

ZETASIZER XPLOERER SOFTWARE: v1.31 (PSS0048-05) SOFTWARE UPDATE NOTIFICATION

Introduction

This document details the release of **Zetasizer XPLOERER software version 1.31 (PSS0048-05)** for the Zetasizer Ultra and Pro. Here forward it is referred to as ZS XPLOERER. This release supports the Zetasizer Pro and Zetasizer Ultra instruments only and is not compatible with the Classic Zetasizer Nano series of instruments (Nano S90, Nano ZS90, Nano S, Nano ZS, Nano ZSE, Nano ZSP, Zetasizer μ V and Zetasizer APS) nor can it read the *.dts file format from the Classic Zetasizer series software 7.13 or earlier. However, it is possible to have both the ZS XPLOERER software and the Zetasizer software 7.02 or above installed on the same computer.

Installation

It is assumed that you have authority to install or update software within your company's SOPs. If you do not have this authority, please consult with your I.T. support department before proceeding.

It is assumed that you have Administrator rights for the computer. This is required by the installation process. For ZS XPLOERER software, Windows 10 and later will not allow an installation if the user does not have administrator access. This is in line with Microsoft's Logo policy and is standard practice.



IMPORTANT:

Before installation of the software, the instrument should be switched off and disconnected.

Recommended System Requirements

The recommended computer system requirements for running this software are highlighted in table 1 below.

Table 1: Recommended system requirements for the Zetasizer XPLOERER software.

Feature	Specification
Processor Type	4th Gen+ Intel Core i7 Processor (or equivalent)
Memory	16 GB RAM
Hard Disk Storage	1 TB free hard disk space,
Display Resolution	1920 x 1080 full HD screen resolution
Connectivity	2 free USB2.0 or higher ports
Operating System *	Windows 10 64 bit. * The ZS XPLOERER software is not compatible with 32-bit Operating Systems

Supported Languages

- English

Installation Instructions

Installation process

The software suite is available both as a web download and on an auto-loading CD-ROM. Inserting the CD into a system configured to auto-run a CD will run the installation program automatically. If your system does not support this feature run the setup program from the root directory of your CD drive.

During the installation process, you will be prompted with the following message (*Figure 1*) if the Zetasizer is still connected to the PC.

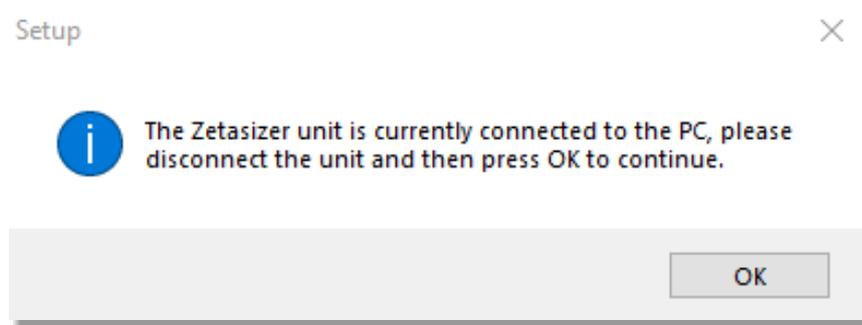


Figure 1: "Disconnect Zetasizer Unit" message



Note:

You must unplug the USB cable from the computer or Zetasizer and then press OK. If you press the OK button without performing these previous steps, then the installation will not continue.

Microsoft .Net Framework and Microsoft C++ Redistributable

The Microsoft .Net Framework 4 (version 4.6.2 or greater) and the Microsoft Visual C++ Redistributable must be installed for the ZS XPLORER software to run. This is installed during the ZS XPLORER software installation progress and under certain circumstances can involve the computer needing to restart. Completion of this stage of the installation can take a few minutes and can take over 10 minutes. Whilst these components are being installed a window such as below will be displayed:

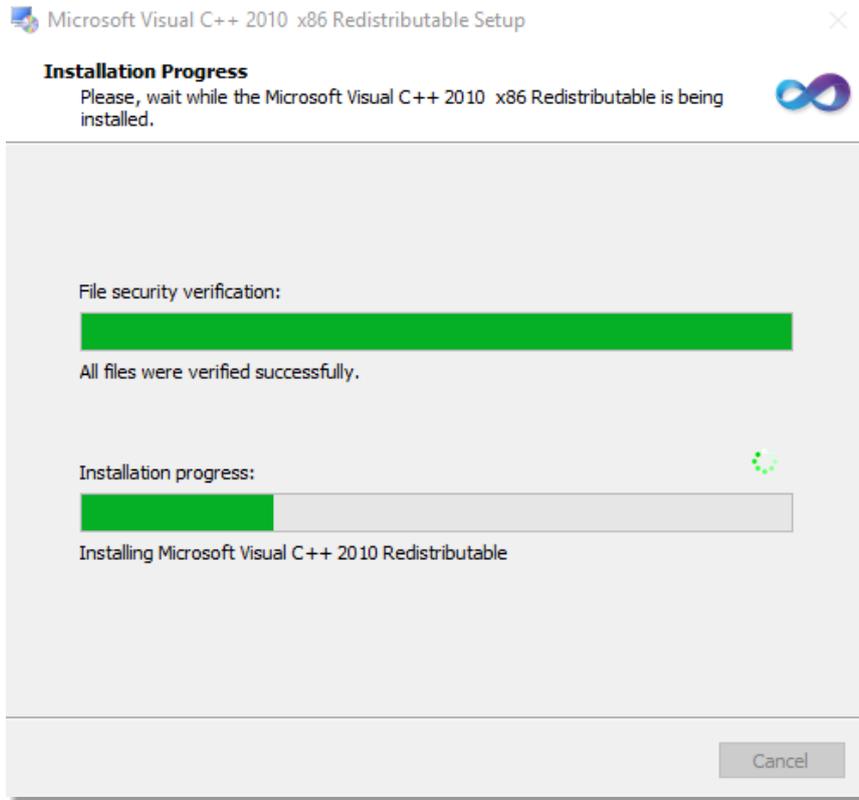


Figure 2: Microsoft Visual C++ Redistributable Installation Window

USB Driver Installation

During the installation of the USB drivers you may be prompted several times with a message as shown in *Figure 3*.

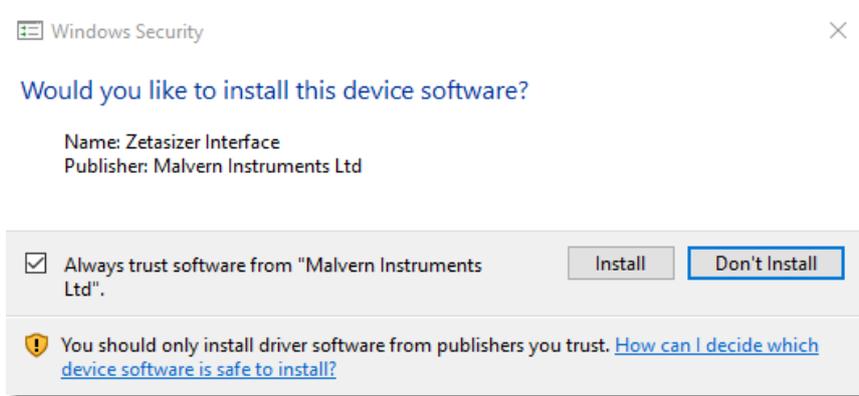


Figure 3: Install USB window

This warning can safely be ignored as the software installation has been fully tested on Windows 10. Press **Install** to continue installation of the USB drivers.

Connecting the Zetasizer Ultra/Pro to the computer

When the software has been installed and the instrument has been connected via the USB port, and switched on, the ZS XPLOER software may need to upgrade the firmware on the Zetasizer, in which case the status icon on the lower right of the software screen will indicate such (see *Figure 4*).



Figure 4 instrument firmware updating status icon

Users should not disconnect or power off their PC or instrument during normal firmware updating. In some rare occasions the firmware may fail to update correctly, in such circumstances a notification will be displayed indicating the issue – please restart the instrument and software to reset and repeat the firmware upgrade process.

With the correct firmware version installed the Zetasizer should connect to the instrument. A successful connection is indicated with an icon in the corner of the software (see *Figure 5*) showing green and with a tick.



Figure 5: Instrument connected icon

Uninstall Procedure

The software can be uninstalled using the standard Add/Remove feature in from Windows.

Running the installer with the ZS XPLOER software running

If the installer is run whilst the software is running, the window in *Figure 6* will display.

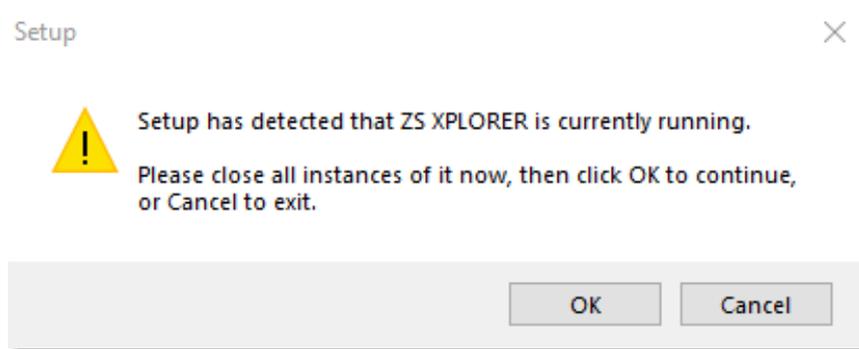


Figure 6: Running installer with software open

Connecting the MPT-3 Titrator to the PC

Ensure the computer is turned on and connected to a Zetasizer Ultra or Pro.

Connect the MPT-3 Multi-purpose Titrator to the computer using the USB cable provided, ensuring that it is turned on. Click on the settings button in the top left corner of the ZS XPLOER software. See *Figure 7*.

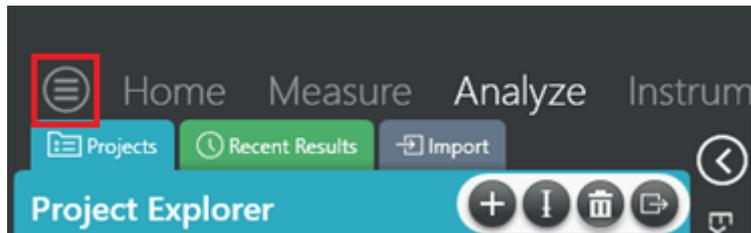


Figure 7: Software options

Click Options and navigate to the Titrator tab as seen in *Figure 8*.



Options

Folders **Titrator**

Connection settings

The titrator connection settings allow configuration of how the titrator connection is detected by the software.

Figure 8: Titrator options page

On the COM Port drop down menu, select USB Serial Port (COMXX) as shown in figure 8. (Note that the COM port number and description may vary). If the titrator has been detected on this port, then a green tick will be visible. See *Figure 9*.

Folders **Titrator***

Connection settings

The titrator connection settings allow configuration of how the titrator connection is detected by the software.

COM Port: USB Serial Port (COM7) ✔ Titrator detected.

Figure 9: Titrator successfully detected

If the titrator is not detected on the selected COM port, then a red exclamation icon will be displayed with a message. See *Figure 10*.

Connection settings

The titrator connection settings allow configuration of how the titrator connection is detected by the software.

COM Port: 

Figure 10: Unable to detect titrator

Once the titrator has been detected, click to save the settings.

Once the settings are saved an icon and a saved message will appear next to the saved COM port as shown in *Figure 11*.

Folders Titrator

Connection settings

The titrator connection settings allow configuration of how the titrator connection is detected by the software.

COM Port: 

Figure 11: COM port saved

The titrator icon at the bottom right of the screen should turn green indicating that the titrator is successfully connected as shown in *Figure 12*.



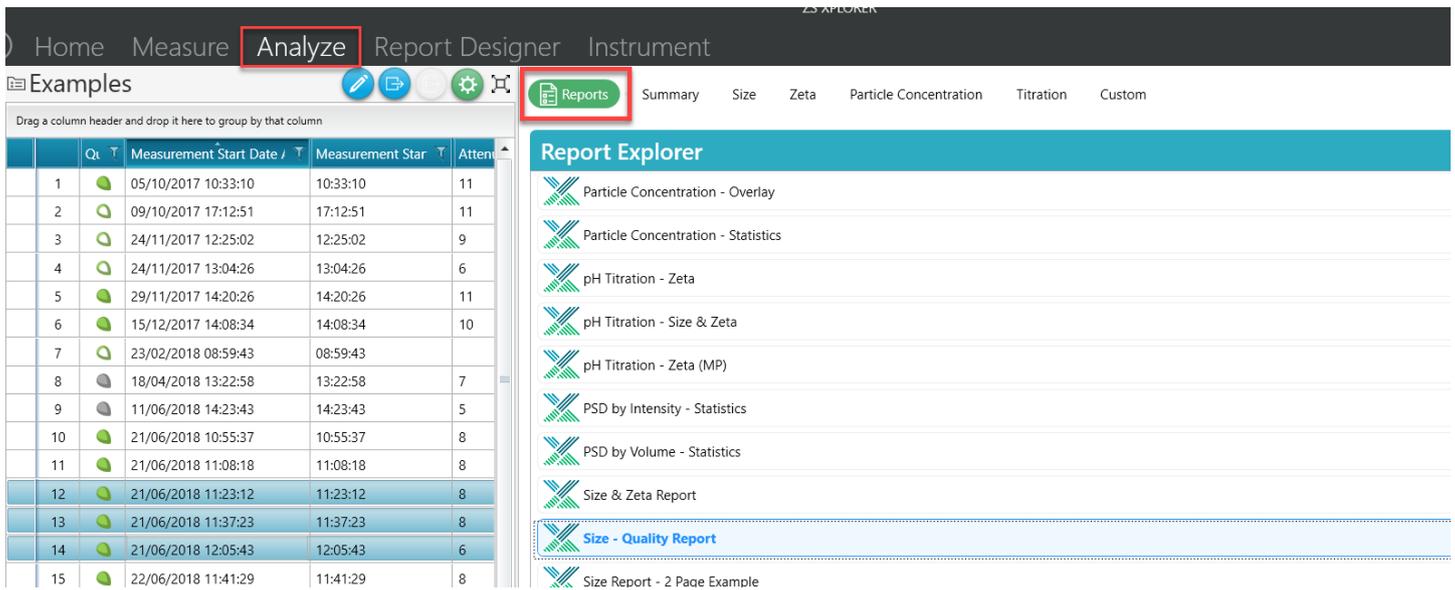
Figure 12: Titrator successfully connected

New Features

Reporting

Version 1.31 ZS XPLORER software introduces a Report Designer for the creation of customized analysis reports and ability to print analysis reports from within the software via the Report Explorer. The Report Explorer contains several pre-configured report templates as examples – these example reports are indicated by a Malvern Panalytical Logo.

The Report Explorer is available from within the Analyze Tab and the Reports Workspace, highlighted in red in figure 13.



The screenshot shows the ZS XPLORER software interface. The top navigation bar includes 'Home', 'Measure', 'Analyze', 'Report Designer', and 'Instrument'. The 'Analyze' tab is selected and highlighted with a red box. Below the navigation bar, there is a toolbar with icons for 'Examples', 'Reports', 'Summary', 'Size', 'Zeta', 'Particle Concentration', 'Titration', and 'Custom'. The 'Reports' button is also highlighted with a red box. The main area is divided into two sections: a table on the left and a 'Report Explorer' panel on the right. The table has columns for 'Qt', 'Measurement Start Date / T', 'Measurement Star T', and 'Attenu'. The 'Report Explorer' panel lists several report templates, each with a Malvern Panalytical logo icon. The 'Size - Quality Report' template is highlighted with a blue border.

	Qt	Measurement Start Date / T	Measurement Star T	Attenu
1		05/10/2017 10:33:10	10:33:10	11
2		09/10/2017 17:12:51	17:12:51	11
3		24/11/2017 12:25:02	12:25:02	9
4		24/11/2017 13:04:26	13:04:26	6
5		29/11/2017 14:20:26	14:20:26	11
6		15/12/2017 14:08:34	14:08:34	10
7		23/02/2018 08:59:43	08:59:43	
8		18/04/2018 13:22:58	13:22:58	7
9		11/06/2018 14:23:43	14:23:43	5
10		21/06/2018 10:55:37	10:55:37	8
11		21/06/2018 11:08:18	11:08:18	8
12		21/06/2018 11:23:12	11:23:12	8
13		21/06/2018 11:37:23	11:37:23	8
14		21/06/2018 12:05:43	12:05:43	6
15		22/06/2018 11:41:29	11:41:29	8

Figure 13 Report Explorer can be accessed from the Analyze View - Reports Tab

To print a report, select one or more records (limited to 30 records) from an open project, highlight the report you want, and the Print Button will be enabled, see figure 14.

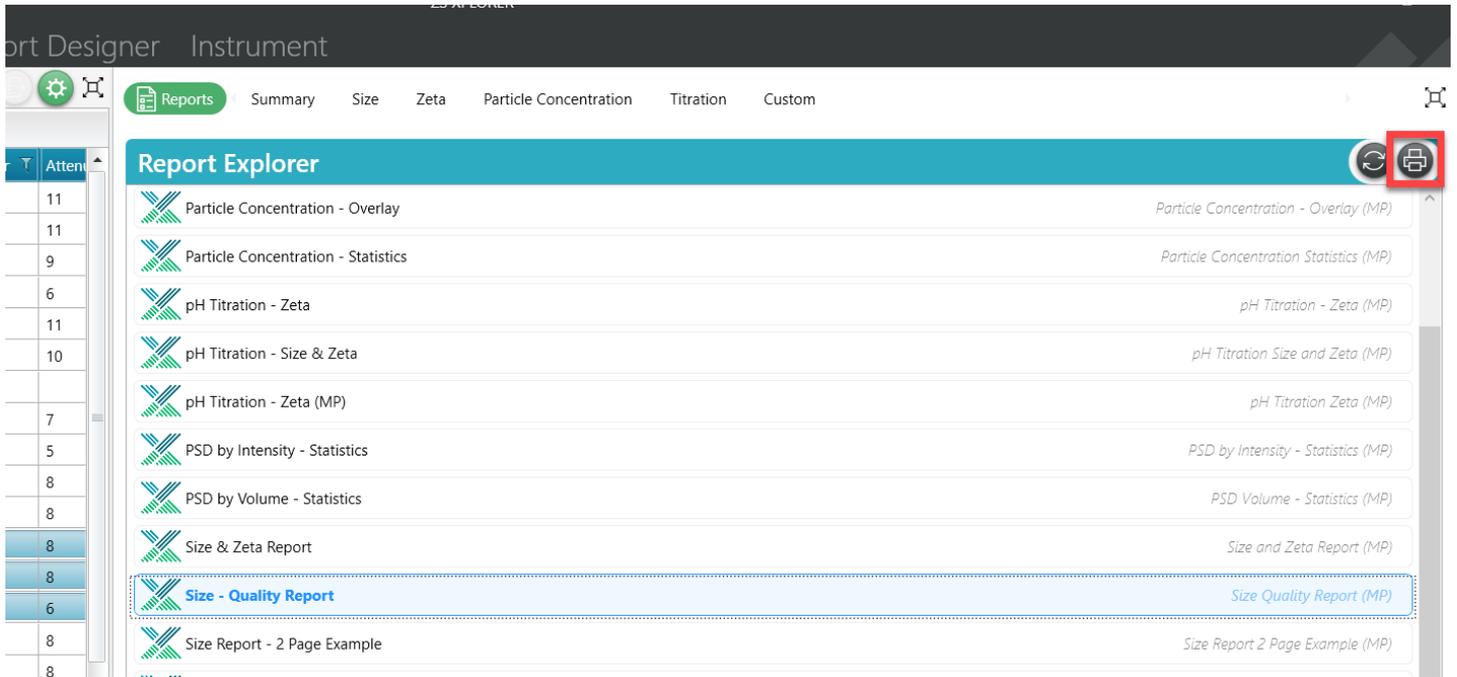


Figure 14 Select data, select the report template and press the print button, highlighted

Pressing the print button will open a standard Windows print dialog, select the desired printer from the print dialogue, figure 15 and press print. Printers can be physical printers or document printer drivers such as "Microsoft Print to PDF" driver.

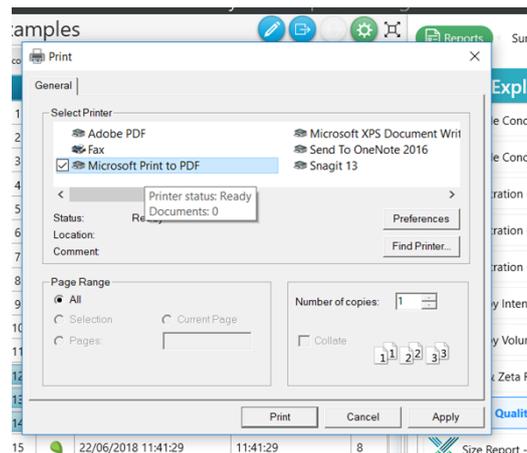


Figure 15 selecting your printer

User-defined reports can be created through the Report Designer (see 5.1.2) or by copying an existing *.zrep report file into the %HOMEPATH%\Documents\Malvern Instruments\ZS XPLORER\Reports directory. Press the refresh button after adding *.zrep files to the Reports directory for them to be available in the Report Explorer.

Report Designer

Reports can be created and edited from the Report Designer Tab, accessed from the main application menu, see figure 16.

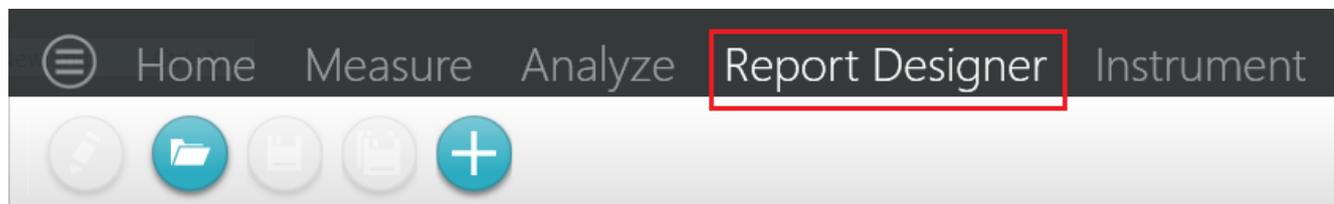


Figure 16 Report Designer tab location

To create a report from new press the “+” icon in the Report Designer tab view, figure 17.

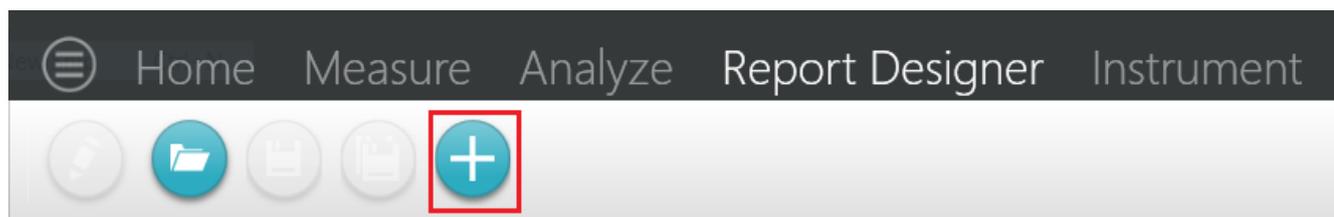


Figure 17 Using the new report icon to create a new blank report template

A new report template contains a Header and Report Elements, known as “Widgets”. The header can be configured with the report name, company name and the logo can change for a suitable logo in .png .gif or .jpeg image types.

One blank widget holder is present for a new template and can be configured to be several available holder layouts, selectable from the square icon on the right-hand side of the holder, figure 18.



Figure 18 selecting a holder layout

Clicking in the main body of the holder opens a dialog where the widget type can be selected for that holder, see figure 19 and 20, overleaf.

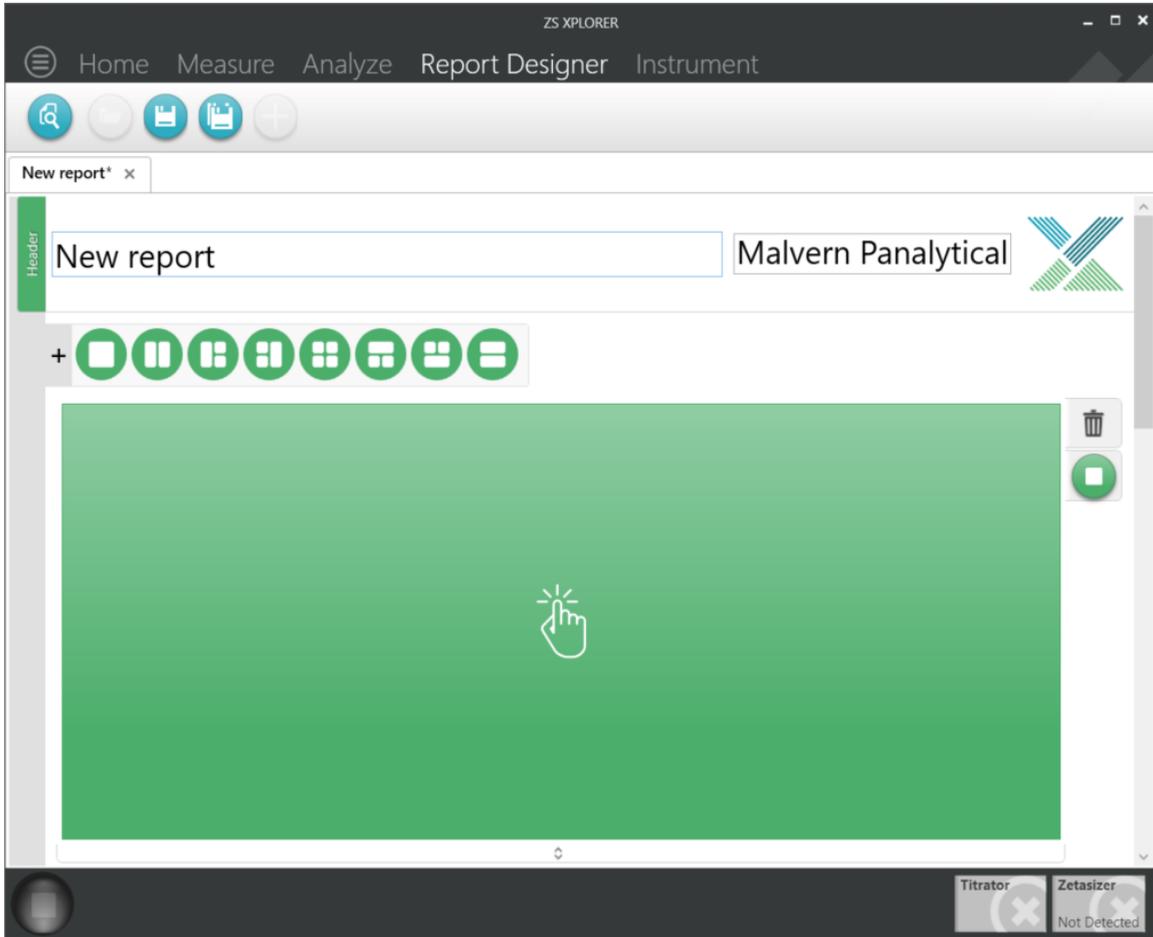


Figure 19 New report template with layout options and main holder body shown

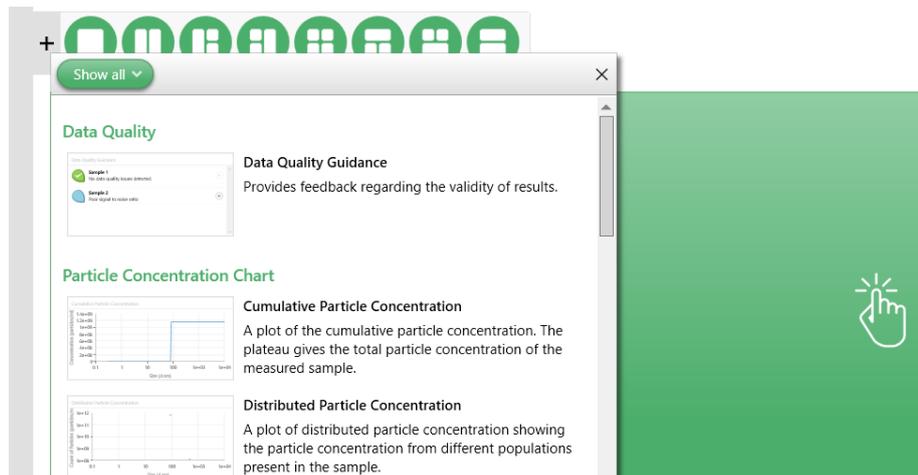


Figure 20 Selecting a widget type in a new holder

When you choose a widget, it may have additional customization options, if so then selecting the cog icon from the right-hand side ellipses will open a dialog with available options, figure 21.

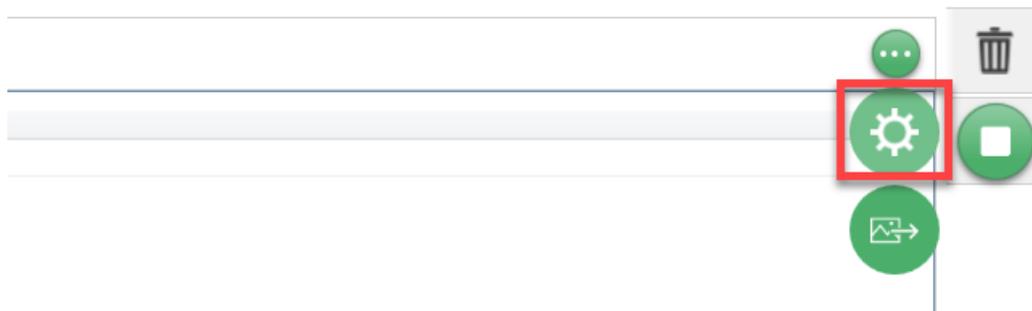


Figure 21 widget ellipses menu and cog icon to access configuration options for the widget

Additional holders can be placed either above or below the default holder by choosing a layout option from the left-hand side holder menu, see figure 22.



Figure 22 Adding an additional holder by clicking on the desired layout options button

Widgets are not What You See is What You Get (WYSWYG) and hence whilst creating a report it good practice to press the print preview icon  from the Report Designer menu bar to review how your report will appear.

Note, selecting records of the appropriate type for the report from the Analyze tab will show that record data whilst in design and preview modes, so aiding your report layout and spacing. Press the pen icon  to return to edit mode from preview mode.

Editing a report

It is often more convenient and quicker to edit an existing report when creating a new report. The supplied example reports, or previously created reports, can be opened in the Report Designer by pressing the folder icon  in the main menu bar of the Report Designer.

Note only one report may be open and editable at any time.

The example reports can be edited but cannot be overwritten, choose the “save as”  icon to rename the report if using an example report as a basis for a new report.

Additional changes

Sample details and parameter list widgets

A new sample details widget has been added to the software to display key sample information in a workspace or report, figure 23.

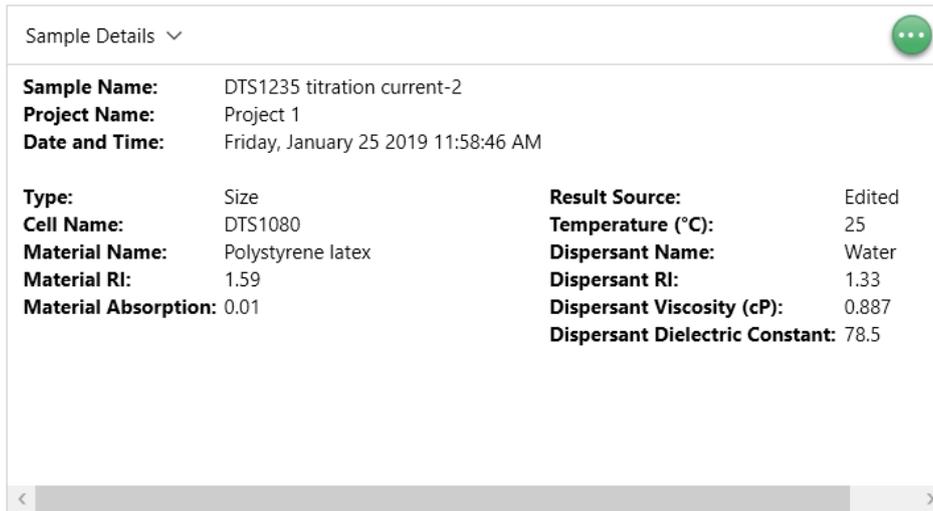


Figure 23 The sample details widget

The parameter list widget, figure 24, provides an improved way to display parameters of importance to a report but may also be used in the Analyze tab view. The parameter list is configurable via the ellipsis's menu and cog button – move parameters required to be displayed from the left to the right columns in the widget configuration window.

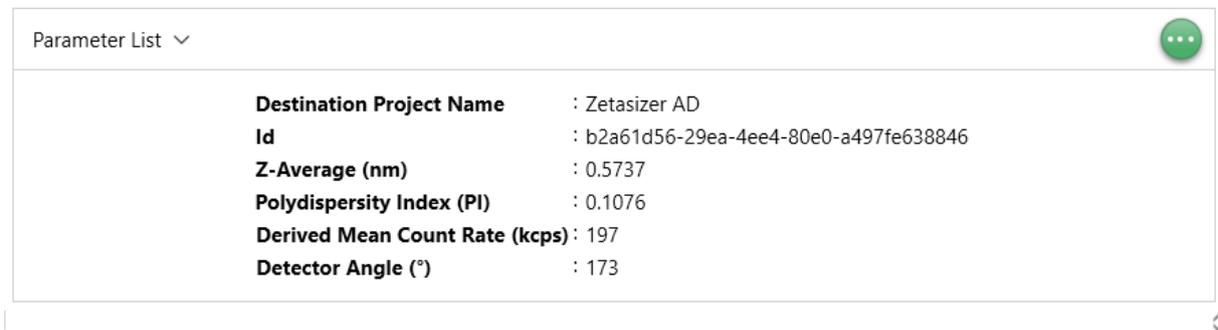
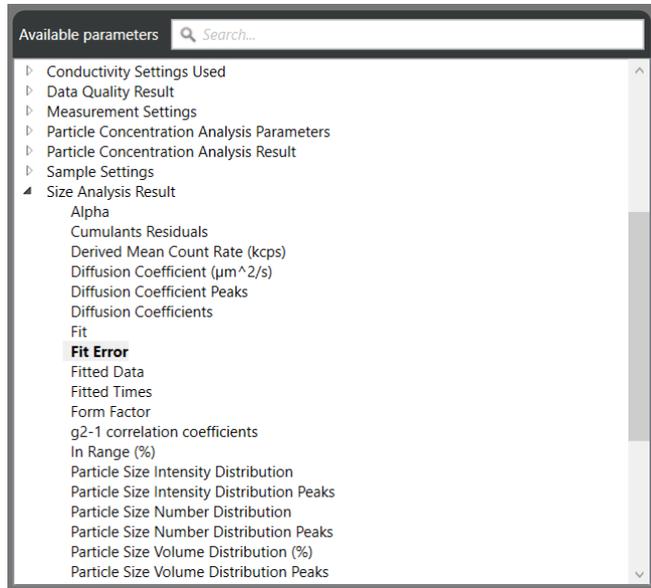


Figure 24 Parameter list widget

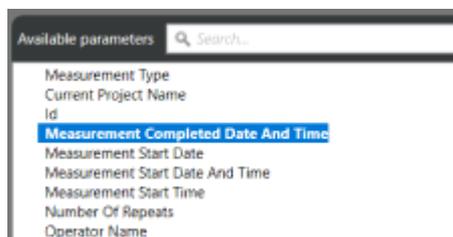
Fit Error Parameter

The Fit Error is now reported within the Size Analysis Result parameter set. The Fit Error is defined mathematically as the L2-norm of the distribution fit residual and can be used as a measure of the 'goodness of fit' of the particle size distribution.



New Parameters

Measurement Start Date and Time and Measurement Completed Date and Time have been added as well as a parameter to report the "method path" used for a measurement.



Other Improvements

- In previous versions of the software a zeta measurement can sometimes fail to complete successfully with an error saying 'Please contact Malvern Panalytical support Team. The failure is apparently random and simply re-running the same measurement often results the measurement completing successfully. This has now been corrected in version 1.31 and measurements should never fail with this message.
- Project names in the method and Analyze views no longer mirror each other – this was an unintentional behaviour that could result in methods changing their "save to" project to the active project open in the Analyze tab. Project names in the method builder and active projects open in the Analyze tab are no longer linked. This

will mean that running a method that saves data to a non-active Project will no longer automatically open the saved to project in the Analyze tab.

- Numeric values in statistics tables and record selector were displayed with different levels of precision. This has now been fixed and numbers will appear with the same level of precision and formatting in both areas now.
- “Show Instruction” command dialog boxes are now displayed as the topmost window.

Fixed issues

This is the fifth release of the ZS XPLOER software, and in this release the following issues were fixed, see *Table 2*.

Table 2: Fixed issues in Zetasizer XPLOER software.

Reference	Issue
91508	After instrument disconnection the log would incorrectly state that the instrument was returning to temperature
105626	Some organic dispersants are labelled as aqueous and the wrong F(ka) model was selected
106054	Software could stop sending messages to the instrument during measurement
106330	Z-Average has no units in record selector and statistics table
110007	Modified date and time would not match measurement date and time when results are not edited
119430	Scattering standard measurements were no longer saved to the instrument or to local storage.

Known Issues

The following software bugs have been discovered within the software and will be investigated as part of a future release. Please follow the suggested work-around where one is available.

Table 3: Known issues in Zetasizer XPLOER software.

ID	Summary
107196	<i>Cancelling record export can result in a *.zmes file which can be corrupt</i>
Description:	
Cancelling of a record export may lead to a corrupt exported file that is not able to be re-imported or transferred to another PC.	
Workaround:	
If this occurs re-start the ZS XPLOER application and re-export the data. As this is an export procedure no data is lost from the original working file.	
ID	Summary
109368	<i>Crash when attempting to set results source folder to a restricted path</i>
Description:	
A crash will occur if a user attempts to set the source folder to a location where they do not have access rights to.	
Workaround:	
Change the permissions on the folder and try again or only select source folders where you have access rights.	
ID	Summary
115905	<i>Firmware update occasionally fails, and the process must be repeated</i>
Description:	
The software automatically attempts to upgrade the instrument firmware when it detects an old firmware version. On some occasions this can fail, and the instrument will need to be restarted and process repeated. In rare cases the process may need to be repeated more than once.	
Workaround:	
Follow the software prompts to restart the instrument until the firmware upgrade is successful.	
ID	Summary
116681	<i>Various parameters missing from Titration records</i>
Description:	
Some parameters are not saved with titration records, these include instrument serial number, dispersant physical parameters and are hence unavailable in reports or display widgets	
Workaround:	
The child records of the titration parent record will contain the omitted parameters and can be selected to display the parameters	

ID	Summary
117340	Application crashes if user tries to select location without write permissions is selected to save report templates to
Description:	
If a user selects a location where they do not have write permissions to the application will crash on attempt to save report templates to the location	
Workaround:	
Ensure the user has write permissions to the location before attempting to save report templates to the location.	

Error Reporting

Should persistent problems occur contact the local Malvern Panalytical Helpdesk. To speed up response time include all the following.

- A **full-screen** screen shot of any error message and everything behind it.
- Full description of what was happening at time of issue and ideally leading up to it.
- Instrument serial number (*e.g. MAL1060289*), instrument serial number can be found inside the sample cell basin and on the instrument back panel.
- The software version, which can be found as described in a section below.
- The log information described below.
- And, if relevant and possible, export the relevant measurement data as described in the last section below.

Extracting log information

If an error occurs, further information about the error can be found from the Windows Event Viewer.

1. Click the Windows **Start** Button.
2. Type **Event Viewer** and press enter.
3. Navigate to **Applications** and **Service Logs/Zetasizer All Events**.
4. The window will display the most recent errors that have occurred with the ZS XPLOER software.

Error information can be selected and then exported with the **Save selected Events** button allowing this information to be passed to the Malvern Panalytical team for troubleshooting.

The contents of the measurement log window are logged to file at *Documents\Malvern Instruments\ZS XPLOER\logs*

Software version

The Software Version is vital to determining the cause of problems. To retrieve the version number:

1. Click on **Application Menu** button (*Figure 24*)

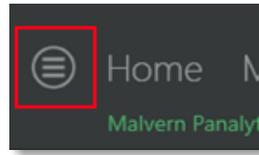


Figure 25: Application Menu button

2. Click on the **About** button (Figure 25)
3. Read version number (Figure 26)

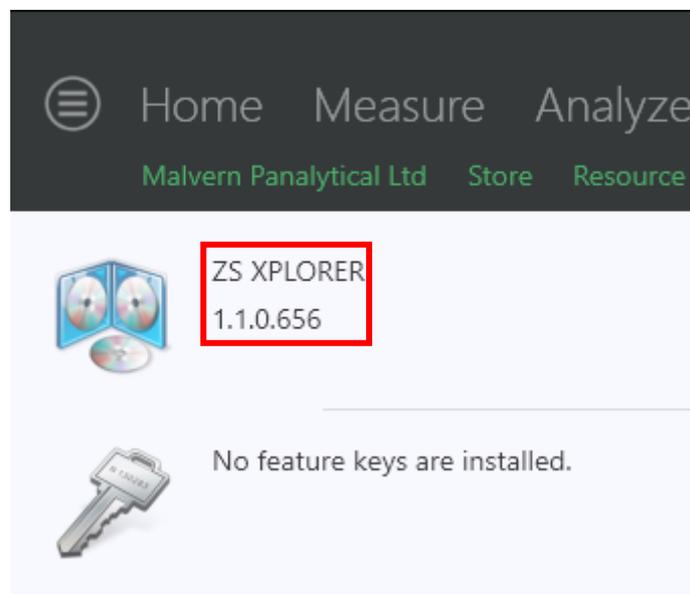


Figure 26: Software Version Number

Extracting measurement data to send

In situations where the errors appear to be related to a specific record or records, the affected records can be exported from the software by selecting them and pressing the export icon, see Figure 27, and send the *.zmes file to the Malvern Panalytical team for investigation.

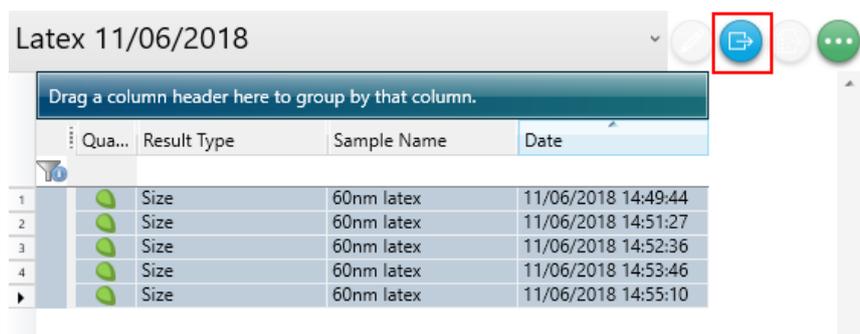


Figure 27: Exporting selected records

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