Zetasizer – Malvern Panalytical

Ultra, Pro, Nano, AT, WT

INTRODUCTION

The Lumetics LINK™ software platform scans network locations for new measurement data files, copies data directly to a centralized database, and provides a powerful user interface for rapid multi-measurement multi-technique data aggregation, visualization, analysis, and reporting. LINK employs a client/server-based architecture where the LINK server hardware is provided by the end user and resides on the end user's network. The LINK client is a portable web-based application that may be placed on any computer with network connectivity to the LINK server. For successful import, the LINK webserver requires read access to the folders where user data resides.

Instruments in the Zetasizer range are used to measure particle and molecular size from less than a nanometer to several microns using dynamic light scattering; zeta potential and electrophoretic mobility using electrophoretic light scattering; and molecular weight using static light scattering.

DETAILS

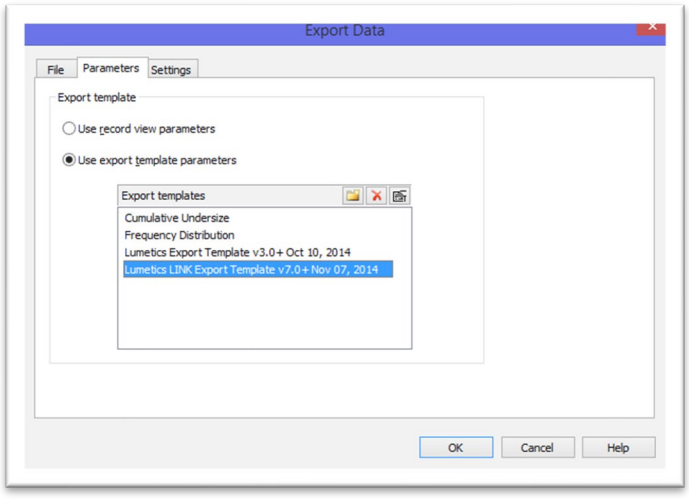
LINK requires the TXT data file to import ZetaSizer results. The required data file must be exported from the Zetasizer software, using the Lumetics LINK™ Zetasizer Export Template (EDF file), which is available in the customer portal on the Lumetics Website (https://lumetics.com/login/). Only "Size" and "Zeta" data types are currently supported. Each TXT export must only contain a single data Type.

The following raw curve data may be imported, in addition to all available instrument/analysis settings and parameters calculated by the instrument software:

- Intensity or Mass vs. Particle Size
- Autocorrelation vs. Delay Time
- Total Counts vs. Zeta potential
- Phase vs. Time

LINK requires the data files to be exported from the Zetasizer software. To apply the Lumetics LINK™ Zetasizer Export Template, copy the template file to the computer running the ZetaSizer software, and place in this folder: Documents\Malvern Instruments\Zetasizer\Export Templates

To export data from the Zetasizer, select **File -> Export**. In the **File** tab, select **Export to File**, **Export Selection Only**, and **Overwrite File**. In the **Parameters** tab, select **Use Export Template Parameters**, select the **Lumetics LINK Export Template**, and **OK**.



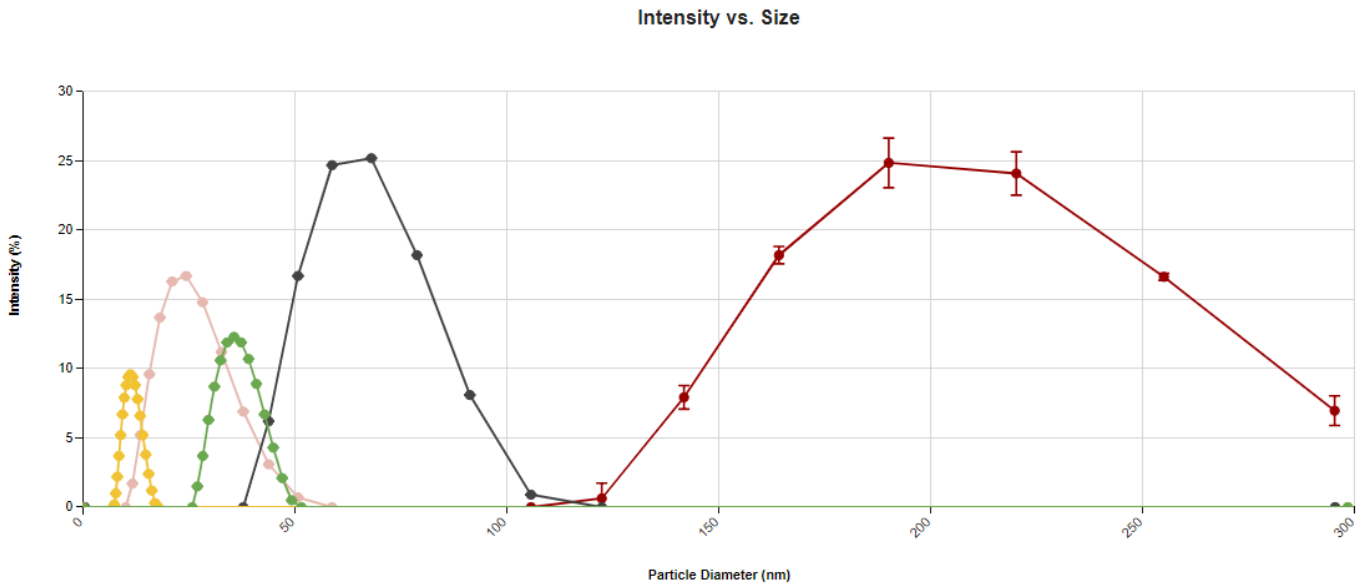
The Zetasizer TXT data file example is as follows:

	Type	Sample Name	S/W Version	Serial Number	Measurement Date and Time	Record Number	Result Origin	Viscosity (cP)	Temperature (°C)	Duration (s)	Size Runs	Measurement Position (mm)	Attenuator	Target	Measurement
1	Type	Sample Name	S/W Version	Serial Number	Measurement Date and Time	Record Number	Result Origin	Viscosity (cP)	Temperature (°C)	Duration (s)	Size Runs	Measurement Position (mm)	Attenuator	Target	Measurement
2	Size	Lumetics_Stress level 1	7.02	MAL1038535	3/20/2014 18:17	1	Edited	5.1178 25 8 20 4.65 0 160 80 0 0	7.02	3/24/2014 9:11	0.157 3 3 96 100	Complete	53.9	matteam6	Copied FALSE
3	Size	Lumetics_Stress level 2	7.02	MAL1038535	3/20/2014 18:22	2	Edited	5.1178 25 8 20 4.65 0 160 80 0 0	7.02	3/24/2014 9:11	0.157 3 4 96 100	Complete	53.9	matteam6	Copied FALSE

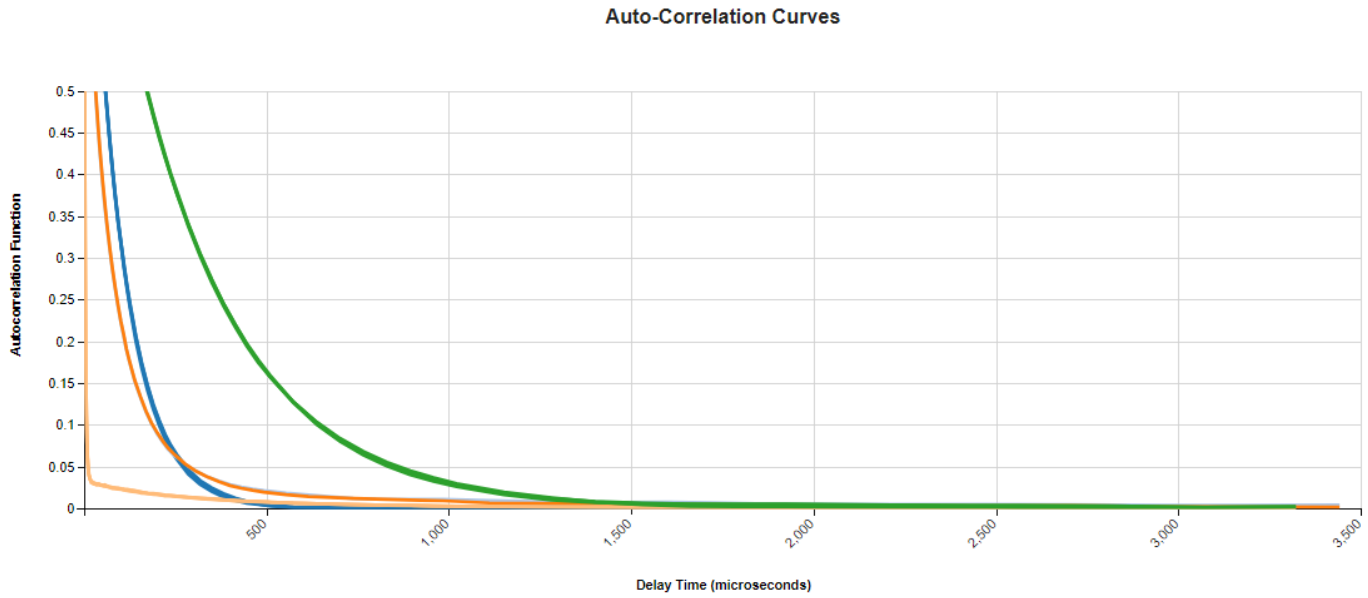
EXAMPLES

Included below are example dashboards from Zetasizer measurement files:

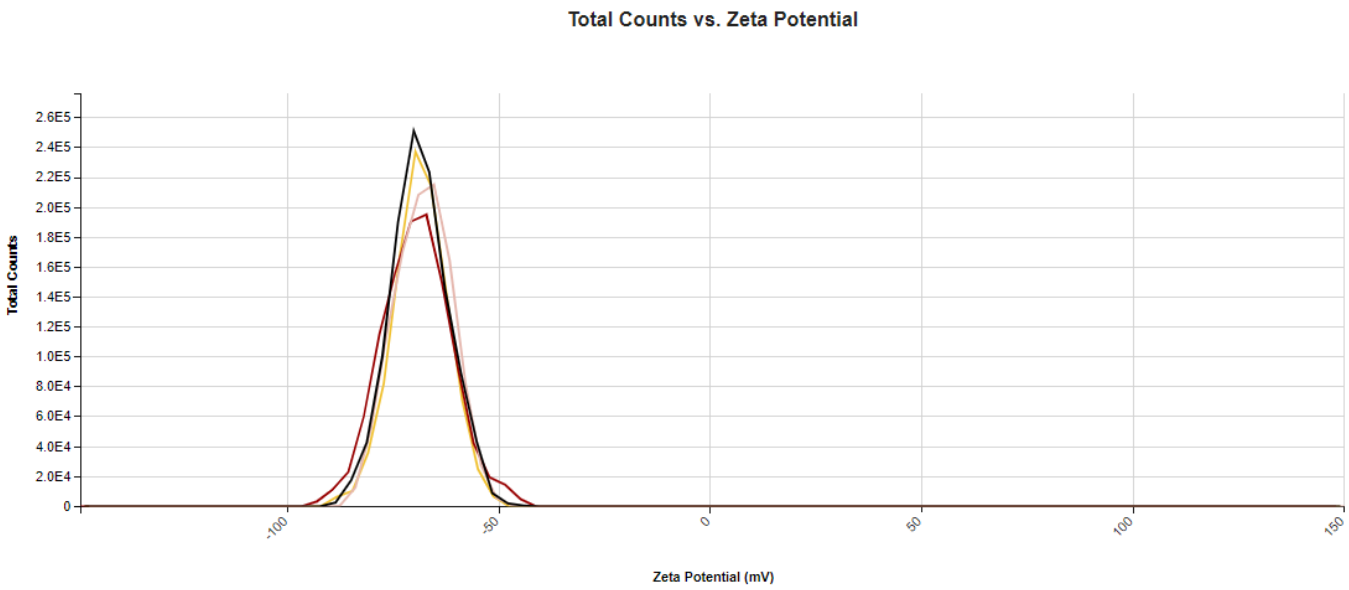
1. Line Chart plotting raw data curves for Intensity vs. Particle Size



2. Line Chart plotting raw data curves for Autocorrelation Function vs. Delay Time



3. Line Chart plotting raw data curves for Zeta Potential (mV)



4. Tabular Summary examples

Measurement Summary Table – Measurement Results

LINK Record ID #	Z-Average (d.nm) - AVG	Intensity Mean (d.nm) - AVG	Flow Rate - AVG	Injection Volume - AVG	Viscosity (cP) - AVG	Dilation - AVG	Diffusion Coefficient (μ²/s) - AVG	Signal To Noise Ratio - AVG	Concentration (%) - AVG	Attenuation Factor - AVG
4	202.00	207.00	0.50	100	0.89	1.20	2.44	0.90	0.19	0.00
5	200.00	208.90	0.50	100	0.89	1.20	2.46	0.89	0.20	0.00
6	199.50	206.50	0.50	100	0.89	1.20	2.47	0.90	0.19	0.00
7	22.38	24.58	0.50	0	0.89	1.20	22.00	0.86	0.41	0.01
8	64.16	65.58	0.50	0	0.89	1.20	7.67	0.86	0.78	0.00
14	10.20	11.41	0.50	100	0.89	1.20	48.30	0.80	1.63	0.19
17	35.48	36.16	0.50	100	0.89	1.20	13.90	0.85	1.56	0.01

Measurement Summary Table – Instrument Settings

LINK Record ID #	InstrumentName	Cell Type	Cell Description	Duration (s) - AVG	Automatic Sampling Speed	Clean Step 1 Pump Speed (μL/s) - AVG	Auto Attenuate Enabled	Analysis Software Version	Analysis Model	Allow Correlation Only	Actual Transmission Factor - AVG
4	Zetasizer	PCS8501	Glass cuvette wi...	10	TRUE	10	TRUE	5.10 beta 1	General Purpose	FALSE	100
5	Zetasizer	PCS8501	Glass cuvette wi...	10	TRUE	10	TRUE	5.10 beta 1	General Purpose	FALSE	100
6	Zetasizer	PCS8501	Glass cuvette wi...	10	TRUE	10	TRUE	5.10 beta 1	General Purpose	FALSE	100
7	Zetasizer	DTS0012	Disposable sizin...	10	True	10	True	7	General Purpose	True	100
8	Zetasizer	DTS0012	Disposable sizin...	10	True	10	True	7	General Purpose	True	100
14	Zetasizer	DTS0012	Disposable sizin...	8	True	156	True	7	LCurve	True	100
17	Zetasizer	DTS0012	Disposable sizin...	8	True	156	True	7	LCurve	True	100

DASHBOARD DOWNLOAD

LINK contains an extensive built-in dashboard library from LINK version 2.4.0.210401 and later. This function contains specific pre-created dashboards for all instruments and application groups.

CONTACT LUMETICS

For direct assistance, please contact Lumetics LINK™ Support:

E-mail: support@lumetics.com
Phone: 1.613.417.1839
Website: http://lumetics.com/