Revision 0.37 Date 17/0

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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.

Change Variant 🛛											
The following variants can be used with your device. Please select the variant you wish to associate with your device.											
The change v	vill occur the next	time a setup is	sent to the device.								
Varian	t Version		Details								
<no td="" variant:<=""><td>></td><td></td><td></td><td></td></no>	>										
Badenia 560	1.6	Badenia 560									
List of possible variants											
Show all v	Show all variant versions.										
Import	Click to im	port	Change								

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: <u>sales@Cosworth.com</u> 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.

Badenia5xx-01L-650080_1.5_Badenia540_SN0.token

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.

Change Variant				x					
The following variants can be used with your device. Please select the variant you wish to associate with your device.									
The change will occur	the next	time a setup is	sent to the device.	_					
Variant	Version		Details	\sim					
<no variant=""></no>			1						
Badenia 560	1.6	Badenia 560	1						
Badenia 560	1.5	Badenia 560							
Select the va	iriant ve	ersion		~					
Show all variant ve	rsions.		2						
Import			Change X Cance	el					

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.

	🌀 Pi Toolset							—		×
	🕇 🥽 Badenia 5xx #100 Da	ata (••) Live Data	Actions	Setups	Channels	🕇 Set	tings			
				1				A	P	\ominus
	1 Updates are available for your setups. Se	lect a setup and press the	'Change Metadata	' button.						\otimes
		€ € €	<u>۶</u>							٦
	Name 2	State	Device	• Metadata	Model	Project	Variant	Last Modif	ied	
3	Badenia 5xx 3.2.10 PreShip		Badenia 520	3.1 🕇			1.3	03/10/2024	4 17:29:1	6 ^
	Badenia 5x	Empty	Badenia 5xx	3.1 👚		,	<no variant=""></no>	12/08/2024	4 16:03:0	5
	Badenia 5xx	Empty	Badenia 5xx	4.0		4	<no variant=""></no>	01/08/2024	4 19:51:24	4
	BADENIA5									×

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.

\bigcirc	Nodes									
(!)	Actuators		Buttons		Diagnostics					
Hz	Alarms		Channel Rates	9	Displays					
\bigcirc	Beacons	C C	Circuits	•	Fuelling					
Ð	Version Information									
(f(x))	Device and Varia	ant version informa	ation for this Setup:							
\sim	Device	Pi Toolset Bade	adenia 5xx Metadata							
(\mathbf{F})		Version 3.1 (Bui	ild 430 - Update 10)							
(00)	Variant	Badenia 520								
9		Badenia 520								
	This setup requires Toolset version 10.0 or later.									
	Health Check	Health Check								
	Variant mismate	h: Setup is using 'E	Badenia 520' v1.3, ac	tive device i	s 'Badenia 560' v1.6.					



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

Ť.		🆻 Bad	lenia 5xx #100	Data	(••) Live D	ata A	ctions	Setups		Channels	1 Setting	js			
\bigotimes	Ì		Bader	nia 5xx 3.2.1	0 PreShip 🗙	Analog Chan	nel Drift Be	nch Test open	case	× Setups				7 B	\oplus
۲		Nod	es		S	etup na	ame						Butto Save	ns for:	^ .⊨ 8
$\overline{(!)}$		Ð	Actuators	•	Displays	•	Logging		Ð	Sensors	0	Video	Save a	as	sources
Hz		0	Alarms	•	Fuelling	Ð	Logic Cha	nnels	•	Shift Lights	0	Wheelspeeds	Send	Setup	
\bigcirc		0	Beacons	*	Gear Ratios	•	Lookup Ta	bles		Streams	•	Zeroing			
Ð		L	Buttons	0	Hardware Settin	igs 👧	Math Cha	nnels	%	System Status					
(f(x)		Hz	Channel Rates		Latching	8	NMEA 018	33 Decode	(m)	Telemetry					
Ð		() ()	Circuits	•	LED Configuration	on O	Qualifying	Mode	0	Telltales					
		G	Diagnostics	G	LIN	→ □	Send Con	ditions	3	Vehicle Overvi	ew				
	ſ	Versi	on Information												
		Devic	e and Variant version	n informatio	on for this Setup:	Versic	n and	variant	inf	ormatio	n				
		Devic	e Pi Tool	set Badenia	5xx Metadata										
		Veri	Version Review	n 3.1 (Build -	430 - Update 10)										
		varia	Badeni	ia 560											
		This s	etup requires Toolse	et version 10).0 or later.										
		Heal	th Check												
:		Ready	y to send (setup is cu	urrently on a	device).	Setup) healt	h – reac	iy t	o send					

Add a device

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		۲
Add Device	\otimes	۲
Note that it may take up to 5 seconds for a device to appe	ear in this list.	۲
Device Type	Serial Number / Name	۲
Badenia 560	100	۲
2		۲
		۲
		۲
		۲
		۲
3		
ି		
	Add Device Note that it may take up to 5 seconds for a device to appe Device Type Badenia 560 2	Add Device Seconds for a device to appear in this list. Device Type Serial Number / Name Badenia 560 100 2 2

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.

🕀 Add Device 🖉 Activate 🖉 Change Variant 🛞 Update Firmware 🕲 Import Firmware @ Test Connection	٦
> Antares8AC (2) 2	۲
Antares8AMR_LMH (1)	۲
> Antares88TCC (33)	۲
> Antares8xx (4)	۲
Badenia 2xx (5)	۲
Badenia Sox (1)	ð
t Badenia 50x #100 Logger Badenia 500	
> CCW Mk3 (4)	۲
> ccwmk30 (4)	۲
> CDU 7.0 (6)	۲
b CDU 10.3 (2)	۲
Centaurus Six (3)	۲
Centaurus 7xx (1)	۲
> K0 (1)	۲
> KOL-lite (1)	۲
) IP532 (3)	۲
> 19532 Mi2 (11)	۲
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