# 3000 MKIII SERIES

# 3000BCL USB Interface Software User Guide

*Reliability, Guaranteed*

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3000 Series MK3 instruments can optionally be supplied with a micro-USB port, to enable the unit to be configured and monitored with a PC. The software requires Microsoft Windows (Windows 7 onwards, 32/64) and is available to download free of charge from our website.

## Installation

After downloading the software, unzip the folder and run the installer to perform the installation. On Windows 10 upwards no additional drivers are required. For Windows 7, the USB driver must also be installed, which can be found in the "Drivers" folder of the installation directory. Right click on the .inf file and select "install" from the pop-up menu to perform the driver installation.

## Connection Tab

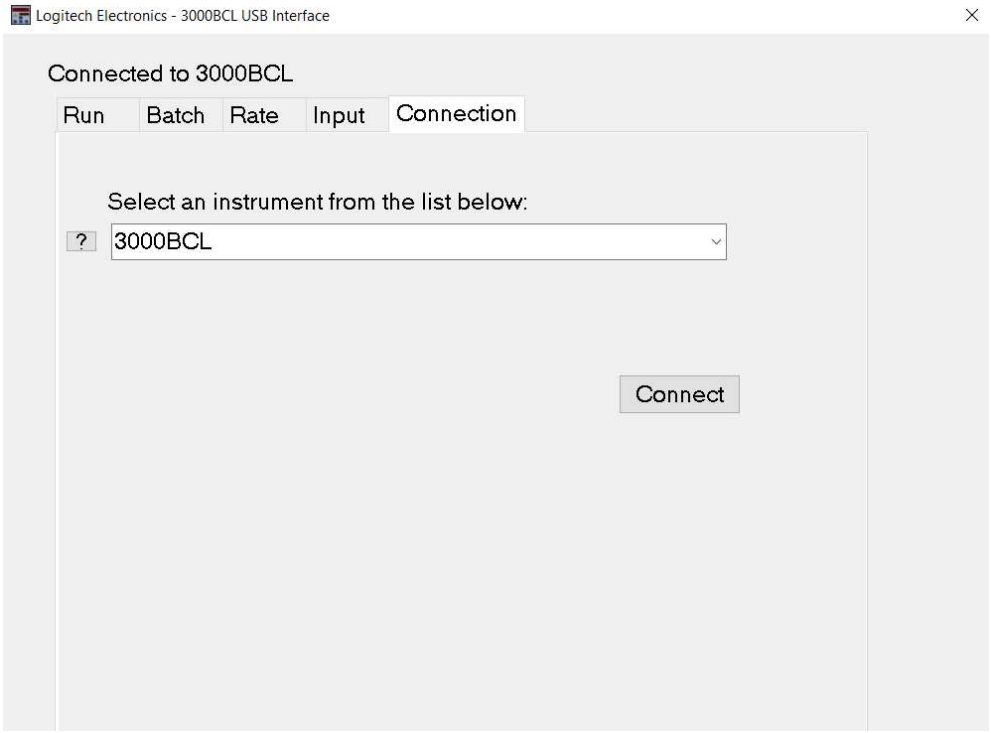



Figure 1: Connection Tab

On starting the software, it will automatically connect to the 3000 Series instrument, provided that there is a single 3000 Series instrument connected to the PC. It will also connect automatically if a 3000 Series instrument is connected to a USB port while the software is running. This will bypass the Connection tab and display the Run tab instead. In the case of multiple units being connected to the PC, the Connection tab will instead be displayed, from which the user can select the unit they wish to connect to.

The instrument's serial number will be displayed as default, in order to identify the unit. This dialog can also be used to define an alternative name for the unit, which will then replace the serial number. To do so, select the unit from the drop-down list, then edit the name of the unit in the box.

To connect to the selected instrument, press the "Connect" button. Clicking on the drop-down arrow while already connected to an instrument will cause the connection to be closed. To reconnect, select the instrument and press the connect button.

## Run Tab

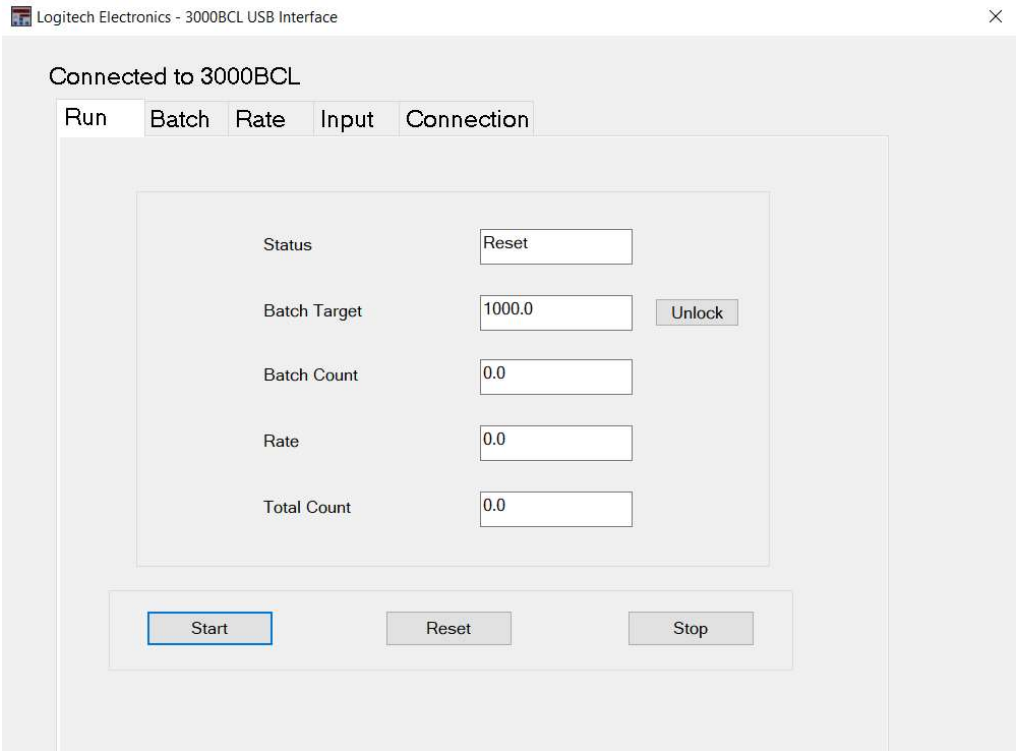



Figure 2: Run Tab

Upon connection, the run tab will be opened. From this screen the batch count can be set and the batching process controlled and monitored. The run screen will display live updates on the unit's status. The Start, Reset and Stop buttons control the batching process in the same way as pressing the Start, Reset and Stop buttons on the display, or via the external switch inputs.

The displayed values are scaled according to the configured scaling factor, and are displayed to the number of display decimal places configured for the item in question. E.g. The displayed rate is the measured frequency, scaled by the rate scaling factor (and applying any offset), displayed to the number of decimal places set with the rate DP setting.

In order for the rate and total count to be displayed, they must have a non-zero scaling factor.

**Changing the Batch Target**

In order to change the target batch count, press “Unlock”. This can only be altered with the unit in the stopped, reset or end states. If this is able to be modified, the batch target will then be highlighted and can be altered. To confirm the new batch quantity, either press enter or click out of the batch target edit box.

**Secondary Display Mode**

The secondary display mode can be selected from the run screen. Click on a results box to have the secondary display switch to this item. E.g. clicking on the displayed Total Count value, will switch the secondary display to show the scaled total count.

# Batch Tab

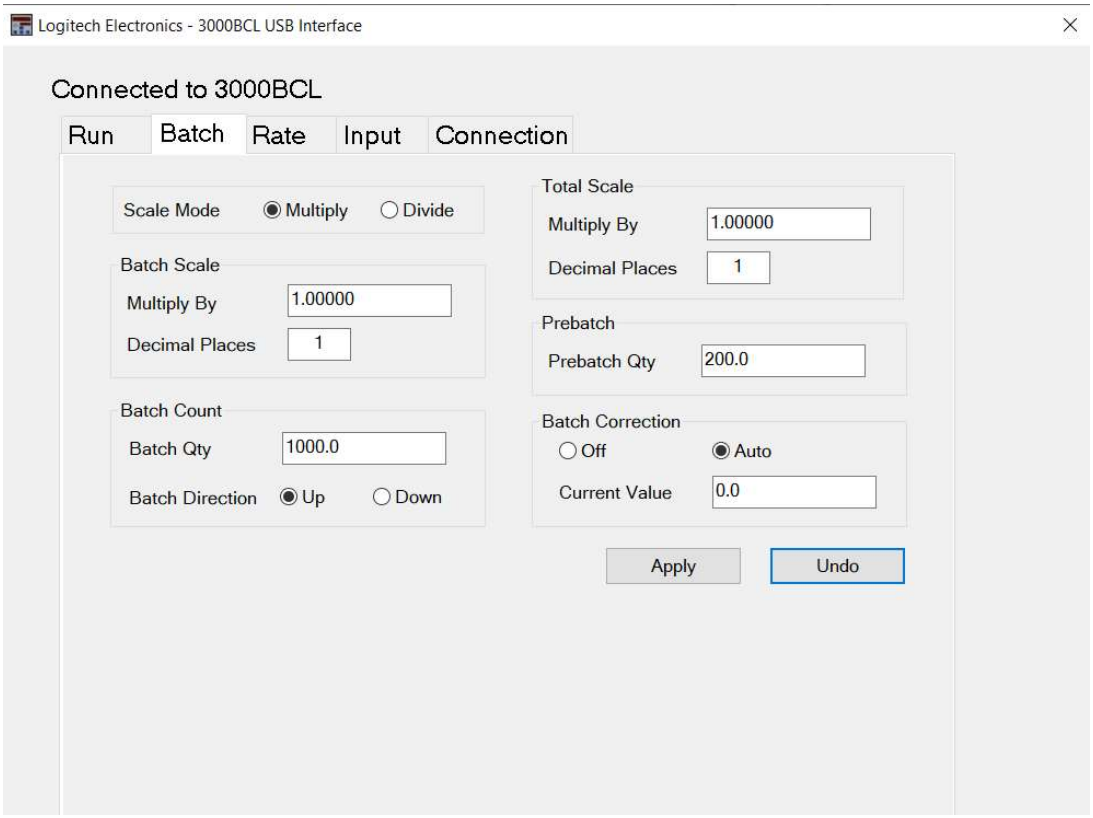



Figure 3: Batch Tab

The Batch tab allows access to the unit’s batch and count settings. This also includes the scaling mode (multiply or divide) that is applied to all of the units scaling factors. Press “Apply” to confirm the settings and update the instrument. Press Undo to reverse any changes not yet applied to the unit. Navigating to another tab will also apply any changes made in the active dialog.

In order to change any of the configured values (on the Batch, Rate or Input Tabs), the CTRL input must be connected to 0V. Otherwise, all items in the dialog are disabled and a message displayed.

Settings also cannot be altered while a batch is in progress. The current batch must be stopped and reset in order to do so.

The settings available within the dialog will depend on the features available on the connected instrument and only settings supported by the instrument will be displayed. For guidance on the function of each of these settings and the available options, please refer to the instruments operating manual. Each of the available settings can also be configured on the instrument via its display and front panel touch buttons in the usual way. However, entering set mode on the display will result in the settings being locked in the software.

Settings are limited to the number of digits available on the instrument's display. In the case of a standard 3000 series instrument, this is 6 digits, or 5 digits if the value is negative. The 3000 Series supports negative values for individual settings, without requiring a dedicated sign digit.

Values entered beyond the range of the display's discrimination will automatically be rounded in order to fit within the available digits. Aside from the scaling factors, for which the full discrimination can be used, other settings will have the number of decimal places limited by the configured decimal places setting, and will automatically be rounded. Refer to the instrument's manual for information on which settings have a limited number of decimal places and which of the settings defines this limit.

## Rate Tab

The rate tab contains the settings that relate to the measured frequency, rather than count. This includes the rate scaling factor, alarm outputs and analogue/digital output where present on the unit. The rate tab is operated as described for the batch tab above. For guidance on the function of each of the rate tab's settings and the available options, please refer to the instruments operating manual.

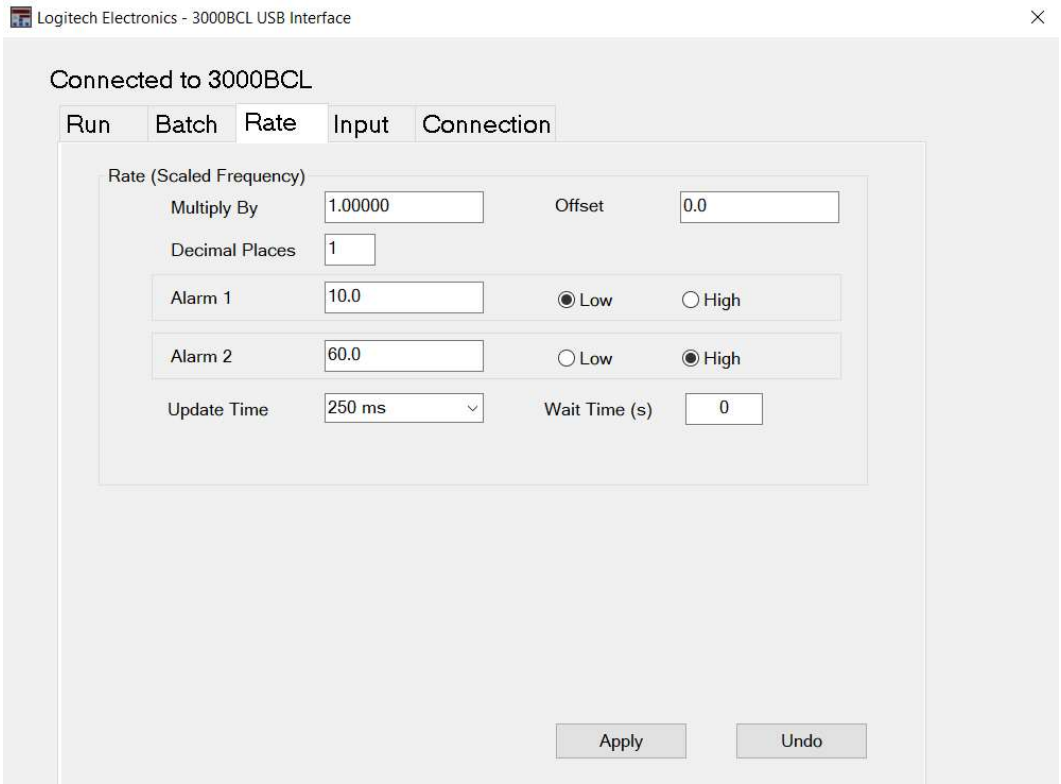



Figure 4: Rate Tab

# Input Tab

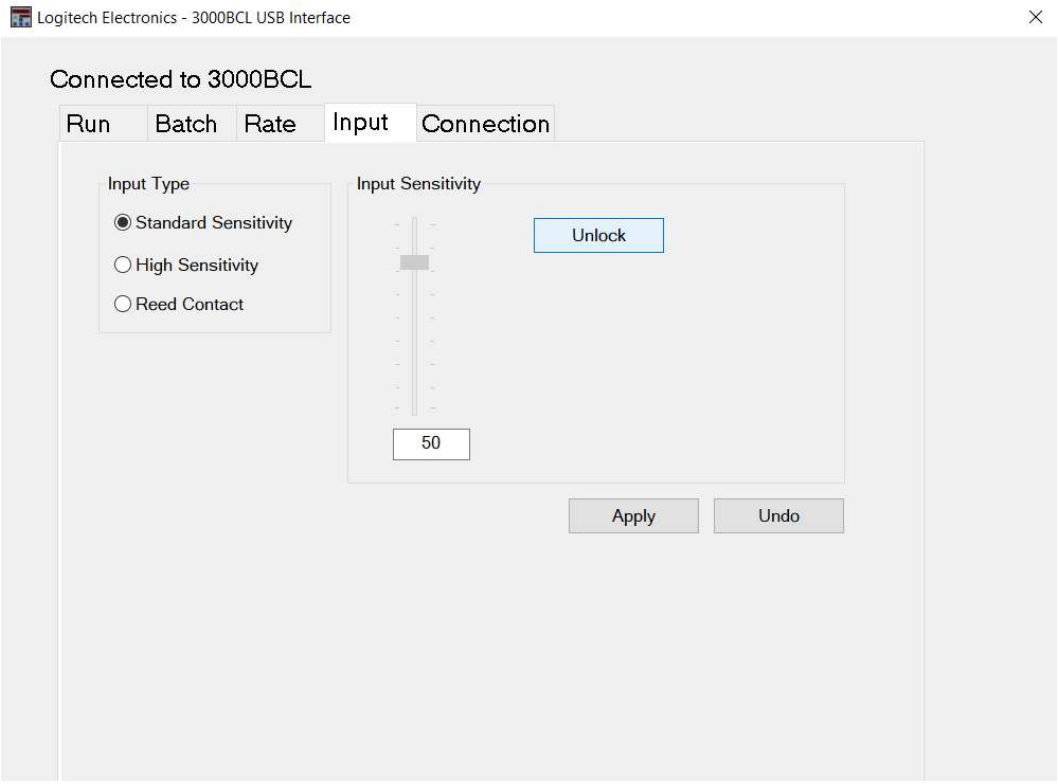



Figure 5: Input Tab

The input tab allows the type and sensitivity of the signal input to be configured. Refer to the user manual for information on the available input types.

### Setting Sensitivity

To set the sensitivity, press unlock. If the input type has been altered, the current selection will be applied to the unit. The current scaled rate, frequency and total count will then be displayed and the slider will be enabled (see figure 6). These will continue to be updated as changes to the sensitivity are made, providing a live readout with which to adjust the sensitivity to the required level. Moving the slider upwards will increase the sensitivity of the channel's input, to a maximum setting of 63. Moving the slider down will reduce the sensitivity.

### Reset Total Count

The total count can be reset from the unlocked sensitivity controls. Press "Reset Total" to do so. This enables the total count to be cleared after the sensitivity has been adjusted, removing any count that has resulted from this initial configuration.

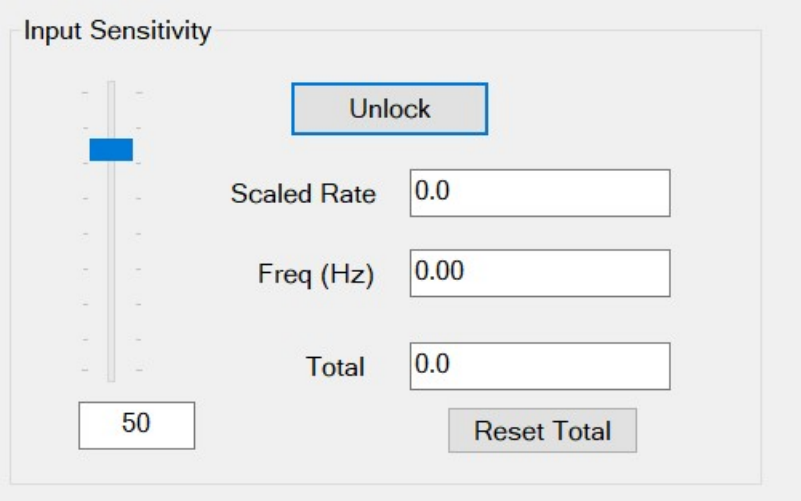



Figure 6: Set Sensitivity

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