Pi Toolbox 13

Plus Pro Ultra DAE 2025

Pi Toolbox 13

Toolbox 13, our ground breaking Motorsport Data Viewer: the ultimate tool for engineers, coaches, and analysts alike. Engineered to provide an immersive and comprehensive interface, our software redefines how you interact with data. Using Toolbox 13 you can analyse minute details of every lap, every corner, and every event with precision. From Formula 1 to endurance racing and everything in between, our analysis viewer supports displaying data in a wide range of formats, delivering insights of real-time telemetry and logged data at your fingertips.

Key features include:
Live race tracking with real-time telemetry data.
Detailed performance metrics for drivers, teams, and car systems.
Interactive circuit maps for in-depth analysis.
Off load data for post event analysis and performance comparison.
Customisable dashboards and reporting tools for personalised KPI reports.
Seamless integration with data sources such as race APIs and telemetry feeds.

Whether you're a student following your course, a team optimising race strategies, marine scientist, wind tunnel operator, esports racer or a data analyst seeking to unravel dynamic insights, Toolbox 13 is your ultimate go to application.

New Features for 13

Enhanced KPI

Channel Statistic Metric Creation – Quickly and easily generate KPI metrics from channel data. The Metric generation dialog is located on the Global Channel Properties explorer. The following metrics can be generated; Minimum, Maximum, Mean, Start, End, Difference, Standard deviation, Value at minimum and Value at maximum.

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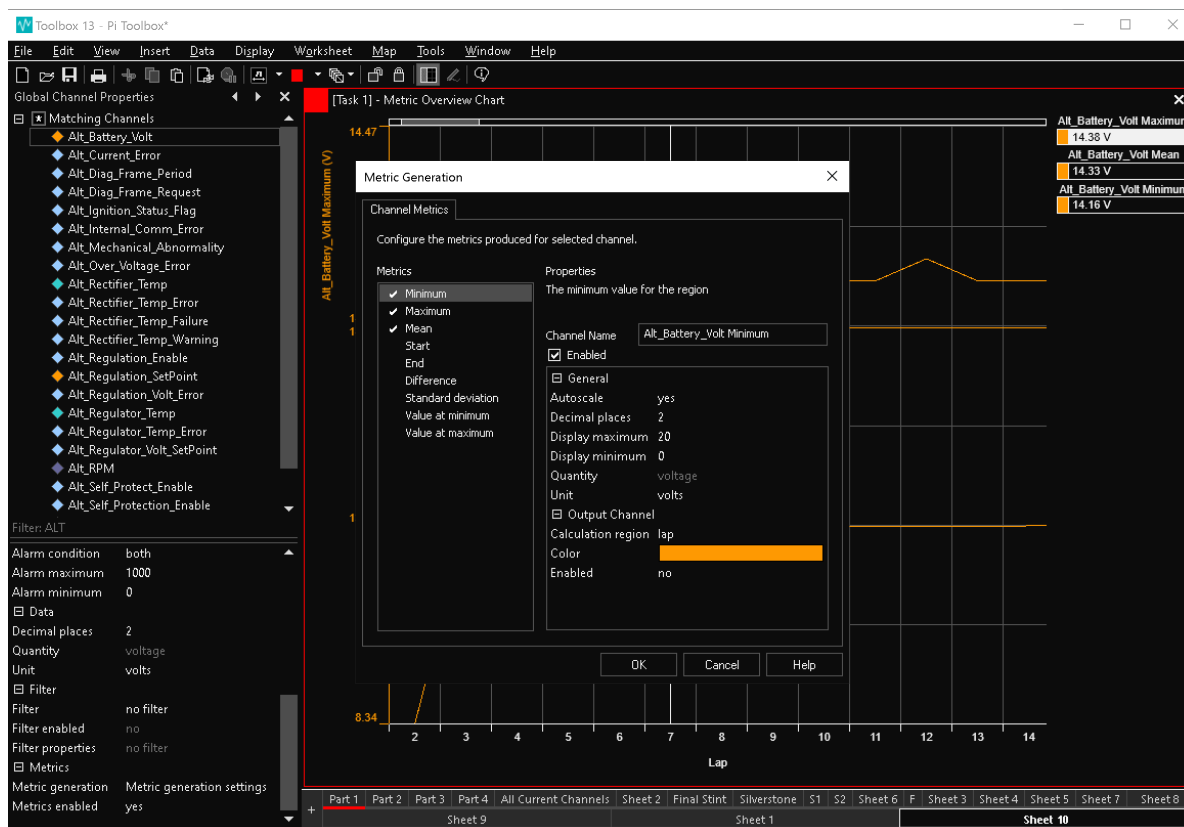
Metric Definition Extensions - Metrics can be used to generate output channels, which can then be consumed in the same way as all other channels. Extensions can be configured both for Basic Function Editor metrics, and script generated metrics. Key line to highlight in the script below that causes a 'Max Speed' channel to be created is [GenerateScalarAsChannel(ScalarAsChannelRegionMode.TimeRegions)].

Automatic Export – Automate the export of KPI metric results for both real- time, and auto-update outings. Support for ASCII/Excel/MATLAB/XML file formats is provided. Fully configurable triggers to export on outing number change/lap marker/events. A brand-new Metric Export Status display shows the export progress.
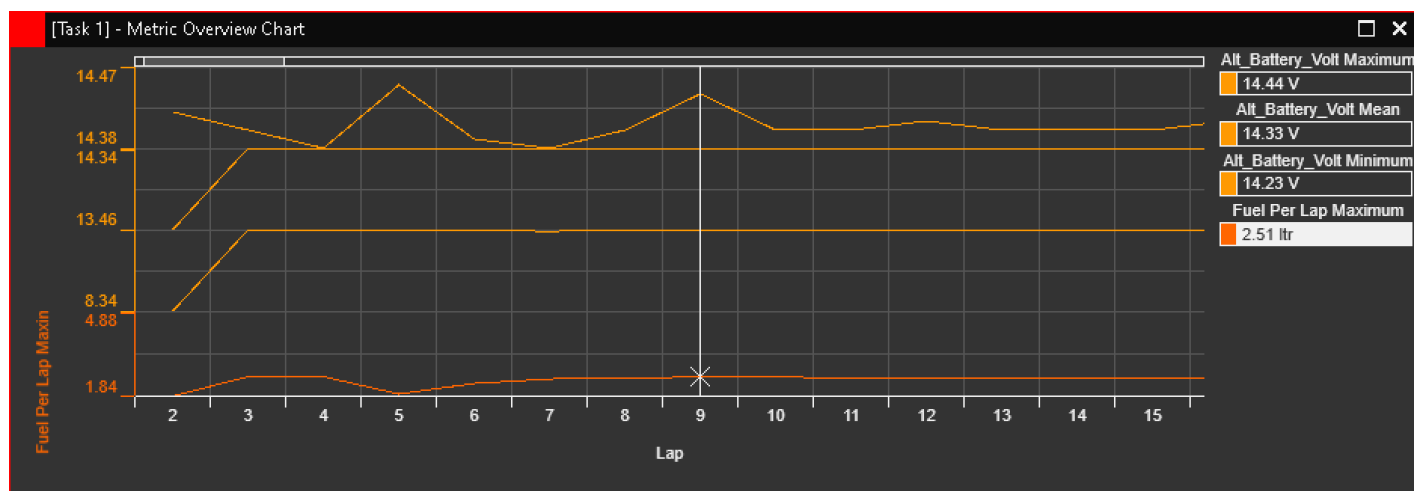
Metric Overview Report Extensions – This feature now provides all the same functionality as the Tabular Outing Report plus some additional features, including:

- Displaying overall lap performance.
- Customisable colour highlighting of min and max values.
- Filtering out in laps, out laps and slow laps.
- Order laps by ascending or descending order.
- Horizontal or vertical mode.
- Exporting the contents of the display to Excel, ASCII, MATLAB or XML.
- Increased metric limit to 64.
- Auto scrolling to the selected region when not a real time outing.
- Auto scrolling to the newest region when a real time outing.
- Global and local pause options for real time outings.

[Task 1] - Metric Overview Report

| Lap Number	p 104	Lap 105	Lap 106	Lap 107	Lap 108	Lap 109	Min	Max	Avg	Mean
Lap Time (hr:min:sec)	1:33.500	00:01:36.000	00:01:35.300	00:01:34.999	00:01:34.701	-				
Alt_Battery_Volt Maximum (V)	14.40	14.40	14.40	14.40	14.40	14.40	14.38	14.47	14.40	14.40
Alt_Battery_Volt Mean (V)	14.33	14.33	14.32	14.33	14.33	14.32	13.46	14.34	14.31	14.27
Alt_Battery_Volt Minimum (V)	14.22	14.23	14.13	14.22	14.24	14.23	8.34	14.28	14.03	13.69
IPS26 Injectors Amps Maximum (A)	3.48	3.44	3.47	3.49	3.44	3.37	3.34	3.59	3.46	3.46
IPS27 ECU Amps Maximum (A)	6.33	6.28	7.07	6.32	5.65	6.60	4.39	7.41	6.17	6.18
IPS32_Total_Current_Used Maximum (A)	54.94	55.80	54.70	54.91	54.94	53.84	44.88	66.83	52.93	52.55

Metric Overview Chart – Provides the ability to graph metric data over the course of an outing (or multiple outings). Supports both logged and real-time outings, with the ability to pause real-time data. Chart functionality similar to the Time/Distance chart and Real-Time chart recorder. Presentation and layout configuration supported. Supports slow lap and out of range data filtering. Metric Properties can now be configured in the Explorer Bar similar to channels (colours, decimal places etc).


[Task 1] - Metric Overview Chart

Alt_Battery_Volt Maximum 14.44 V
Alt_Battery_Volt Mean 14.33 V
Alt_Battery_Volt Minimum 14.23 V
Fuel Per Lap Maximum 2.51 ltr

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New Additional Toolbox 13 Features

Background data loading – Large workbooks and outings will load significantly quicker. When opening a workbook or adding a channel to a display only the data that is needed will initially load. Once all the visible data is loaded the rest of the data loads in the background so it's ready for when you want to change regions. This particular performance enhancement is useful during development phases where channel data is logged at ultra-high speeds of 50-200kHz and take longer to open in comparison to low-speed channels.
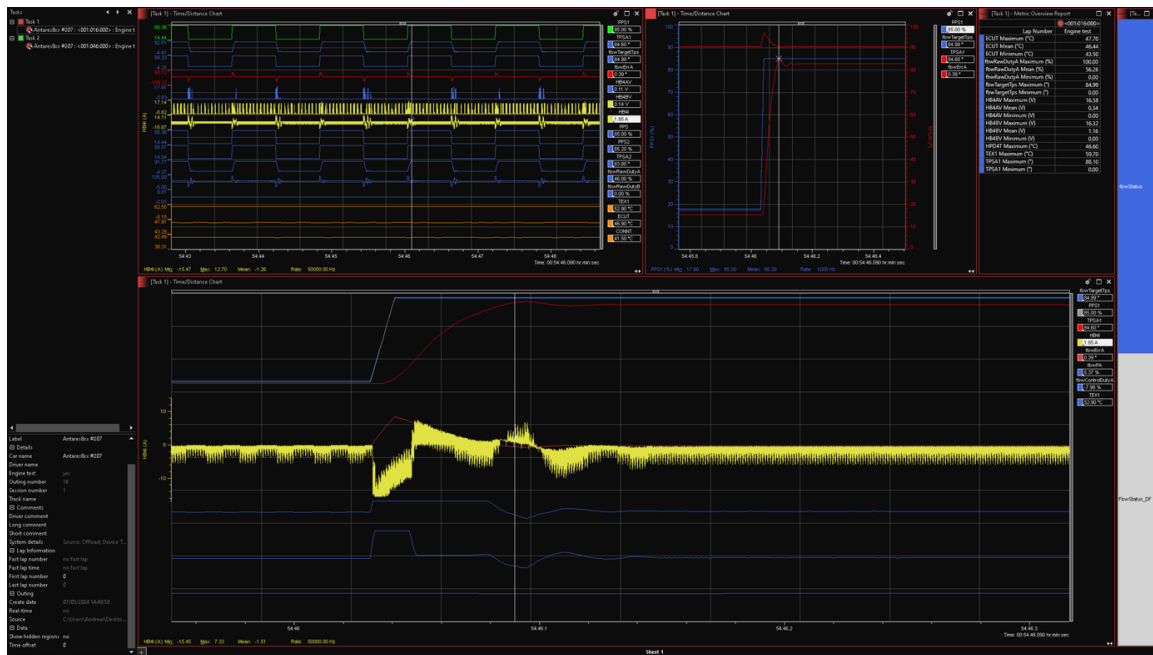
Redesigned Web Display – The all new Web Browser display uses the latest Microsoft Edge technology, offering the best web page compatibility and loading performance. Users can now run advanced cloud applications, Discord, Weather Radar, Timing, VOIP and Emails to name a few all inside the Toolbox interface.

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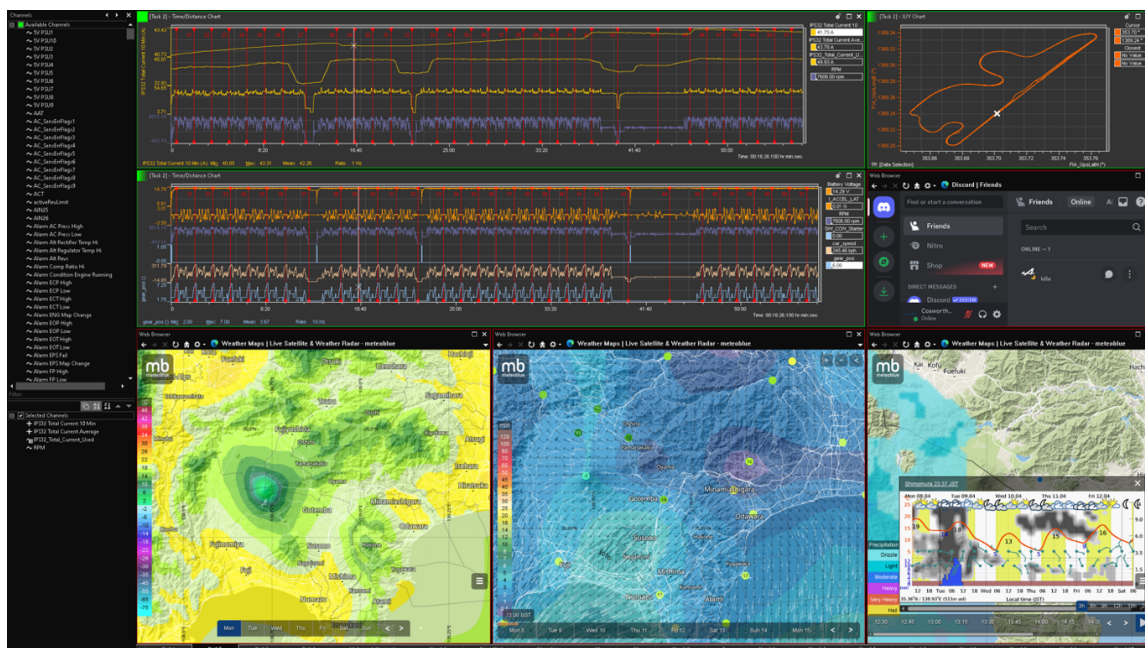
Recovery of real-time data – Toolbox 13 Advanced Real-time Options now allow real-time data to be configured and cached to disk. Data can be retained for a configurable number of hours, it is then possible to configure real-time outings to load any available cached data when reconnecting (following app closure), which also then enables all previous data to be viewed, and metrics to be calculated from that data. Cached Data is loaded automatically when the workbook is reopened.

Display of driver comments and channel/event descriptions – Driver comments are now shown, and editable in the task explorer. Simply add them to the new field when offloading data from a Cosworth device and they will be automatically embedded in to the pds file.

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Pi Math Syntax extended to add colour functions, and to reference Bit-Fields – Colour values can be generated for named colours, or by supplying RGB/ARGB values to the appropriate functions. The values supplied to RGB/ARGB functions can be any valid Pi Math values, i.e. can be sourced from other functions/registers etc.
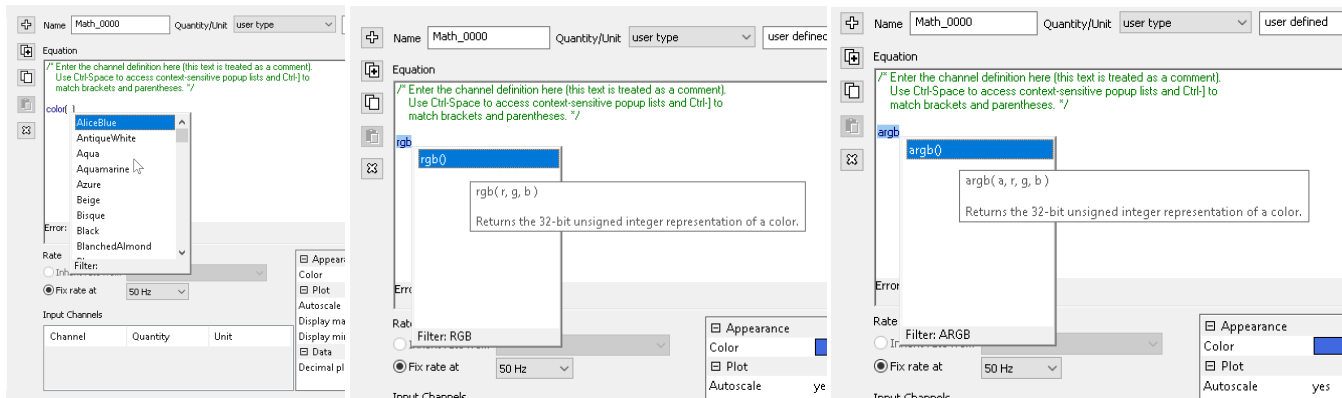
With Toolbox 13 Bit-field values can now be extracted from channels directly. It is possible to compare extracted values against bit-field strings, or for them to be consumed as per any other value in a math equation.
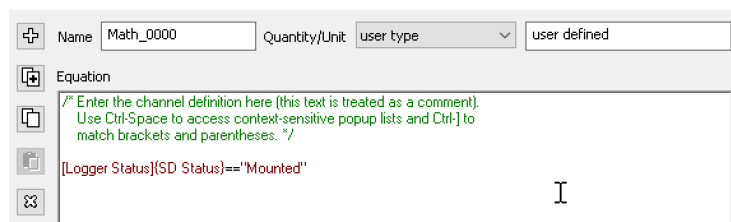
Colour Display – A display allowing the user to view the colour values of user type channels rather than having to decode the numeric values. Can be switched between horizontal and vertical modes. Other customisable features include the ability to reduce the space the content of the display requires by not showing the channel or outing names and having them in tooltips instead.

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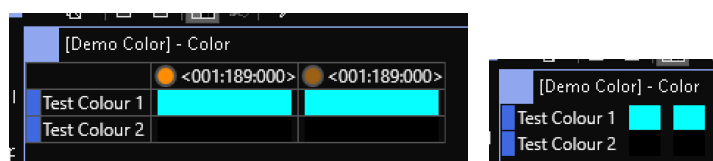
Enable Hardware Acceleration for Media Display – Re-engineered video playback to use supported Microsoft frameworks. This enables hardware acceleration and smoother video playback. More video formats supported out of the box. Video codecs are available in the Windows Store. Changing laps and modes is quicker and no longer results in display flicker. Extra information added to diagnostics. Code has been simplified and is more maintainable.

Licence Formats for Toolbox 13

- **Software Key Licence, Fixed Node –** this licence is a single licence tied to a single PC or Laptop. It is possible to transfer a licence from user to user following a quick 5-minutes process.

- **Software Key Licence, Floating –** this licence introduces server-based licences. A floating licence is stored on a server and is managed by an appointed customer administrator. Licences can then be checked in and out by personnel who have access. The period the licence is checked out for before being auto recalled is set by the administrator. If the checked-out time expires the licence is auto-recalled, the user does not have to be on the server for this to happen. The key benefit for floating licenses is that it allows for functionality to be licensed based on the number of concurrent users, rather than the number of users with the software installed.

- **Hardware Key, USB Dongle Licence –** This operates the same as previous dongle licences. A single licence is stored on a USB dongle.

- **Education Licences –** Two brand new licences for Tutors and Students at discounted prices, available in Software Key, USB Dongle and Floating Site licences.

Please note, Cosworth ECUs that use Toolset and CalTool security features are not yet available on the new dongle licences or soft keys. The Purple Cosworth Dongles must be used

Maintenance Licences

Annual maintenance for Pi Toolbox entitles the customer to receive major version updates as and when they become available through-out a 12-month period. This means that when the next major version is released the customer is entitled to receive this as part of the annual maintenance agreement. Annual maintenance will operate from January to January and is to be pro-rata from time of purchase. This is to ease admin and management of annual maintenance as all users will be aligned to January each year.
Users without annual maintenance are only eligible for minor updates. These are likely to be small improvements and bug fixes. For example, 13 to 13.1, 13.2 etc.

If a customer opts not to adopt annual maintenance for several years and would like to update to the latest major version of Toolbox, then the annual maintenance is backdated. For example, if they purchase V13 and over 3 years Toolbox has been developed to V16 they would be required to purchase the value of 3x annual maintenance fees.

Pricing

Pi Toolbox Lite 13

Part Number	ID	Description	Licence Type	Price
01P-099150-NL	93	Toolbox Lite Hardware Key (USB) Fixed Node	USB Dongle Licence	£150
36P-099150-NL	93	Toolbox Lite Software Key, Fixed Node	Individual Software Licence	£0

Pi Toolbox Plus 13

Part Number	ID	Description	Licence Type	Price
01P-099151-NL	95	Toolbox Plus Hardware Key (USB) Fixed Node	USB Dongle Licence	£850
36P-099151-NL	95	Toolbox Plus Software Key, Fixed Node	Individual Software Licence	£700
36P-099151-FL	94	Toolbox Plus Software Key, Floating Licence	Server Based Floating Software Licence	£1400
36P-099151-NL-M	-	Toolbox Plus Fixed Node (Hardware or Software Key) maintenance	Annual Maintenance for Fixed Node Licences	£150
36P-099151-FL-M	-	Toolbox Plus Floating Licence Maintenance	Annual Maintenance for Floating Licences	£150

Pi Toolbox Pro 13

Part Number	ID	Description	Licence Type	Price
01P-099152-NL	99	Toolbox Pro Hardware Key (USB) Fixed Node	USB Dongle Licence	£1400
36P-099152-NL	99	Toolbox Pro Software Key, Fixed Node	Individual Software Licence	£1250
36P-099152-FL	98	Toolbox Pro Software Key, Floating Licence	Server Based Floating Software Licence	£2500
36P-099152-NL-M	-	Toolbox Pro Fixed Node (Hardware or Software Key) maintenance	Annual Maintenance for Fixed Node Licences	£250
36P-099152-FL-M	-	Toolbox Pro Floating Licence Maintenance	Annual Maintenance for Floating Licences	£250

Pi Toolbox Ultra 13

Part Number	ID	Description	Licence Type	Price
01P-099153-NL	103	Toolbox Ultra Hardware Key (USB) Fixed Node	USB Dongle Licence	£1800
36P-099153-NL	103	Toolbox Ultra Software Key, Fixed Node	Individual Software Licence	£1650
36P-099153-FL	102	Toolbox Ultra Software Key, Floating Licence	Server Based Floating Software Licence	£3300
36P-099153-NL-M	-	Toolbox Ultra Fixed Node (Hardware or Software Key) maintenance	Annual Maintenance for Fixed Node Licences	£300
36P-099153-FL-M	-	Toolbox Ultra Floating Licence Maintenance	Annual Maintenance for Floating Licences	£300

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Pi Toolbox 13 Education

Part Number	ID	Description	Licence Type	Price
01P-099171-NL	101	Toolbox Tutor Hardware Key, Fixed Node USB Dongle	USB Dongle Licence	£350
36P-099171-NL	101	Toolbox Tutor Software Key, Fixed Node	Individual Software Licence	£200
36P-099170-FL	100	Toolbox Tutor Software Key, Floating Licence	Server Based Floating Software Licence	£350
36P-099170-NL	97	Toolbox Student Software Key, Fixed Node	Individual Software Licence	£150
36P-099171-FL	96	Toolbox Student Software Key, Floating Licence	Server Based Floating Software Licence	£150

Upgrading from older Pi Toolbox versions

If a current user of Pi Toolbox would like to upgrade to 13 to take advantage of the new features and soft keys, then the following pricing is applied.

12 to 13

From	To	Order Part Number	Price
12 Plus Software Key	13 Plus Licence Softkey	36P-099159-NL	£100
12 Plus Hardware Key	13 Plus Hardware Key, Fixed Node USB Dongle	01P-099159-NL	£100
12 Pro Software Key	13 Pro Licence Softkey	36P-099160-NL	£250
12 Pro Hardware Key	13 Pro Hardware Key, Fixed Node USB Dongle	01P-099160-NL	£250
12 Ultra Software Key	13 Ultra Licence Softkey	36P-099161-NL	£350
12 Ultra Hardware Key	13 Ultra Hardware Key, Fixed Node USB Dongle	01P-099161-NL	£350

11 to 13

From	To	Order Part Number	Price
11 Plus Software Key	13 Plus Licence Softkey	36P-099155-NL	£250
11 Plus Hardware Key	13 Plus Hardware Key, Fixed Node USB Dongle	01P-099155-NL	£250
11 Pro Software Key	13 Pro Licence Softkey	36P-099156-NL	£450
11 Pro Hardware Key	13 Pro Hardware Key, Fixed Node USB Dongle	01P-099156-NL	£450
11 Ultra Software Key	13 Ultra Licence Softkey	36P-099157-NL	£550
11 Ultra Hardware Key	13 Ultra Hardware Key, Fixed Node USB Dongle	01P-099157-NL	£550

10 or older to 13

From	To	Order Part Number	Price
10 Plus or older	13 Plus Licence Softkey	36P-099163-NL	£550
10 Plus or older	13 Plus Hardware Key, Fixed Node USB Dongle	01P-099163-NL	£700
10 Pro or older	13 Pro Licence Softkey	36P-099164-NL	£950
10 Pro or older	13 Pro Hardware Key, Fixed Node USB Dongle	01P-099164-NL	£1100
10 Ultra or older	13 Ultra Licence Softkey	36P-099165-NL	£1300
10 Ultra or older	13 Ultra Hardware Key, Fixed Node USB Dongle	01P-099165-NL	£1450

*** Please contact your Cosworth representative to arrange a Pi Toolbox update. You will require your Licence Number which can be found using the Cosworth Software Licence Configuration Tool. ***

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Licence Management

It is important for customers to maintain a database of soft key licence numbers issued. Cosworth Electronics understand that it is possible for laptops/computers to experience terminal issues which would mean the loss of a soft key licence. If a floating licence is in use when a user's laptop/computer experiences terminal issues, then the licence can be recalled by the licence administrator. If a fixed node soft key licence was in use, then the following procedure would apply:

1. The customer must supply the licence number which can no longer be used.
2. Cosworth will mark the licence number that can no longer be used so that it will no longer receive annual updates to the expiry date.
3. Cosworth will generate a new licence to the customer matching the same expiry date and specification as the licence which is no longer accessible. For this reason, it is important that customers can supply the licence number if laptop/computer issues arise.

API and Auto Coding Toolchain Options

Part Number	ID	Item	Description	Price
		NODE LOCKED LICENCES		
36P-099114-NL	24	DAE PDS File Reader - Node Locked Licence	Enables non-Cosworth software to use the PdsFileReader interfaces to open PDS files. Note: To open PDS files that have not been generated by Cosworth software the user will also need the DAE File Creator Read feature - 64bit.	£2,500
36P-099115-NL	25	DAE PDS File Creator Basic - Node Locked Licence	Enables non-Cosworth software to create PDS files. These PDS files can be read by Cosworth software only. Additionally, if a user is licensed with the DAE File Creator Read feature, they can use non-Cosworth software to read these PDS files - 64bit.	£3,000
36P-099116-NL	26	DAE PDS File Creator Read - Node Locked Licence	Enables non-Cosworth software to be used to read PDS files that have been created by non-Cosworth software licensed with the DAE File Creator Basic feature - 64bit.	£1,000
36P-099117-NL	27	DAE PDS File Creator Full - Node Locked Licence	Enables non-Cosworth software to create PDS files that can be read in any application - 64bit.	£5,000
36P-099118-NL	28	DAE PDS Real-Time Reader - Node Locked Licence	Enables non-Cosworth software to the use the RTReader interfaces to consume Real-Time data - 64bit.	£3,000
36P-099119-NL	29	DAE PDS Real-Time Server - Node Locked Licence	Enables non-Cosworth software to use the RTTelemetryServer interfaces to transmit Real-Time data - 64bit.	£3,000
		FLOATING LICENCES		
36P-099114-FL	11	DAE PDS File Reader - Floating Licence	Enables non-Cosworth software to use the PdsFileReader interfaces to open PDS files. Note: To open PDS files that have not been generated by Cosworth software the user will also need the DAE File Creator Read feature - 64bit Floating.	£5,000
36P-099115-FL	12	DAE PDS File Creator Basic - Floating Licence	Enables non-Cosworth software to create PDS files. These PDS files can be read by Cosworth software only. Additionally, if a user is licensed with the DAE File Creator Read feature, they can use non-Cosworth software to read these PDS files - 64bit Floating.	£6,000
36P-099116-FL	13	DAE PDS File Creator Read - Floating Licence	Enables non-Cosworth software to be used to read PDS files that have been created by non-Cosworth software licensed with the DAE File Creator Basic feature - 64bit Floating.	£2,000
36P-099117-FL	14	DAE PDS File Creator Full - Floating Licence	Enables non-Cosworth software to create PDS files that can be read in any application - 64bit Floating.	£10,000
36P-099118-FL	15	DAE PDS Real-Time Reader - Floating Licence	Enables non-Cosworth software to the use the RTReader interfaces to consume Real-Time data - 64bit Floating.	£6,000
36P-099119-FL	16	DAE Real-Time Server - Floating Licence	Enables non-Cosworth software to use the RTTelemetryServer interfaces to transmit Real-Time data - 64bit Floating.	£6,000
		AUTO CODING SEAT LICENCES		
36P-650026-NL	10	CLU Auto Coding - Node Locked Licence	Cosworth Seat Licence for CLU Auto Coding	£10,000
36P-501112-NL	9	MQ12Di Auto Coding - Node Locked Licence	Cosworth Seat Licence for MQ12Di Auto Coding	£10,000
36P-501173-NL	75	Antares 8 Auto Coding - Node Locked Licence	Cosworth Seat Licence for Antares 8 Auto Coding	£10,000
36P-650107-NL	85	Badenia 5 Auto Coding - Node Locked Licence	Cosworth Seat Licence for Badenia 5 Auto Coding	£10,000
36P-610126-NL	104	Centaurus 5 Auto Coding - Node Locked Licence	Cosworth Seat Licence for Centaurus 5 Auto Coding	£10,000
36P-099107-NL	62	Cosworth MATLAB Analysis Plugin - Node Locked Licence (Req API ID - 24, 27, 28, and 29)	Enables Cosworth channel data to be run through a Simulink model in order or to process it into a form which can be more easily analysed. 64bit.	£5,000
36P-099107-FL	61	Cosworth MATLAB Analysis Plugin - Floating Licence (Req API ID - 24, 27, 28, and 29)	Enables Cosworth channel data to be run through a Simulink model in order or to process it into a form which can be more easily analysed. 64bit Floating.	£10,000

Pi Toolbox Features Matrix

Category	Feature	Lite	Plus	Pro	Ultra	Tutor	Student
User Interface Limits	Tasks	2	4	8	16	16	8
	Outings	6	16	32	255	255	32
	Worksheets	9	12	24	32	32	24
	Displays	16	16	24	32	32	24
	Canvas Worksheets			4	10	10	4
	Displays on Canvas Worksheets			64	96	96	64
	Additional Windows				3	3	
Supported File Types	Open .PDS	x	x	x	x	x	x
	Open .TXT			x	x	x	x
	Open .MAT (MATLAB)			x	x	x	x
	Open .MPEG4 (PDR)	x	x	x	x	x	x
	Export data to .PDS	x	x	x	x	x	x
	Export data to .XLS		x	x	x	x	x
	Export data to .TXT			x	x	x	x
	Export data to .MAT			x	x	x	x
Maths and Analysis Tools	Pi Math	x	x	x	x	x	x
	Advanced Maths				x	x	
	Constants (Add/Edit/Delete)	x	x	x	x	x	x
	Soft Events (Add/Edit/Delete)	x	x	x	x	x	x
Video Analysis	Import & Sync Video ('Add Media') - 3rd Party		x	x	x	x	x
	Media Display	x	x	x	x	x	x
Telemetry	Real-time Data						
	Real-time Chart Recorder Display		x	x	x	x	x
	Pop-up Alarms						
	Auto-Export of Metrics				x	x	
Graphical Displays	Aerial Map Display	x	x	x	x	x	x
	Bar Display	x	x	x	x	x	x
	Bit Indicator Display	x	x	x	x	x	x
	Channels Display	x	x	x	x	x	x
	Colour Display				x	x	
	Dash Display	x	x	x	x	x	x
	Dial Display	x	x	x	x	x	x
	Events Display	x	x	x	x	x	x
	Histogram Display	x	x	x	x	x	x
	Image Display			x	x	x	x
	Label Display			x	x	x	x
	Map Display	x	x	x	x	x	x
	Marine Map Display			x	x	x	x
	Navigator Display	x	x	x	x	x	x
	Power Spectral Density Display			x	x	x	x
	Time Displays				x	x	
	Time/Distance Chart Display	x	x	x	x	x	x
	Web Browser Control	x	x	x	x	x	x
	X/Y Display	x	x	x	x	x	x
Reporting Displays	Excel Reports Display	x	x	x	x	x	x
	Split Report Display	x	x	x	x	x	x
	Summary Display	x	x	x	x	x	x
	Tabular Outing Report Display	x	x	x	x	x	x
Advanced Math Metric Displays	Metric Between Event Report						
	Metric Outing Report			x	x	x	x
	Metric Overview Report						
	Metric Segment Report						
Stacked Outings	Stacked Outings		x	x	x	x	x

Contact our sales team to purchase Pi Toolbox 13

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Contact our education team to enrol your academy!

To enrol email us on: education@cosworth.com

Downloads

Motorsport Car – http://download.cosworth.com/downloads/Software/Toolbox/13.0/Pi_Toolbox_Motorsport_Car_13.0.2487.14.zip
Motorsport Bike – http://download.cosworth.com/downloads/Software/Toolbox/13.0/Pi_Toolbox_Motorsport_Bike_13.0.2487.14.zip
Marine – http://download.cosworth.com/downloads/Software/Toolbox/13.0/Pi_Toolbox_Marine_13.0.2487.14.zip
Generic – http://download.cosworth.com/downloads/Software/Toolbox/13.0/Pi_Toolbox_Generic_13.0.2487.14.zip

Free Lite Licence

https://www.cosworth.com/motorsport/products/pi-toolbox/

System Requirements

Microsoft Windows 10 (64-bit)
Microsoft Windows 11 (64-bit)
Cosworth Pi Toolset 7.0 or later for Offloaded Data or Real Time Telemetry

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