Variants

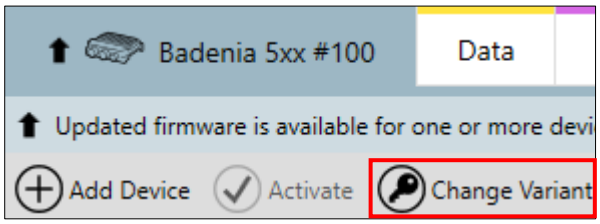
What is a variant?

Pi Toolset uses TCP communications over Ethernet to configure products (called 'devices'). This makes Toolset very versatile, but you must configure each device carefully before use.

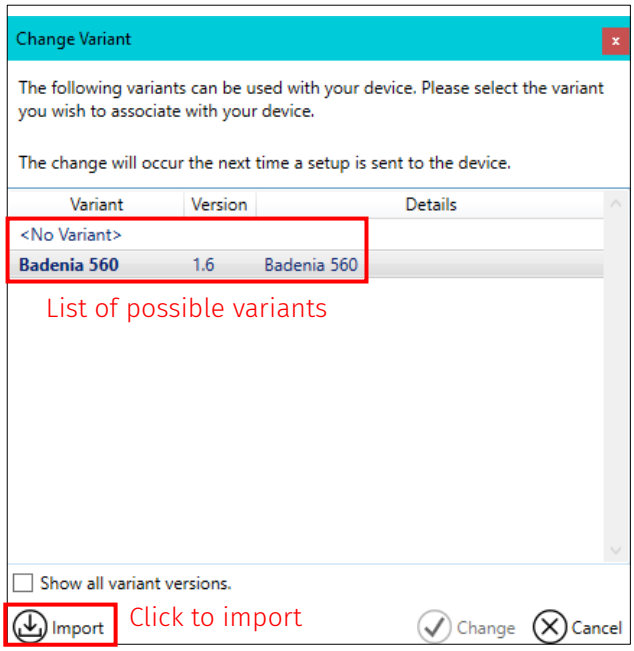
To allow different specifications of device software, 'tokens' are used to enable or disable certain functions (such as analogue/digital inputs, CAN ports, Autocoding, and so on). Each specification of a device is called a 'variant'. The token forms part of the setup. The device variant and setup variant must match. When the setup is sent, the device variant is set.

Set the device variant

In the event of a device not having a variant, such as a new device, you must set the device variant before you send a setup. To set the device variant, activate the device, and then click **Change Variant**.



The **Change Variant** dialog box is displayed where you can control the tokens.

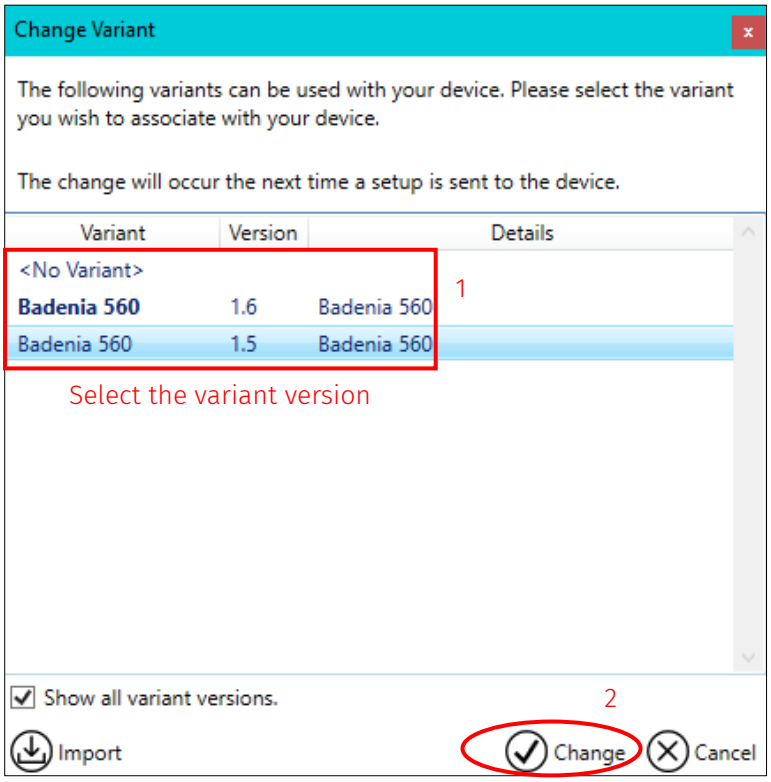


The dialog shows the available cached tokens. If there are no tokens displayed, you need to import a token file.
Click **Import** and navigate to where you downloaded and saved the token file. When the token is imported, it is stored and cached in Toolset, so you only need to do this once.

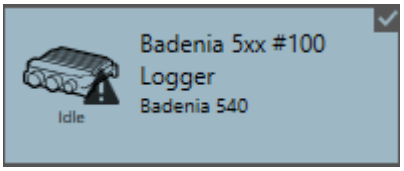
If you do not have a variant for the device, please contact: sales@Cosworth.com and make sure you state the serial number of the device, any developer requirements, and a specific version of variant if required.

The screenshot below shows a variant for a Badenia serial number 100.

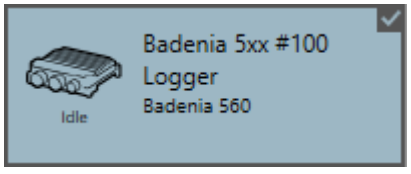
Tokens are required to control the corresponding Toolset options that match that specification of device. Select a token file, select the appropriate variant (1), and then click **Change** (2). You can also edit variants to make base level products if required.



This sets the device variant. The small warning triangle indicates that the setup containing the token file is yet to be sent to the device.



Once a valid setup containing the token file is sent to the device, the device icon is displayed without a warning triangle.



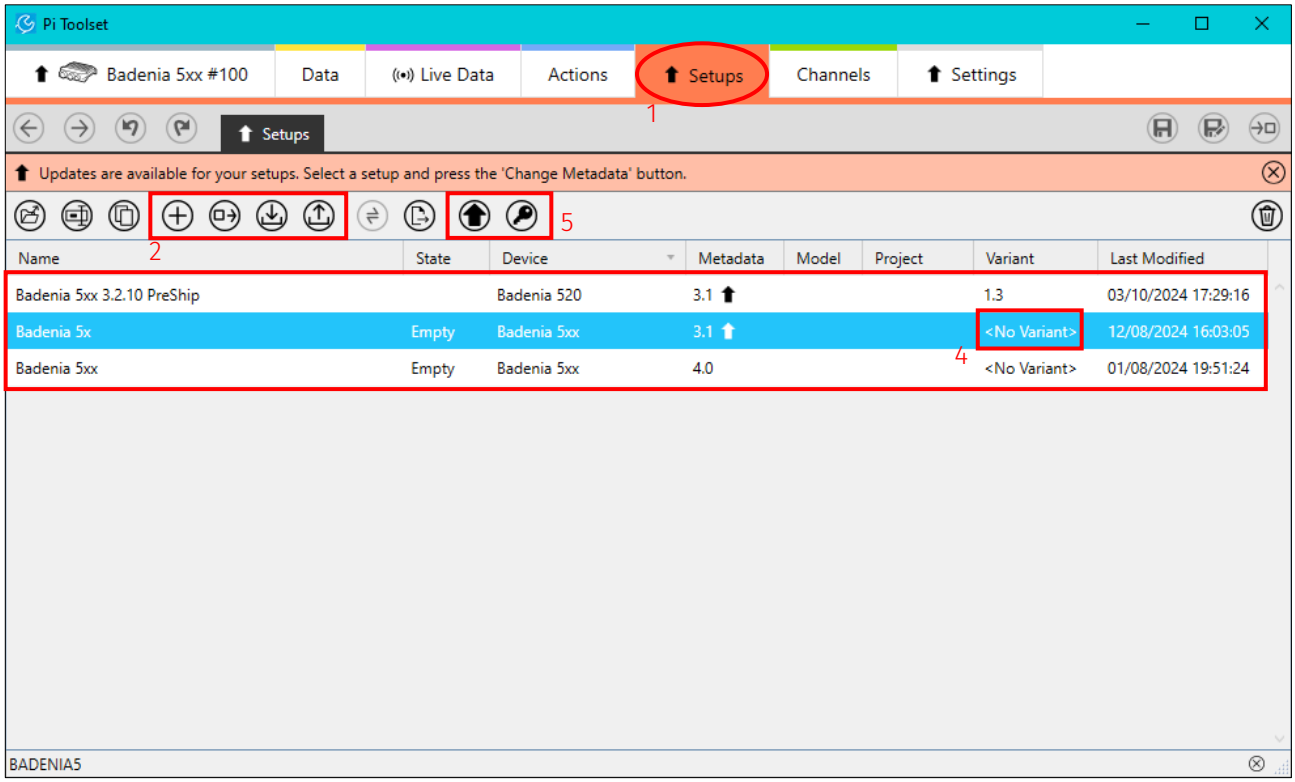
Set the device variant in Setups

To set the setup variant to match the device variant, click the **Setups** tab (1). All device setups are displayed, with name, device type, device variant, and a last modified timestamp.

If this list is empty you need to get a setup (2), either by importing the *.toolset* file supplied by Cosworth, or by reading it from the active device.

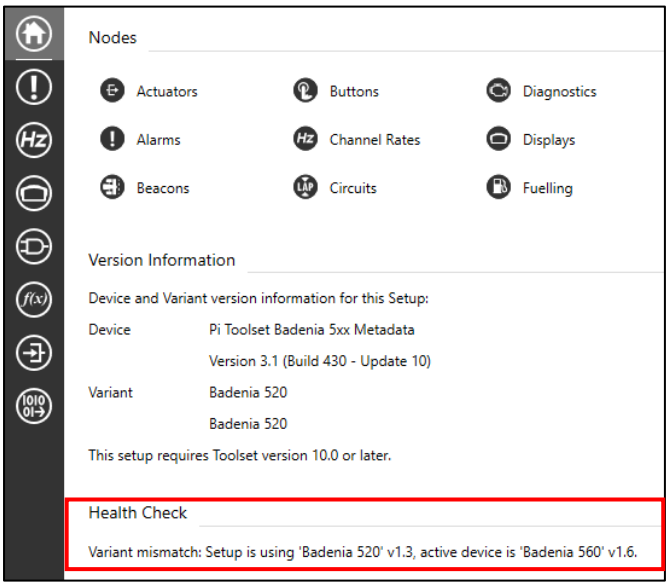
Once you have setups (3) to work with, it is important to make sure that the setup variant matches the device variant. In the screenshot below a setup that has no variant is shown (4). This might be an imported base level setup for that device. Therefore, it is important to set the variant to enable the purchased features.

On the **Setups** page you can set the setup variant via the **Change Variant** option (5) in a similar manner as changing the device variant. A similar dialog box to the device variant selection method is displayed.

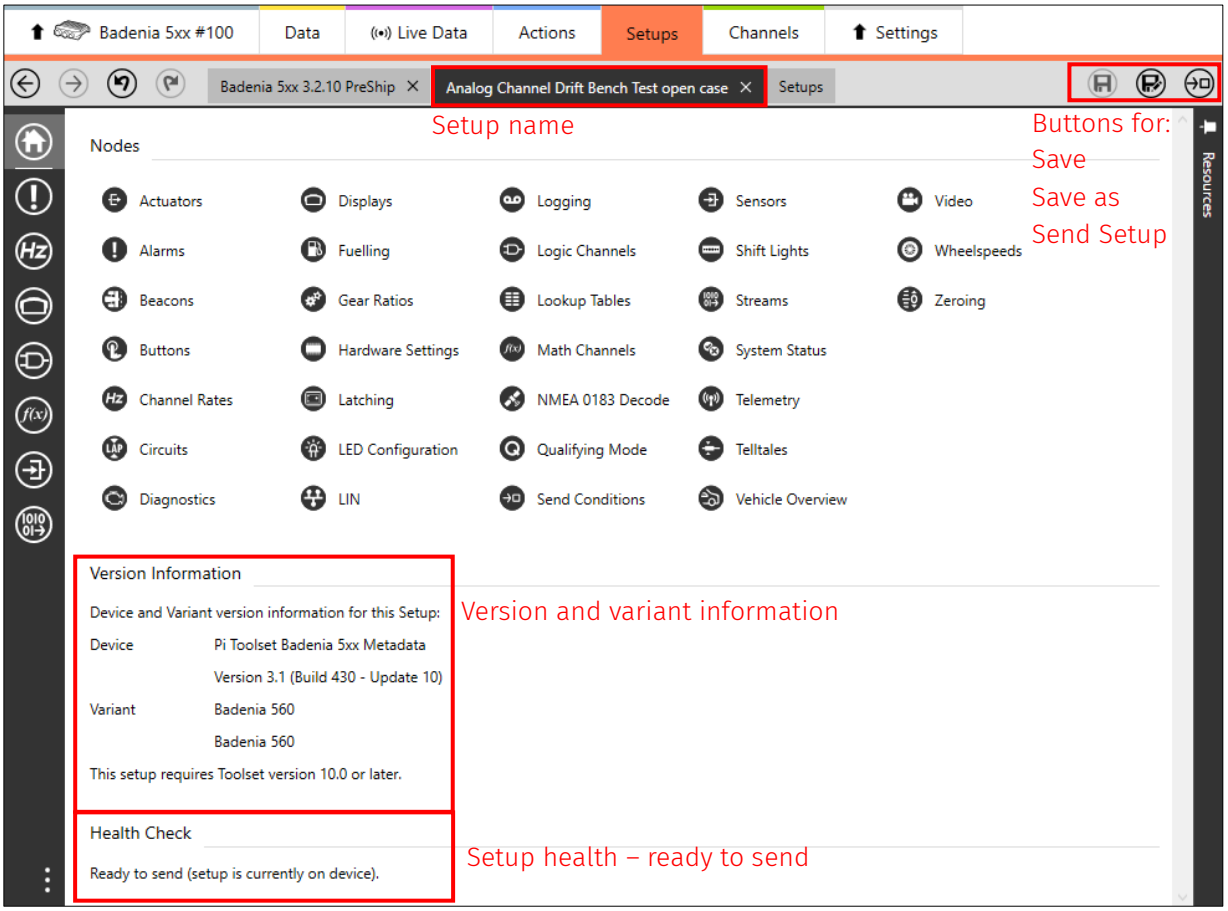


You can also open a setup. When you send the setup, a dialog box is displayed that prompts you to update the setup to match the new firmware on the device. Select **Use Device Variant**.

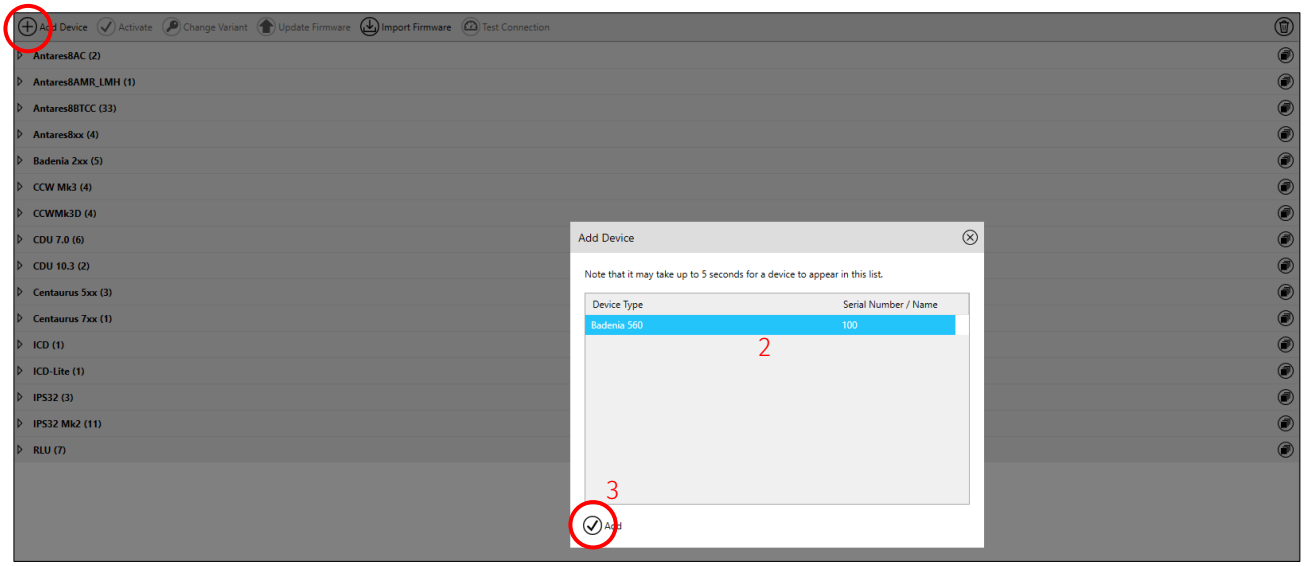
On the home page of the open setup, version information is displayed. If the device variant and setup variant do not match, a warning is displayed in the **Health Check** section.



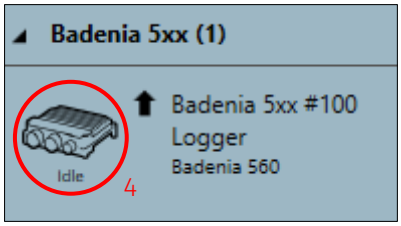
Once the error is corrected and the device variant and setup variant match, the following screen is displayed.



Add a device



On the **Devices** page, use the **+** button to add a new device (1). The device is displayed in the menu. Select the device (2), and then click **Add** (3). Wait for the device to initialise and reach the 'Idle' state (4).



Activate a device

To read live data and send setups to the device, the device must be activated. Select the device (1), and then click **Activate** (2). To distinguish the active device if there are multiple known devices, the active device appears in a grey box.