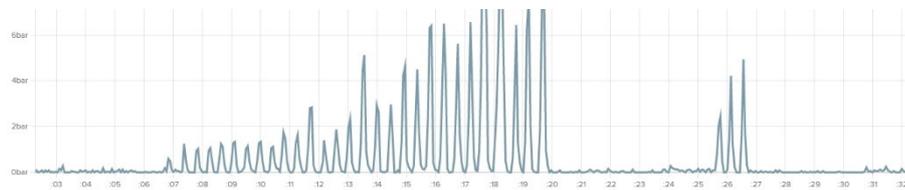# TOPIx Cloud Diagnostics – Data Logger

## User and Troubleshoot Guide

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# 1 Overview of TOPIx Data Logger

## 1.1 What is TOPIx Data Logger?

- TOPIx Data Logger is an enhancement of the Diagnostic Device Agent (DDA) software that utilises current diagnostic equipment to connect to applicable vehicles.
- TOPIx Data Logger allows the user to select from a list of Electronic Control Unit signals, that can be shown in real-time displays.
- The Diagnostic Device Agent (DDA) software synchronises with TOPIx to display the vehicle data.
- Allows for offline use from the internet, for vehicle signal capture when on road test and away from a Wi-Fi connection.

## 1.2 Who is it for?

- Intended for users who want to connect TOPIx to test, diagnose and maintain Jaguar Land Rover vehicles.
- **For the best user experience Jaguar Land Rover recommend using Google Chrome browser.**
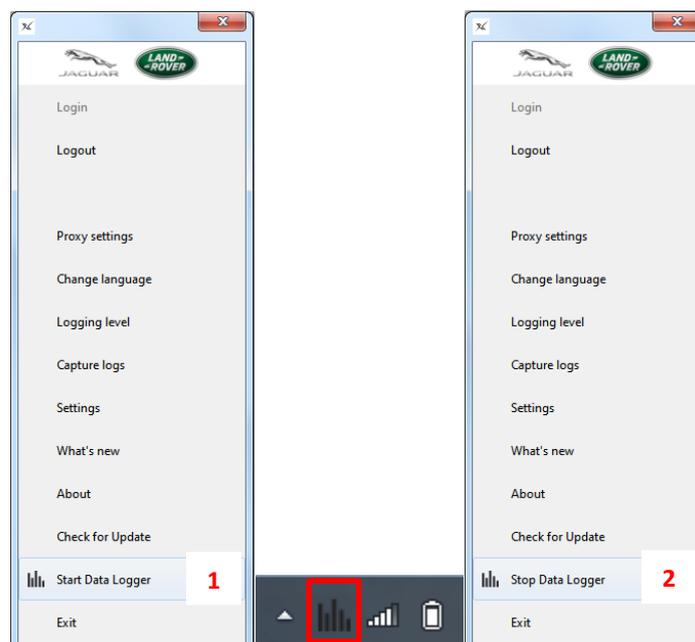
## 1.3 Activation of Data Logger

- Right or left mouse click of the DDA click icon in the lower tool tray will produce the function list of the DDA.
- Select 'Start Data Logger'
- The DDA will launch a new internet browser page with a different IP address.  If this is launched by Internet Explorer, it may not work.  **For the best user experience Jaguar Land Rover recommend using Google Chrome browser.**

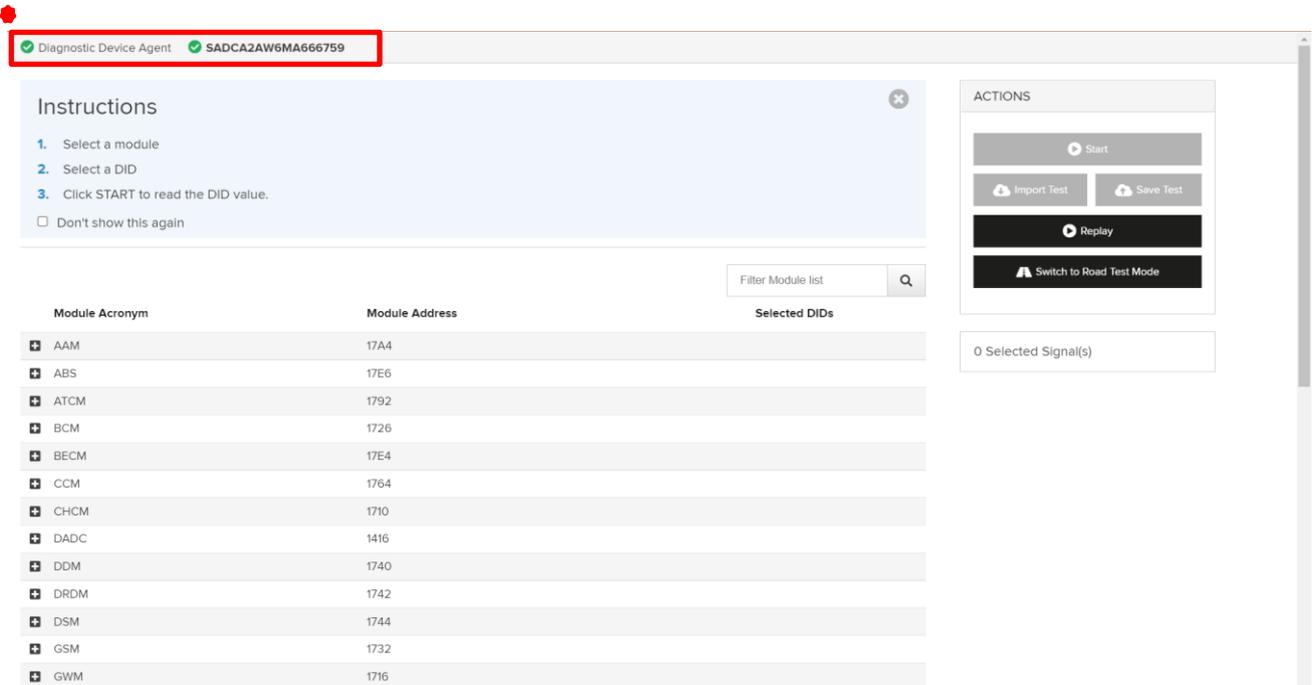- The DDA icon within the Windows lower tool tray will change from the standard icon

- To a grey bar graph icon as shown in the example below.



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| Item | Description |
|:---:|:---:|
| **1** | Start Data Logger (DDA function switches from Cloud Diagnostics to Data Logger) |
| **2** | Stop Data Logger (DDA function returns back to Cloud Diagnostics) |

- For 'Start Data Logger' function to be active within the DDA function panel, the user must connect the Vehicle Communication Interface (VCI) to the vehicle and diagnostic machine and login to the DDA and TOPIx.

- Please refer to on TOPIx the following documents for additional information and guidance on the DDA and TOPIx Cloud based Diagnostics:
  - DDAUTG - TOPIx Cloud Diagnostics – Diagnostic Device Agent User and Troubleshoot Guide
  - TAUG - TOPIx Cloud Diagnostics - Toolbox and Applications User Guide

- Upon successful connection to a vehicle and authentication of the user within TOPIx, 'Start Data Logger' will now become active and useable.

- If 'Start Data Logger' **1** is selected, a new screen will be launched that shows Data Logger and its features.

- Successful connection to the DDA and the vehicle is indicated by a green tick next to the Diagnostic Device Agent and Vehicle Identification Number (VIN)

- If the DDA Data Logger icon ▦ shown in the Windows lower tool tray is clicked 'Stop Data Logger' **2** is now shown. This allows the user to close and exit Data Logger and return the DDA to the Cloud Diagnostic environment.

- **NOTE: Wi-Fi connection must be available for a successful connection to TOPIx and the Cloud Diagnostic environment otherwise failure to connect to the cloud will occur.**

- Windows Pop-up messages will be shown to indicate the status of the DDA and its connection to the cloud environment.

- If the DDA disconnects from the vehicle the Data Logger set up screen will show a warning message 'Waiting for connection to Diagnostic Device Agent' and the green ticks will be replaced by crosses.
- 'No Vehicle Connected' is shown in the position of the VIN.
- Refresh the Data Logger screen [Reload this page] to reset the connection to the DDA and the vehicle. Normal service should resume.
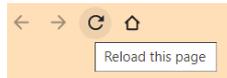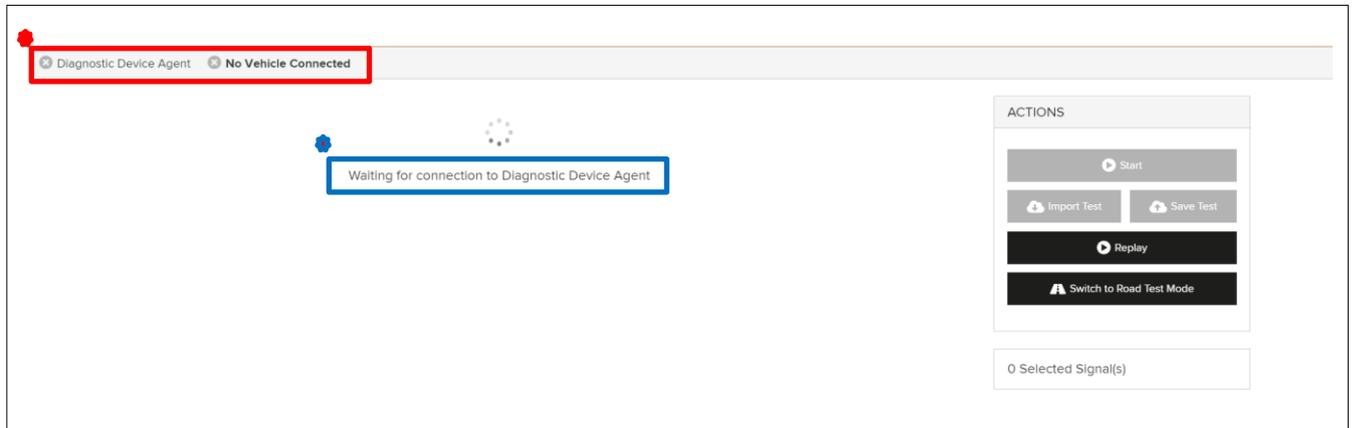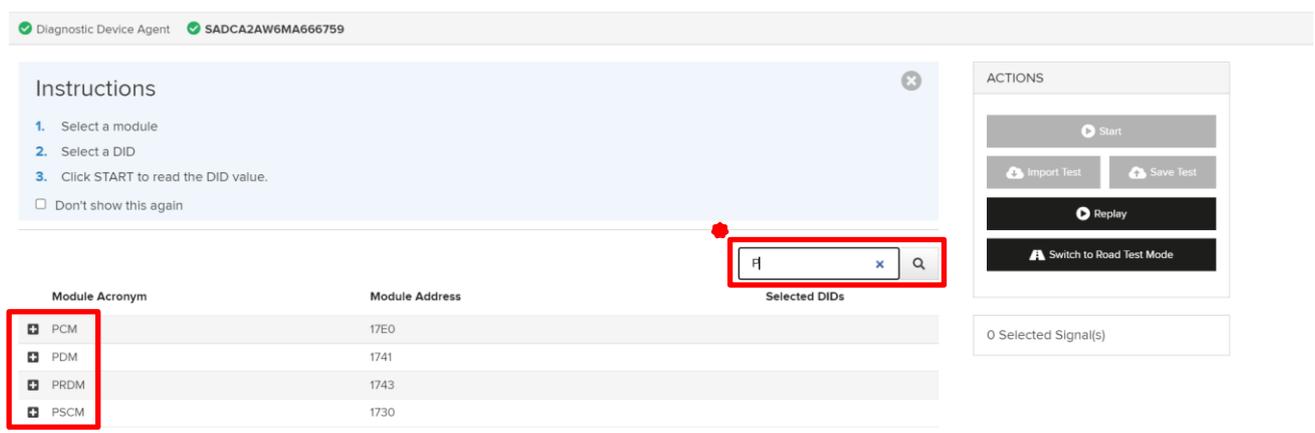


## 1.4 How to use Data Logger

This user guide covers key features available within Data Logger.

### 1.4.1 Setup of Data Logger

- Select a module or modules to read signal data from.
- **NOTE: More than one module can be selected and used for signal interrogation and display on the Data Logger screen.**
- Select a Data Identifier (DID) which are the signals or data that are to be investigated by the user.
- **NOTE: Multiple DIDs can be selected from one or more modules. However, the user must be aware that more than 20 signals being selected and monitored will marginally reduce the response time, precision and accuracy of data being acquired and displayed from one or more modules.**
- 'Filter Module List' can be used to reduce the module list. Enter one or more letters and a module list will be automatically shown, in alphabetical order, that corresponds to the characters entered into the search box.
- Click 'START' to read the DID value.

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- Click on the line of the selected module or modules that will expand to show the stored DID content that are available to use. The DID content may reduce or increase over time as updates are received from JLR Engineering.

- 'Filter DID list' can be used to reduce the DID list to allow for easier identification and selection. Text entries can consist of letters, words or the specific DID number and the filtered list will adjust automatically to the text entered.

- The example used, 'BRAKE SY' (that means brake system) is entered into the search box.

- A filtered list of DIDs is shown that correspond to brake system.



- Click on the line of the DIDs shown or expand the options if the DID contains a combination of signals.

- The number of DIDs selected for capture will be shown under the 'Selected DIDs' column.

| Item | Description |
|------|-------------|
| **1** | Module Acronym |
| **2** | Module Address (Diagnostic data network address code) |
| **3** | Selected DIDs (Number of DIDs are shown) |
| **4** | DID Identification number |
| **5** | DID Description |
| **6** | Unit of measure |

- The 'ACTIONS' panel will function will now become active once a DID or DIDs have been selected.
- A 'Selected Signal(s) panel will appear under the 'ACTIONS' panel that shows the number of and name of the selected signals. This panel can be used to clear one, some or all of the select signals quickly and easily.
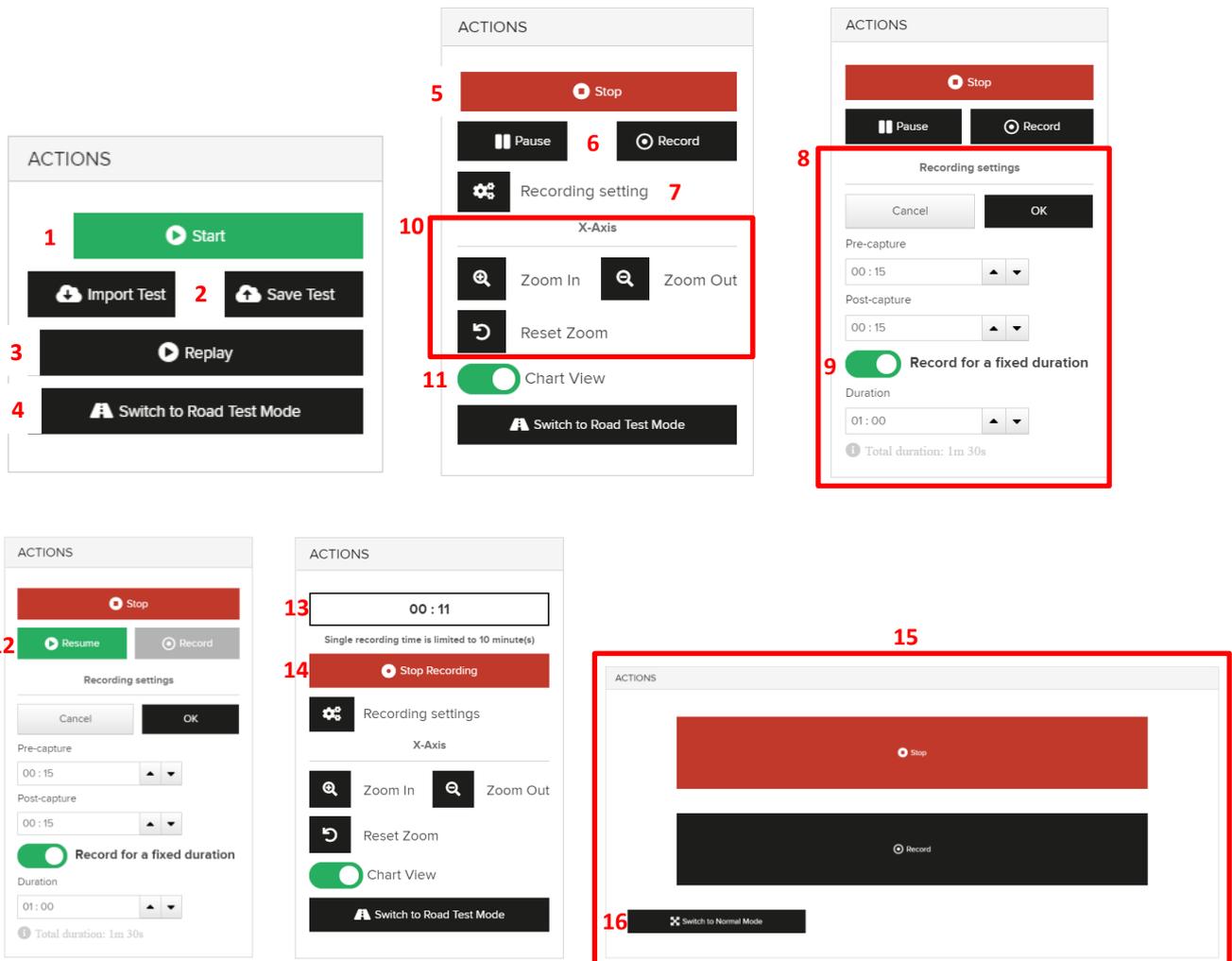
### 1.4.2 ACTIONS Panel

- The 'ACTIONS' panel contains many functions that change and become applicable in accordance with the operation of Data Logger.
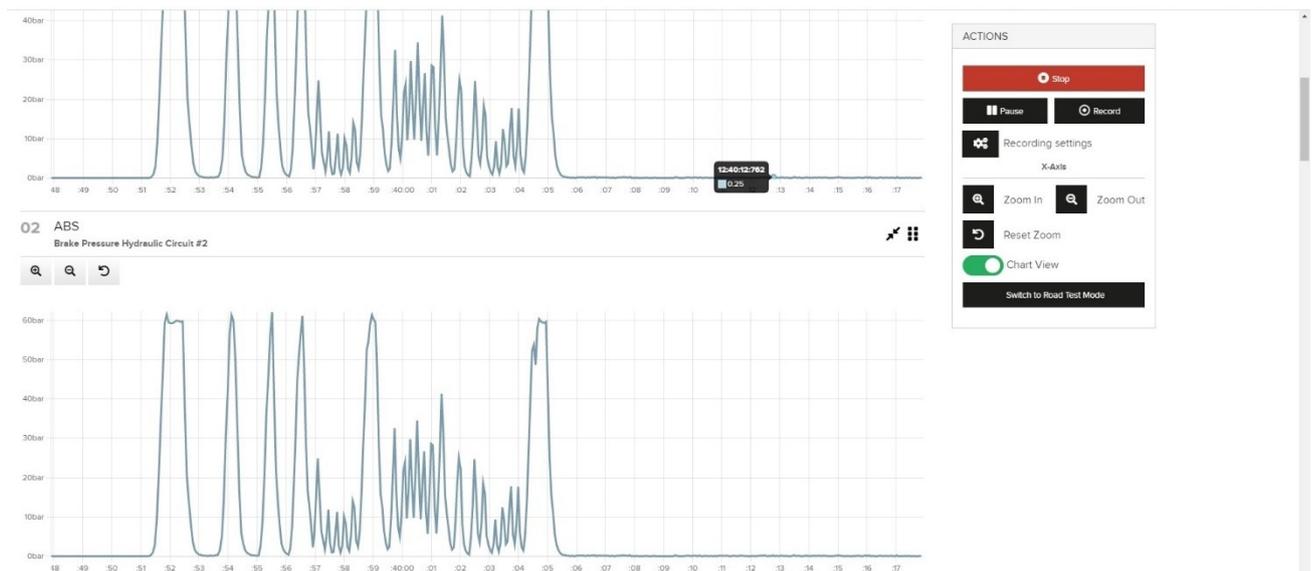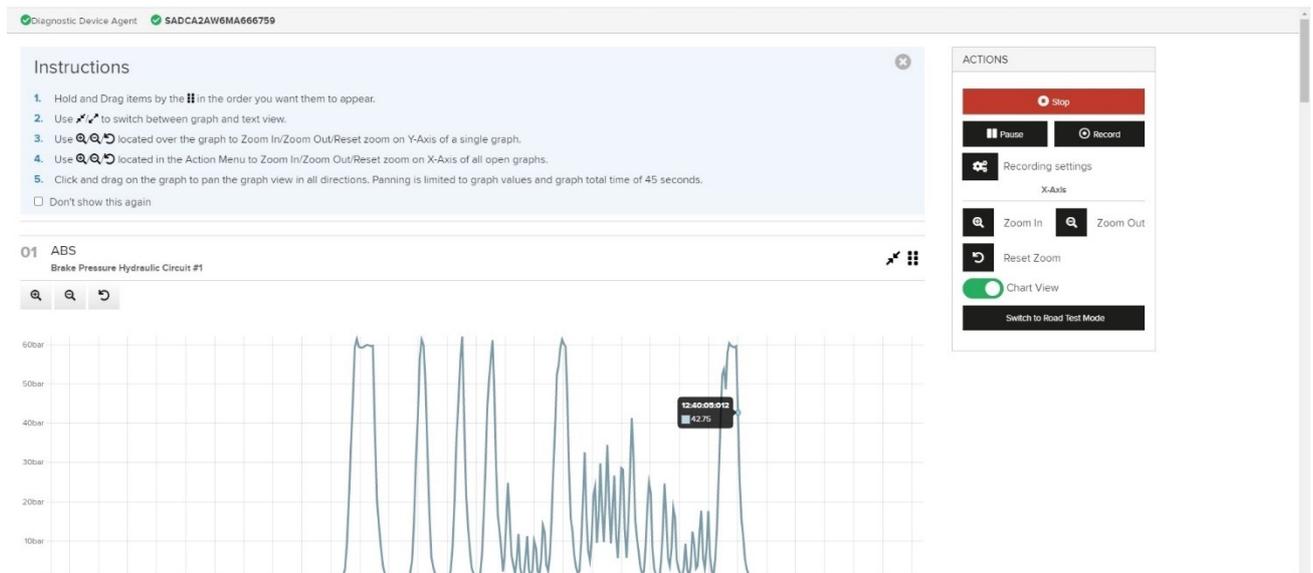


| Item | Description |
|------|-------------|
| 1 | Start (Selected signals will be actively displayed in real-time) |
| 2 | Import Test and Save Test |
| 3 | Replay (Replay previously recorded logs) |
| 4 | Switch to Road Test Mode (Safe mode for highway driving use of Data Logger) |
| 5 | Stop (Data Logger capture is stopped) |
| 6 | Pause and Record |
| 7 | Recording Settings |
| 8 | Recorder Settings (manual pre and post trigger setup) |
| 9 | Record for a fixed duration toggle |
| 10 | X-Axis graphical display controls |
| 11 | Chart View toggle (Switch between graphical and numerical charts) |
| 12 | Resume (active once Pause is clicked) |

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| 13 | Duration in minutes and seconds of Data Logger in record mode |
|----|----------------------------------------------------------------|
| 14 | Stop Recording |
| 15 | Road Test Mode screen (Start, Stop, Record) |
| 16 | Switch to Normal Mode |

### 1.4.3 DID / Signal capture

- Once the DIDs / Signals have been identified and selected for capture, 'Start' will become active and can be clicked within the 'ACTIONS' panel.

- 'Stop' will now be shown that can be clicked to stop the Data Logger activity.

- 'Pause' will freeze frame the image of the graphic displays but will continue to run in the background. This means data is not lost and can be referred to once 'Resume' is clicked.

- An instruction panel is shown when the Data Logger signal capture is started. The instruction panel informs the user on how to manually manipulate the graphical displays to the preference of the user.

- Move the screen curser over any point of the graphical display to show the details of current time in hours/minutes. The time duration, in seconds, of the monitored signal on the X-Axis and the signal value on the Y-Axis.

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### 1.4.4  Chart View

- Movement of the 'Chart View' slider located within the 'ACTIONS' panel will automatically convert all graphical displays to the chart view that shows alphanumeric data only of each signal being monitored.

- If the user requires the language to be changed it can be done by the Change language function.
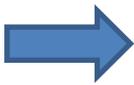


- Click of expand arrows symbol ↗ on any chart view signal will manually change the chart to a graphical view of the data.

- To return to the chart view of the signal simply click the contract arrows symbol ↙ .

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## 1.4.5  Chart Ordering

- Click, hold and drag of the stack symbol ⣿ allows the user to move the selected chart or graph to a different position within the screen.

- In the example shown, signal 01 = ABS **Brake Pressure Hydraulic Circuit #1** is held and dragged to where signal 03 = ABS **Left Applied** is located on the screen.

- **NOTE: The signal number will change for all signals if a reorder is done.  However, the signal description remains.**

- The result of the reorder is signal 01= ABS **Brake Pressure Hydraulic Circuit #2**, signal 02 = ABS **Left Applied** and now signal 03 = ABS **Brake Pressure Hydraulic Circuit #1.**  Other signals keep their original positions because they are after signal 03 in the order.

- The 'Chart Ordering' feature allows similar signals to be viewed easily.  For example, a command signal and response signal where the correlation or relationship between the two signals is best seen together.

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### 1.4.6  Y-Axis Graphical Zoom

- Use the plus /minus / reset buttons located over on each graph to 'Zoom In' / 'Zoom Out' / 'Reset Zoom' on the Y-Axis of a single graph.

- The Y-Axis has an auto range function, whereby the scale of the Y-Axis will automatically increase or decrease in correlation to the signal value being read.  This is to show the best view of the signal.



- The plus 'Zoom In' button has been pressed and the Y-Axis expands on signal 01.

- Signal 02 remains unchanged.

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- The minus 'Zoom Out' button has been pressed and the Y-Axis decreases on signal 01.
- Signal 02 remains unchanged.
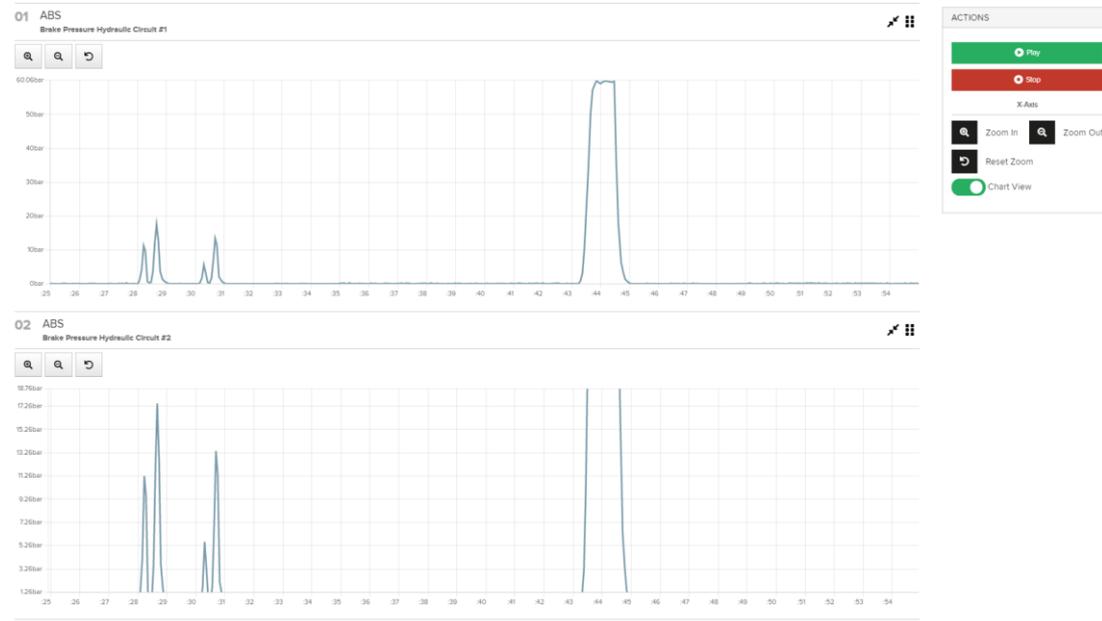


- The 'Reset Zoom' button has been pressed and the Y-Axis returns to the default view on signal 01.
- Signal 02 remains unchanged.

### 1.4.7  X-Axis Graphical Zoom

- Use the plus /minus / reset buttons located within the 'ACTIONS' panel to 'Zoom In' / 'Zoom Out' / 'Reset Zoom' on the X-Axis of **all** graphs.

- The X-Axis graphical zoom applies to **all** graphs because the data is being shown with respect to time duration. The start of signal capture and playback will apply to all signals and not individually.



- The plus 'Zoom In' button has been pressed and the X-Axis expands on all graphs.

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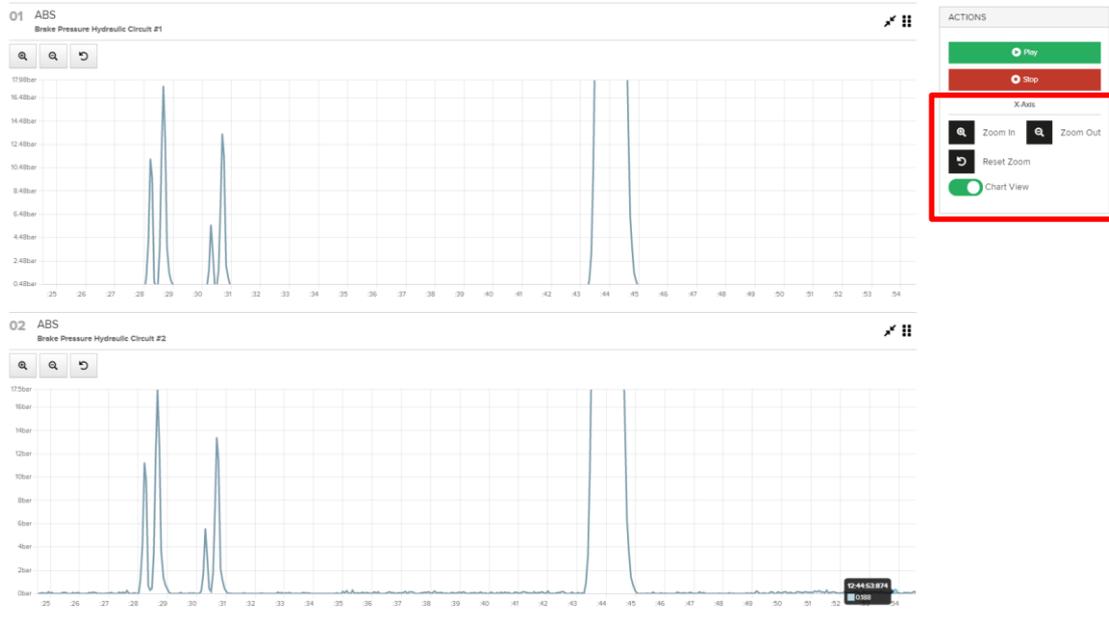EN - TOPIx Cloud Diagnostics  Data Logger User and Troubleshoot Guide I.O)
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Record Type:  Released
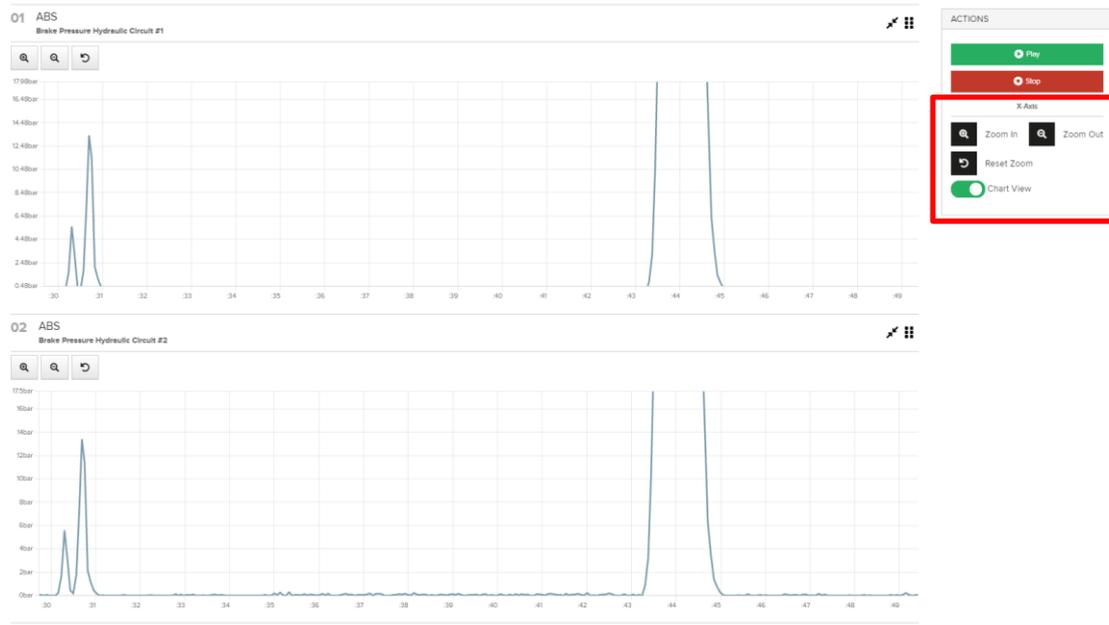
- The minus 'Zoom Out' button has been pressed and the X-Axis decreases on all graphs.



- The 'Reset Zoom' button has been pressed and the X-Axis returns to the default view on all graphs.



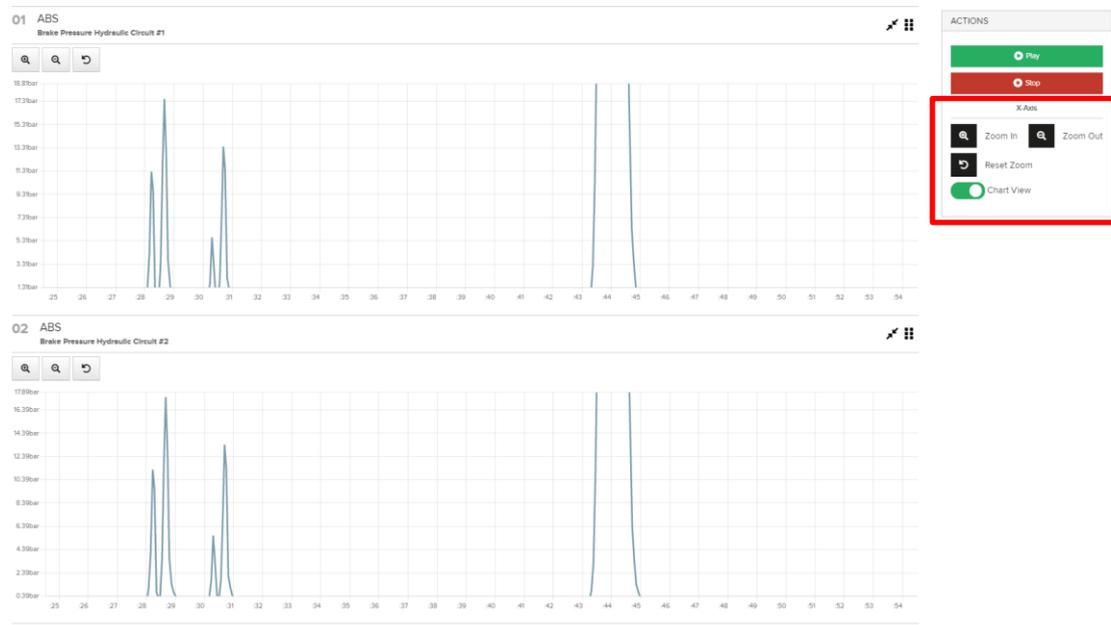Originator:  Service Diagnostics Repair & Maintenance          Page 15 of 25                              Date Issued: 02/2022
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### 1.4.8  Road Test Mode

- Road Test Mode is advised to be used when Data Logger is required to capture signal data whilst the connected vehicle is driven on the public highway.

- Screen switches to simple, clear function buttons so that the vehicle driver will not be distracted by Data Logger activity.

- Whilst the vehicle is stationary in the workshop, setup Data Logger by selection of the DIDs / signals that are required for data capture.

- Click 'Switch to Road Test Mode'



- Click 'Start' to activate the Data Logger in Road Test Mode.



- Data Logger now reads the selected signals.

- Click 'Stop' to end the data capture.

- Click 'Record' to permanently capture the data.  As a default, a data file will be saved to the machine's local Downloads folder when 'Stop Recording' is clicked.

- Click 'Switch to Normal Mode' whilst the current Data Log session is active.  The screen will change to show the graphical or chart views.

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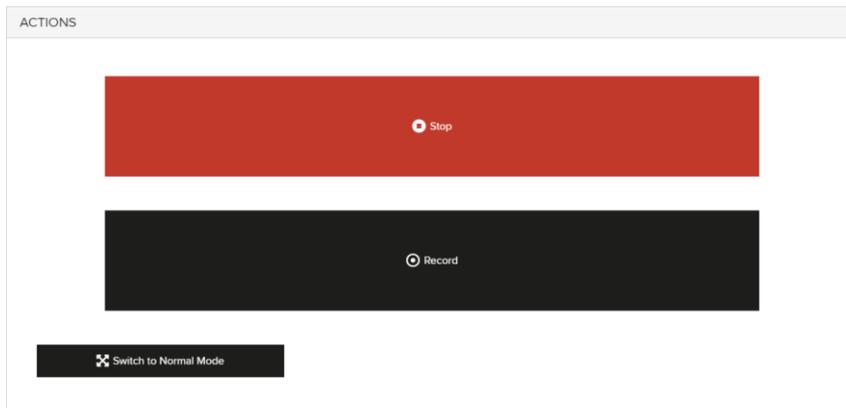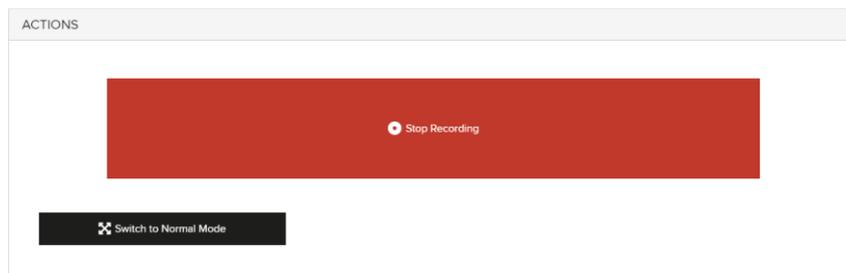
- 'Stop Recording' produces an automatic delivery of a Data Log file shown at the bottom of the screen.
- Click 'Show all' to go to the Downloads area and there will be an option to go to the specific Downloads folder if required by the user.
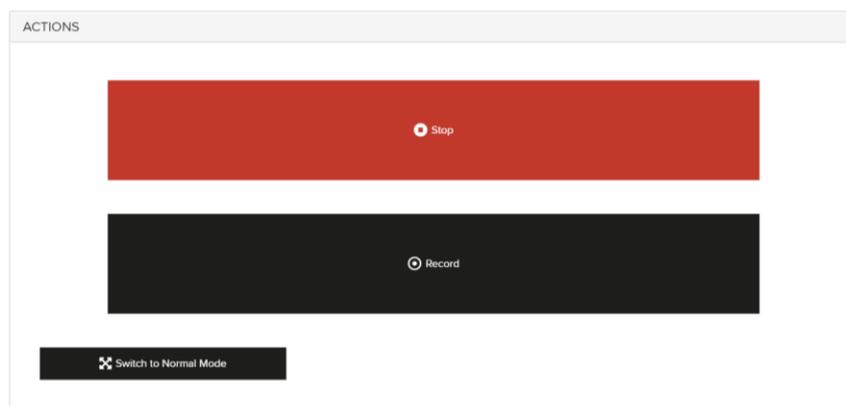
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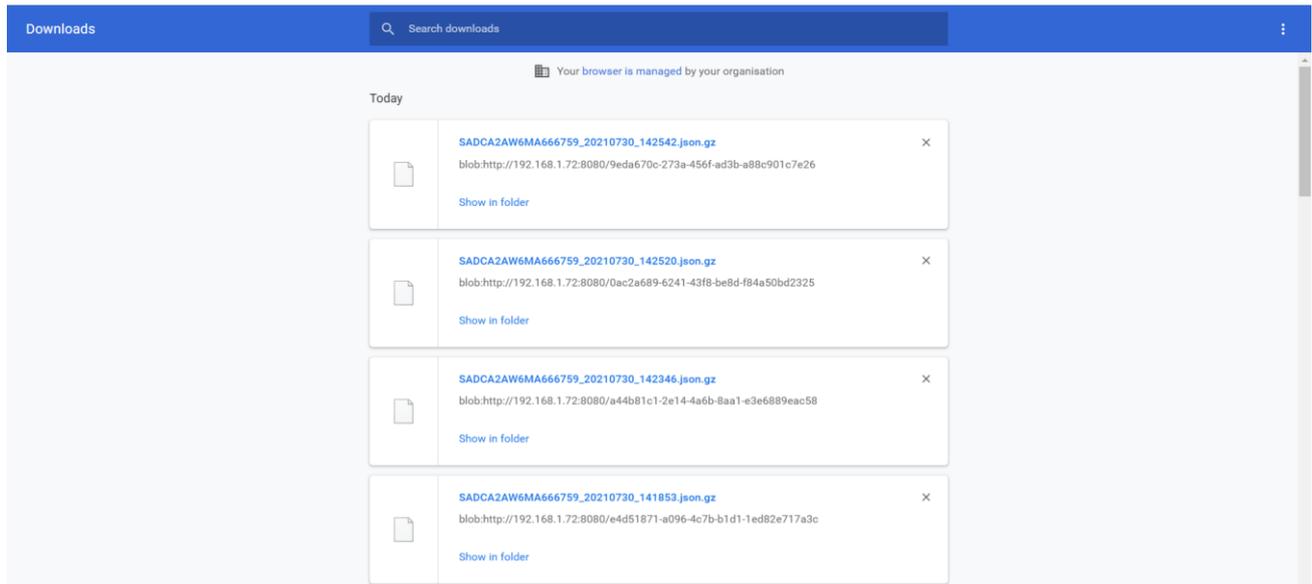
- The saved files can now be transferred to another user, machine or applied to a TOPIx feedback or TOPIx Technical Support request.



### 1.4.9 Replay

- TOPIx Data Logger has the ability to replay previously saved Data Log files.
- Click 'Reply' within the 'ACTIONS' panel.
- Data Logger will show a new pop-up window to allow the user to select a Data Log file. The location of the file is normally the Downloads folder. However, the preference can be manually changed by the user, this will become the new default location.
- Select a file and click 'Open' in the pop-up window. Data Logger will automatically show the captured data signals that were used previously for the recording.

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- 'Play', 'Stop' and all other graphical/chart views features are available to use.



- In 'Replay' mode there is a feature where the user can scroll through the complete time duration of the recording by simply click and hold of the slider ball and drag back and forth along the guide.
- The red marker line on the graph corresponds with the time information shown on the slider ball.
- The red marker line can be used for identification/reference point for fault detection.
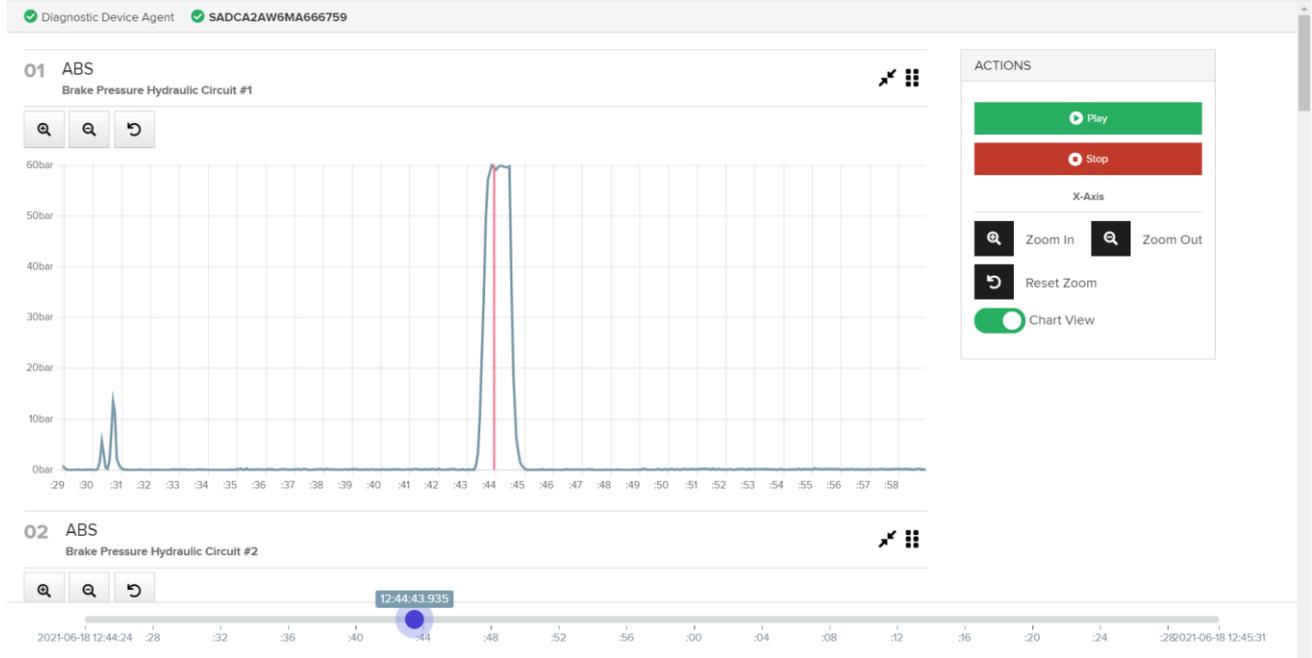
- On the graph above, the red marker line and slider time = 12:44pm and 43.935 seconds.
- On the graph below, the red marker line and slider time = 12:45pm and 20.483 seconds.
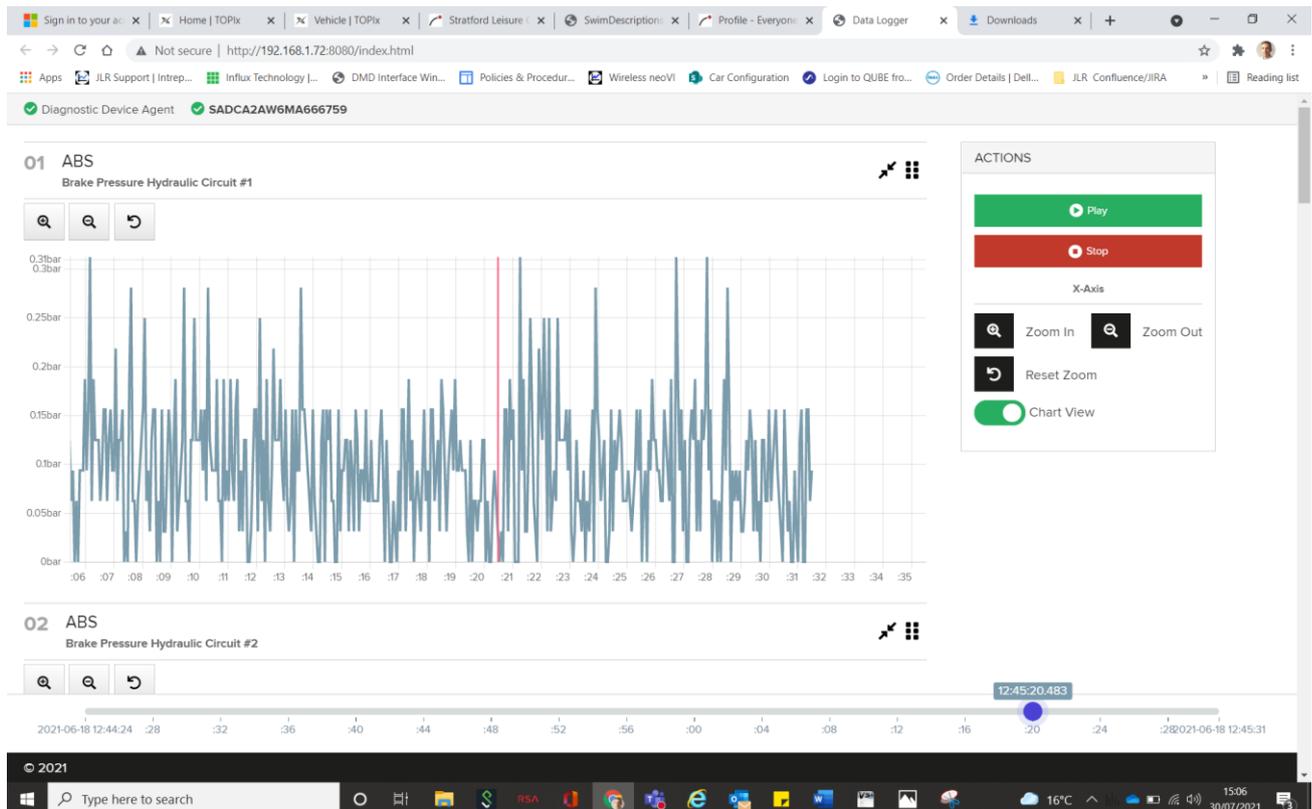
### 1.4.10 Import and Save Test

- This feature can be used when there is a known test that needs to be ran consecutive times and can be used on other vehicles that share the same module variant and data.

- Exact data required is obtained from the vehicle modules.

- Enables faster diagnosis and repair times.
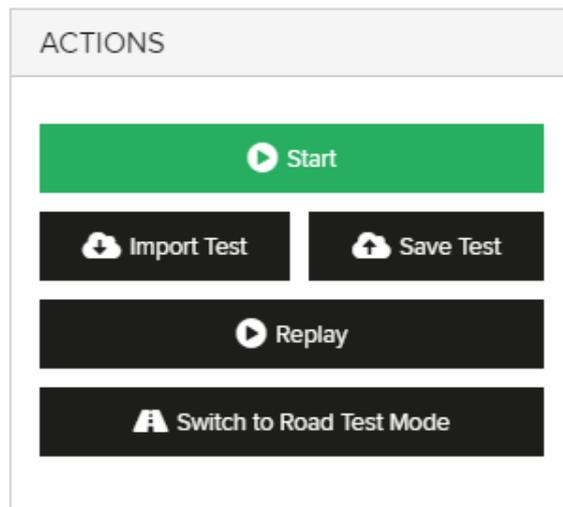


- Click 'Import Test' and TOPIx will automatically show a pop-up window of the Download folder on the local machine. If the required file is not located in the Download folder, the user can manually choose the location and select the file to import.

- 'Import Test' allows for the user to 'Replace current configuration' or to 'Add to current configuration'
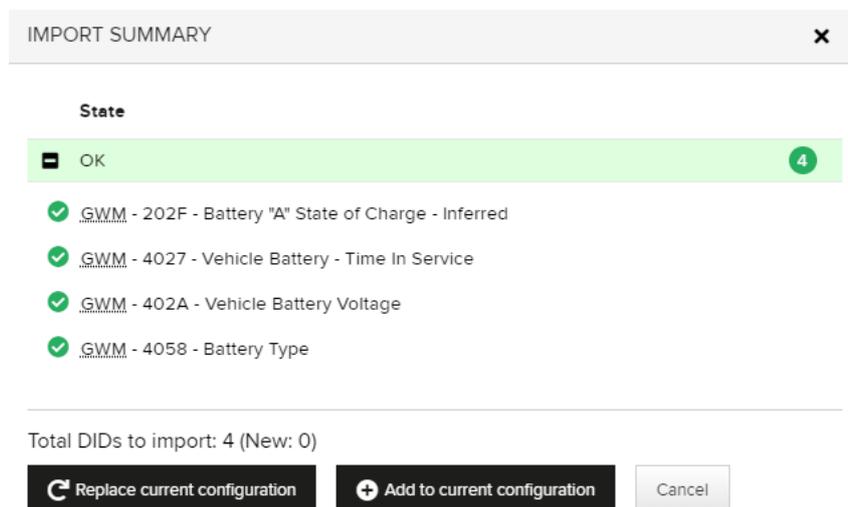


- Select 'Replace current configuration' to clear any signals that have been previously selected and active and to replace with the signals stored within the imported file.

- Select 'Add to current configuration' to show the additional imported signals with those originally in use. For example, if 2 signals are selected and in use for a module, the imported signals contain 4 more the result will be 6 signals are active and ready for use on Data Logger. The additional signals can be from one or multiple modules.

- 'Save Test' allows for the user to save the current set of signals to a preferred location on their machine.

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- Enter text for the name of the file for the test to be saved.
- Click 'Save to disk'
- File will be saved to Downloads folder as a default location.

# 2 Troubleshoot Guide

## 2.1 Data Logger does not start from the DDA function list panel

### 2.1.1 Internet concerns

- Internet has lost connection to your provider – check the internet connection is complete and you can access TOPIx.

- Internet browser is incompatible or not up to date – check system specifications and update if required.

- **For the best user experience Jaguar Land Rover recommend using Google Chrome browser.**

### 2.1.2 Hidden icons caused by user display preferences

- Installer pop-up window is active on the computer lower toolbar - click to view and complete the instruction prompt.

- Installer pop-up windows may continue to be shown in the lower toolbar and not in the main screen view – device set-up will affect how the pop-up messages are shown.

### 2.1.3 Firewall permissions

- Windows Firewall settings must be set to allow permissions for private networks, such as work and home.

### 2.1.4 Vehicle Communication Interface (VCI) and vehicle communications

- Unable to connect to a vehicle – check the VCI function lights indicate correct operation and connection to the vehicle.  Resolve if there is an error with the mechanical connection to the vehicle.

- Unable to connect to a vehicle – click Refresh Connection Status on the TOPIx screen to reset connection to the vehicle.  It is normal for a delay to occur before the TOPIx screen refreshes.  This is to allow for the TOPIx system to re-establish its connection.

- 'Logout' or 'Exit' the Diagnostic Device Agent and 'Login' again, connection to a vehicle should be re-established.

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## 2.2 Unexpected operation of the Diagnostic Device Agent

- If connection to the vehicle is lost whilst Data Logger is in use a warning message will be shown on the screen.

- The message says, "Waiting for connection to Diagnostic Device Agent".

- Make sure the VCI device is connected to the vehicle and user's machine.

- Make sure the VCI is in the correct mode of operation.
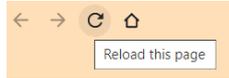
- Click the refresh icon            and connection to the vehicle will be re-established.
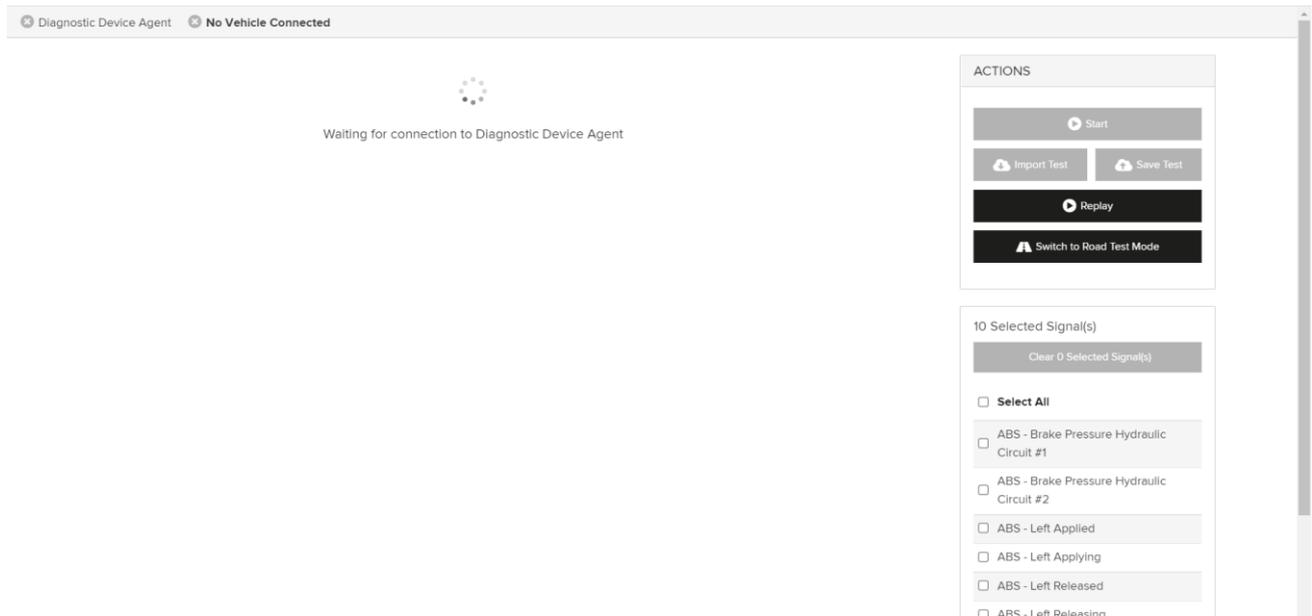
# 3  Frequently Asked Questions

Q

Does TOPIx Diagnostics and the Diagnostic Device Agent need additional hardware?

A

No – TOPIx cloud base diagnostics hosts the core software and does not require excessive hard disk space.

The latest Vehicle Communication Interface (VCI) is supported by the Diagnostic Device Agent.


Q

Will there be future demands from Jaguar Land Rover to retailers for new computer devices to be purchased as a minimum standard?

A

The vision is TOPIx Cloud Diagnostics and the Diagnostic Device Agent to be compatible with compatible devices.


Q

What internet browsers are required?

A

For the best possible experience Jaguar Land Rover recommend using Google Chrome browser.  Other internet browsers are supported.


Q

Is there an offline capability?

A

Yes, Data Logger can be used when not connected to the internet.  For example, 'Road Test' mode allows the vehicle to be driven and Data Logger can still be used to capture and record signal data.

**Note:** Normal TOPIx Cloud based Diagnostics requires an internet connection and for the DDA login and authentication to complete successfully.


Q

How does a user extract vehicle diagnostic session data?

A

This is done automatically whilst the session is active and on closure of a session.  Data is passed from the user device to the TOPIx system.  Session data could be viewed within TOPIx by the user and Jaguar Land Rover Engineers.

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Z3Vlc3Q7MjAyNC0xMS0wMlQxODoxNjo0MC41NzhaOzMuMTI4LjMwLjjcwOw==