# 18.5 Virtual device

## General

The virtual device is a device that you can use to calculate additional math or keep a counter. It doesn't bind to any protocol and only works when its math expression is used.

> ✅ Virtual device functionality is only available since firmware version v1.6.3, of WCC Lite.

## Configuring Virtual device

To configure WCC Lite to use the virtual device you must configure the device and signal sheets.

*Virtual device parameters for Device tab:*

| Parameter | Type | Description | Required | Default value (when not specified) | Range | |
|---|---|---|---|---|---|---|
| | | | | | Min | Max |
| name | string | User-friendly device name | Yes | | | |
| description | string | Description of the device | No | | | |
| device_alias | string | Device alias to be used in the configuration | Yes | | | |
| protocol | string | Selection of protocol | Yes | | **Virtual device** | |

*Virtual device parameters for the Signals tab:*

| Parameter | Type | Description | Required | Default value (when not specified) | Range | |
|---|---|---|---|---|---|---|
| | | | | | Min | Max |
| signal_name | string | User-friendly signal name | Yes | | | |
| device_alias | string | Device alias from a Devices tab | Yes | | | |
| signal_alias | string | Unique signal name to be used | Yes | | | |
| math_expression | string | Field to calculate specific math. You must enter the signal you want to use. | Yes | | | |

The only field that is a must to use the virtual device is the *math_expression* field. Here you need to enter the signal which you want to associate it with. Some examples of what it can do:

- Hold a specific tag value.
- Calculate a specific math function with many signals, that you can, later on, pass to another device.
- Add tag value to the current value, to create a counter.

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