Malvern Particle Size Analyzer – Insitec Driver/Interface

This document describes the driver/interface for the Malvern Insitec Voyager Pharma process particle size analyzer.

Product Description

The interface provides data collection, instrument parameter control and sampling system control from xPAT. This allows control of sample conditioning and acquisition of background calibration data as well as sample data; e.g. particle size histograms and associated statistics.

The Insitec Voyager Pharma is an integrated analyzer with a built in sample conditioning system and Insitec particle size system. The Insitec Voyager is compatible with Insitec X, D or T optical heads.

The interface is made up of the Malvern RTSizer 7.2.0 software that allows acquisition of particle size distribution histograms, an OPC/UA server that Interfaces to RTSizer, a CANopen I/O interface to control the sampling system, the xPAT analyzer service, the xPAT configuration template for Malvern Insitec and the xPAT object type for Malvern Insitec.

Manual control and status display of the analyzer is provided by a standard faceplate associated with each instance of the analyzer on the xPAT workplace.
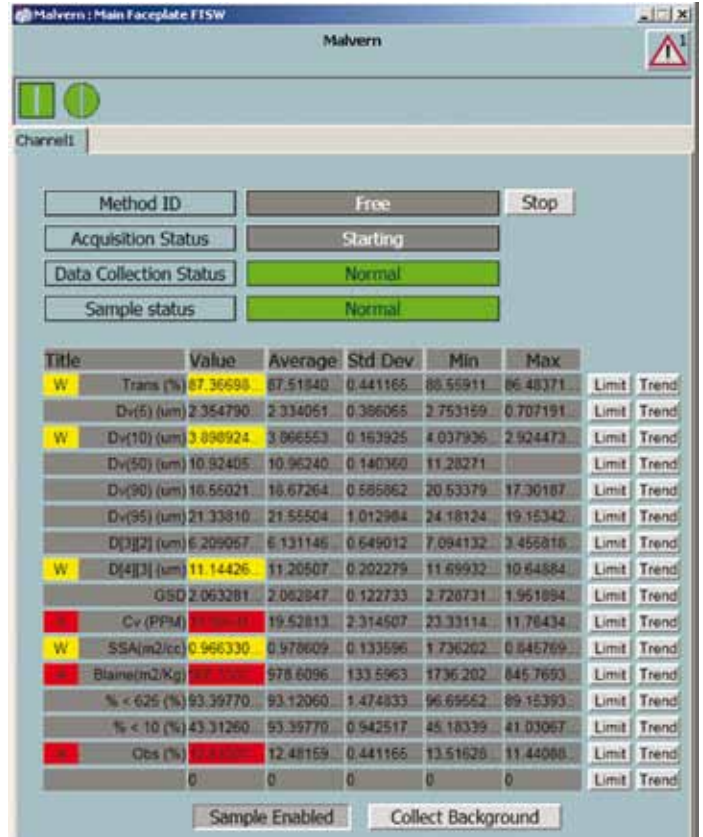
Malvern Insitec Voyager Pharma
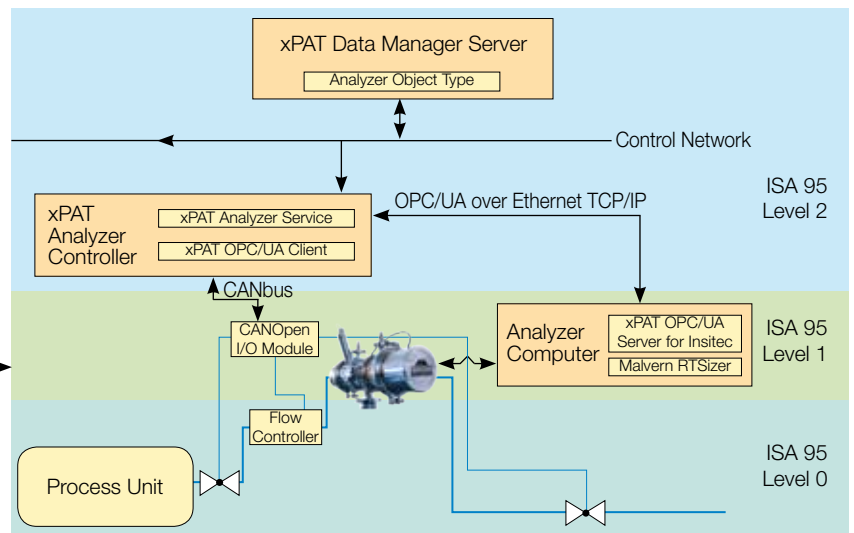
process particle size analyzer

Photo courtesy of Malvern Instruments Ltd.

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Specifications

Analyzer Class	Particle size analyzer
Subclass	Laser Diffraction
Interface	OPC/UA for particle size analyzer / CANopen over CANbus for sampling system control
Compatibility	Insitec T,D,X,L,S,SX Optical measurement heads
	Insitec Voyager Pharma integrated system (Sampling system & optical measurement head)
Throughput	Max 1 sample every 5 seconds
Histogram Size	Nominal 128 points
Control Parameters	Read/write access to all parameters
Channels	1 Channel
Averaging Time	Averaging time for background / sample measurements in seconds
Backflush	Cleaning sequence for the particle size sensor
Introduce Sample	Control sampling system to allow a sample into the particle size sensor
Signal Processing Parameters	Settings for signal processing of raw data
Particle Size Rrange	Minimum and maximum particle size in microns
Media Parameters	Parameters that describe the carrier media; e.g. expected particle density, index of refraction
Analysis Parameters	Parameters to interpret the raw scattering data; e.g. multiple scattering on/off
Correlation Parameters	Curve fit parameters from scattering data to particle size distribution
Faceplate Status Indicators – analyzer	
Connection Status	Status of link to analyzer: good or bad
Analyzer Status	Status of analyzer: good or bad
Faceplate Status Indicators per channel	
Acquisition Status	Idle, Sample starting, Sample
Data Collection Status	Normal, Maintenance, Fault
Faceplate Commands per channel	Collect Sample, Collect Background
Control Type	xPAT provides start/stop signal
Data Acquisition	Collect dark and light background scattering for calibration and histogram of particle size distribution
Data Analysis	16 statistics computed from particle size distribution
Calibration	Collect dark and light background
Validation	Operational Qualification (OQ) of analyzer supported, requires measurement of sample with known particle size distribution. Performance Qualification (PQ) implemented by method specific configuration
Health Monitoring	Monitor analyzer hardware status; e.g. connections to analyzer and sampling system, monitor analyzer internal parameters
Asset Management	Not implemented

For more information on the Malvern Particle Size Analyzers please visit www.malvern.com/insitec. For more information on ABB Life Sciences solutions visit www.abb.com/lifesciences.

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