## 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**

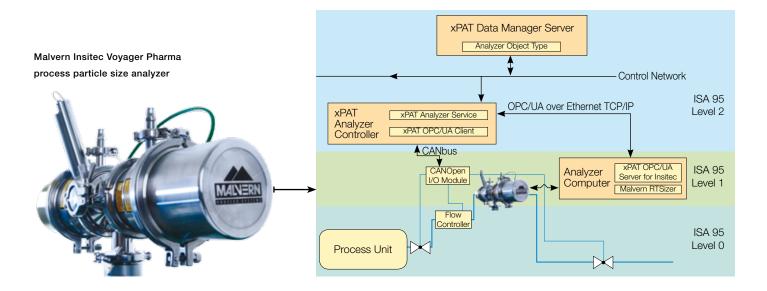
The interface provides data collection, instrument parameter control and sampling system control from xPAT. This allows control of sample conditioning and acquisition of background calibration data as well as sample data; e.g. particle size histograms and associated statistics.

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						
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nett							
Method ID		Free			Stop		
Acc	uisition Status	Starting			1		
	Collection Status		Normal				
	ample status	Normal					
	ample status		NORTHER				
Title	Value	Average	Std Dev	Min	Max		
W	Trans (%) 87.36698	87.51540	0.441165	88.55911	86.48371	Limit	Tren
	Dv(5) (um) 2 354790	2 334061	0.386065	2.753159	0.707191	Limit	Tren
W	Dv(10) (um) 3.898924	3 866553	0.163925	4.037936	2.924473	Limit	Tren
-	Dv(50) (um) 10.92405.	10.96240	0 140360	11,28271		Limit	Tren
	Dv(90) (um) 18.55021.	16.67264	0.585862	20.53379	17.30187	Limit	Tren
	Dv(95) (um) 21.33810	21.55504	1,012984	24 18124	19 15342	Limit	Tren
	D[3][2] (um) 6 209057.	6 131146	0.649012	7,094132	3.455818	Limit	Tren
W	D[4][3] (um) 11.14426	11,20507	0.202279	11.59932	10.64584	Limit	Tren
	GSD 2.063281	2.062847	0.122733	2.720731	1.951894	Limit	Tren
	Cv (PPM) II THE	19.52813	2:314507	23.33114	11.76434	Limit	Tren
W	SSA(m2/cc) 0.966330	0.978609	0.133596	1 736202	0.645769	Limit	Tren
	Blame(m2/Kg)	978 6096	133 5963	1736-202	845.7693	Limit	Tren
1	% < 625 (%) 93.39770.	93.12060	1.474833	96.69562	89 15393	Limit	Tren
	15 < 10 (%) 43.31260	93.39770	0.542517	45 18339	41 03067	Limit	Tren
	Obs (%)	12,48159	0.441165	13.51628	11.44088.	Limit	Tren
	0	0	0	0	0	Limit	Tren





Specifications					
Analyzer Class	Particle size analyzer				
Subclass	Laser Diffraction				
nterface	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)				
-hroughput	Max 1 sample every 5 seconds				
listogram Size	Nominal 128 points				
Control Parameters	Read/write access to all parameters				
Channels	1 Channel				
Veraging Time	Averaging time for background / sample measurements in seconds				
Backflush	Cleaning sequence for the particle size sensor				
ntroduce 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				
ledia Parameters	Parameters that describe the carrier media; e.g. expected particle density, index of refraction				
nalysis Parameters	Parameters to interpret the raw scattering data; e.g. multiple scattering on/off				
orrelation Parameters	Curve fit parameters from scattering data to particle size distribution				
aceplate Status Indicators – analyzer					
connection Status	Status of link to analyzer: good or bad				
nalyzer Status	Status of analyzer: good or bad				
aceplate Status Indicators per channe					
cquisition Status	Idle, Sample starting, Sample				
ata Collection Status	Normal, Maintenance, Fault				
aceplate Commands per channel	Collect Sample, Collect Background				
ontrol Type	xPAT provides start/stop signal				
ata Acquisition	Collect dark and light background scattering for calibration and histogram of particle size distribution				
ata Analysis	16 statistics computed from particle size distribution				
alibration	Collect dark and light background				
alidation	Operational Qualification (OQ) of analyzer supported, requires measurement of sample with known particle				
	size distribution. Performance Qualification (PQ) implemented by method specific configuration				
lealth 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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