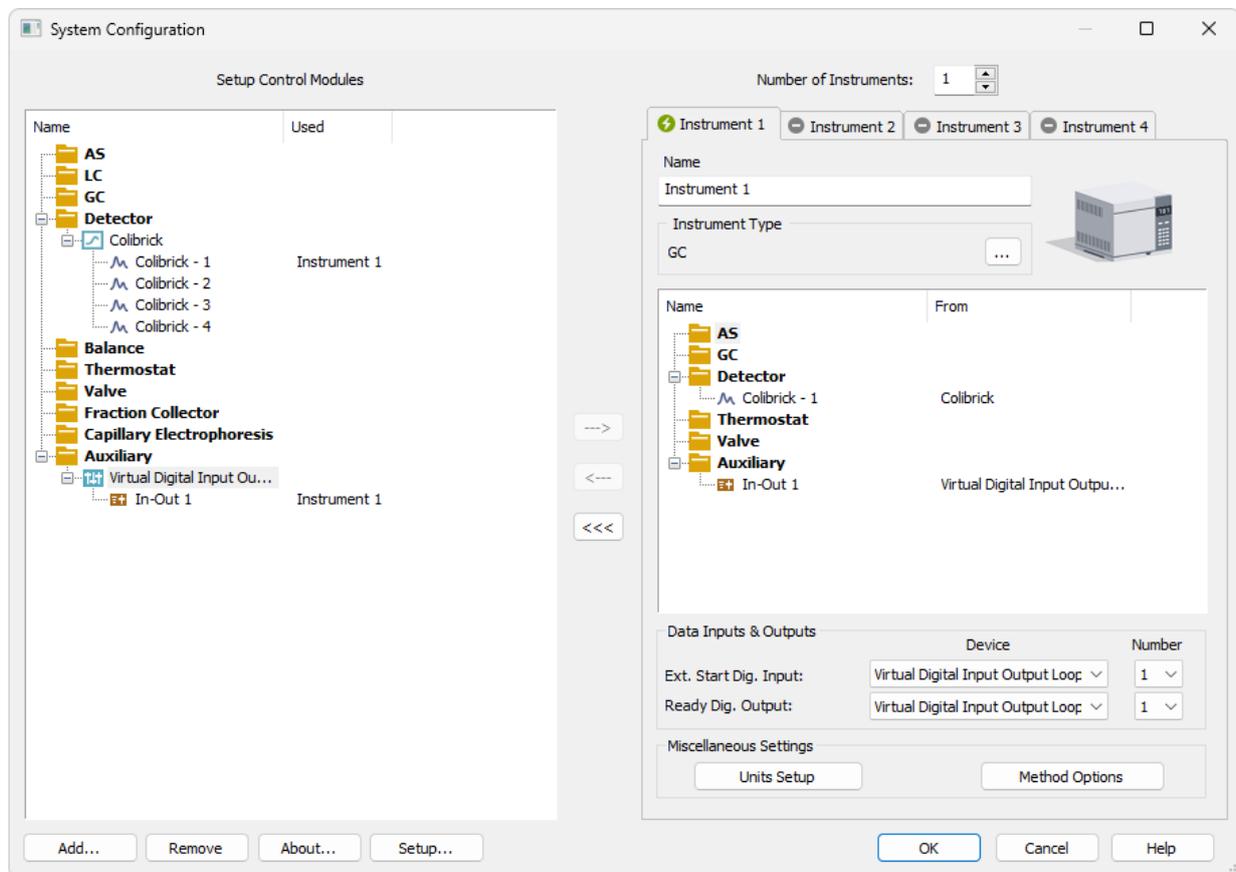


## How to use Clarity to analyze continuous signals with no peaks (e.g., from moisture analyzers)

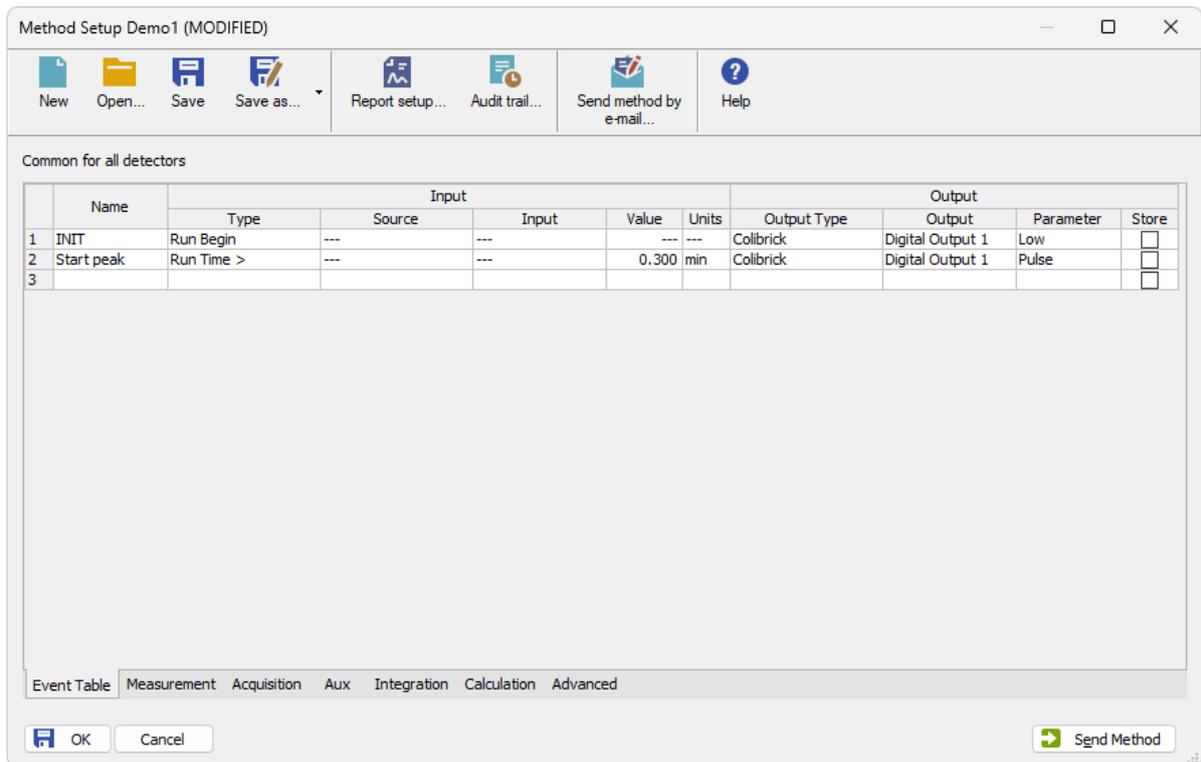
Clarity can analyze even signals without peaks. This can be useful for the automatic evaluation of data from continuous analyzers such as moisture analyzers or total hydrocarbon analyzers. The Colibrick A/D converter can be used for analog data acquisition. To emulate an evaluable peak, the signal from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

- Use Colibrick to acquire the data. In System Configuration, configure the Colibrick and the Virtual Digital Input Output Loop. Set the Virtual Digital Input Output Loop as the Ext. Start Dig. Input and Ready Out Dig. Output.



**Note:** The analysis can alternatively be started by Colibrick. In such cases, use different digital outputs to start the analysis (interconnection with the digital input set as Ext. Start Dig. Input is necessary) and to modulate the signal (set the event in the Event Table accordingly).

- In the Event Table, define the times for opening (i.e., switching to the **High** state) the relay contact (Out1r) connected in parallel to the signal input (DET1) to a suitable time interval. 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 the pulse is too short, two *Run Time* rows changing the *Output* state to **High** and **Low** in the desired time interval can be used.

- A *Time Idle* event in the Event Table 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.

Common for all detectors										
	Name	Input					Output			
		Type	Source	Input	Value	Units	Output Type	Output	Parameter	Store
1	Start run	Time Idle >	---	---	1.000	min	Command	Start Acq	---	<input type="checkbox"/>
2	INIT	Run Begin	---	---	---	---	Colibrick	Digital Output 1	Low	<input type="checkbox"/>
3	Start peak	Run Time >	---	---	0.300	min	Colibrick	Digital Output 1	Pulse	<input type="checkbox"/>
4										<input type="checkbox"/>

**Note:** If you want to perform a predefined number of measurements, you can use the Sequence as well. In this case, *Time Idle* should not be used.

- *Peak Integration:* Clarity integration algorithms tend to miss square peaks. The suggested integration parameters are the following:
  - Use Baseline Lock to suppress integration,
  - Manually apply Add Peak in the relevant area.
- *Calibration:* to calibrate the square peaks, some adjustments have to be made.
  - Change the response base in the calibration table to H (Height).

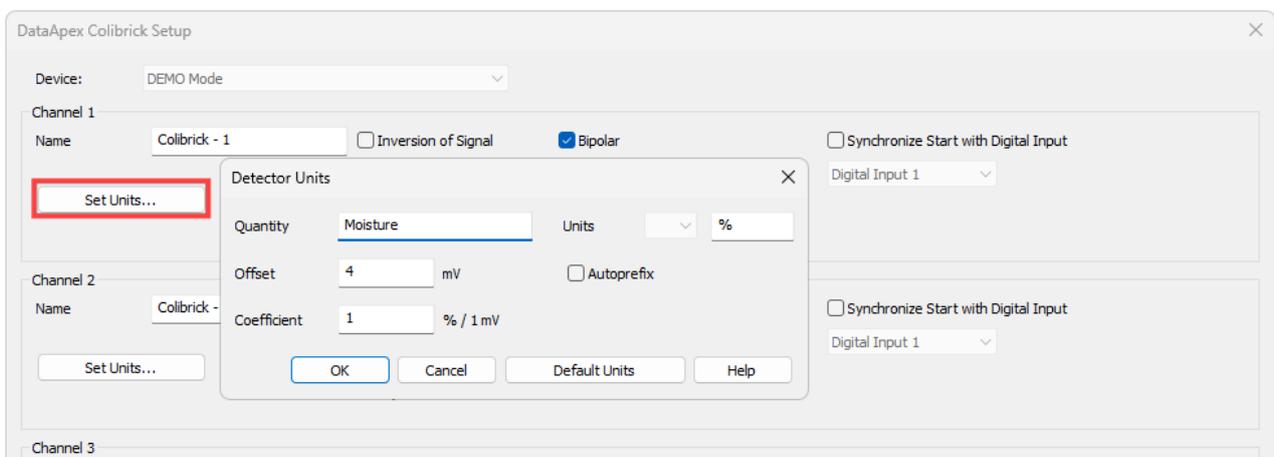
Instrument 1 - Calibration Noname <-- ESTD (MODIFIED)

File Edit Display Calibration View Window Help

Calibration Summary Table (ESTD - Noname - Signal 1)

Used	Compound Name	Reten. Time	Left Window	Right Window	Peak Color	LOD	LOQ	Response Base	Manual Resp. Factor	Level 1			
										Response	Amount	Resp. Fact.	Rec No.
1	moisture	0.310	0.200 min	0.200 min		0.000	0.000	A	0.0000	0.0000	0.000	0.0000	0/0

**Note:** The conversion from voltage to analyzer units can be made in the Detector Units dialog (accessible via DataApex Colibrick Setup – Set Units...). If the zero signal does not correspond to the zero value (e.g., when current loops are used), you can set the relevant Offset in this dialog. More about setting Colibrick to read current loop outputs can be found in [D180 Using offset to read current loop outputs](#).



**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.