

## Clarity 8.0 and changes related to continuous run (loop)

The below described procedure is only relevant to users measuring using continuous run (= automatically repeated single run analyses). It describes how to interrupt continuous run after finishing current injection, i.e. new injection will not be carried out and the loop (and thus the measurement itself) will be interrupted.

### What is continuous run?

In Clarity there are two ways how to measure samples, either by *Single Analysis* or by *Sequence*. *Single Analysis* is intended for measurement for small number of samples whereas *Sequence* offers a more robust and variable measurement of samples. Continuous run is a way to repeat one type of measurement continuously in a loop until interrupted by operator.

### What has changed?

In Clarity 8.0 we have redesigned the Instrument window and this changed how Clarity handles the method.

### Clarity 7.4 and older

In previous versions of Clarity, the method for *Single Analysis* was set in the *Instrument* window. From the *Single Analysis* dialog you could start the run and because of the entry set in the Event Table, after the measurement and passed idle time, the command to start acquisition triggered repeatedly next analysis over and over again. This loop could be *interrupted by opening a different* (for example a shutdown) method without the respective line in Event table.

### Clarity 8.0 changes

In Clarity 8.0 the workflow used in 7.4 (and previous versions) is *not possible* because the method defined and sent for *Single Analysis* cannot be changed while there is an analysis running. Nonetheless there is a solution.

## Brief description

Using interconnected digital Input/Output pair with Input configured in the *System Configuration* as the *Ext. Start Digital Input*. This could be achieved by physically interconnecting the INx and OTRx cables on the A/D converters (such as Colibrick) or by using the Virtual Digital Input Output LOOP. With the properly set entries in the *Event Table*, changing the digital output state by the relay button from *Device Monitor* will interrupt the continuous run.

## System Configuration setup

### a) Option with Virtual Digital Input Output Loop

Add *Virtual Digital Input Output Loop* onto specific instrument in the *System Configuration* and set the inputs and outputs as in the picture below.

Data Inputs & Outputs	Device	Number
Ext. Start Dig. Input:	Virtual Digital Input Output Loop	1
Ready Dig. Output:	Virtual Digital Input Output Loop	1

### b) Option with A/D Converter (such as Colibrick)

Add your *A/D converter* onto specific instrument in the *System Configuration* and set the inputs and outputs as in the picture below. However in this setup it is necessary to connect inputs to the outputs – please consult this setup with an electrical engineer.

Data Inputs & Outputs	Device	Number
Ext. Start Dig. Input:	Colibrick	1
Ready Dig. Output:	Colibrick	1

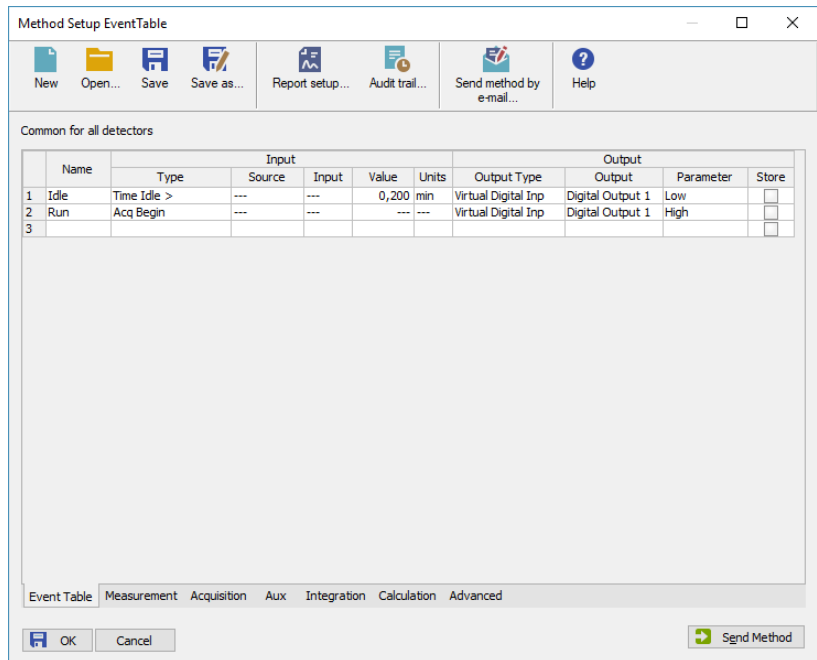
## New approach to continuous run - *Single Analysis* in combination with *Device Monitor*

This approach consists of three steps:

1. Correctly set up method – depending upon *System Configuration* (as above)
2. Starting the acquisition
3. Interrupting the continuous loop

### 1 - Setting up the template method for continuous run via *Single Analysis*

- Enable *Autostop* with defined *Run Time*
- Enable *External Start/Stop – Start Only*
- Set reaction to *Down*
- Event Table with two rows:
  - Type: *Time Idle* with your defined idle time (*Value*) between injections
  - Output Type: *Virtual Digital Output Loop*
  - Output: *Digital Output 1*
  - Parameter: *Low*
- Type: *Acq Begin*
- Output Type: *Virtual Digital Output Loop*
- Output: *Digital Output 1*
- Parameter: *High*





#### Description:

Once this method is sent, after 0,2 min of Time Idle, Digital Output 1 will be set to LOW. Since the method has External Start/Stop – Start Only enabled and reacts to Down (LOW), acquisition will start. Right after start of acquisition the Digital Output 1 will be set to High. Both of those two rows in the Event Table work in symbiosis in a continuous run.

### 2 – Starting the acquisition

- Set *Method* ① (with correctly set up Event Table as described above) according to which you want to measure.
- Click on the *Send method* ② and close *Single Analysis*
  - After elapsing the idle time the acquisition begins while digital output is set to HIGH.
  - When the current measurement is finished, idle time starts again, after elapsing the idle time it starts acquisition and measurement continues in a loop.

### 3 – Interrupting the continuous loop

- When you want to interrupt the loop, open *Device Monitor* and change the relay button from HIGH  to LOW .
- Since the start in the method is defined as *Down* (voltage change HIGH to LOW), manually changing it to LOW does not create the necessary voltage change and thus interrupting the loop.

