

ABB FTNIR – FTPA2000-260 Analyzer Driver/Interface

This document describes the driver/interface for the ABB FTNIR - FTPA2000-260 series laboratory analyzers.

Product Description

The interface provides data collection and control of all instrument parameters. This allows acquisition of reference (also called background) and sample spectra.

The interface is compatible with all ABB FTPA2000-260 and NetworkIR series spectrometers that use an Ethernet Interface. This includes models FTPA2000-260 and FTPA2000-263. It is not compatible with earlier NetworkIR series spectrometers that require an ISA or PCI bus interface card to be placed in the PC.

The software interface is made up of an instrument control DLL that interfaces to the analyzer hardware, the xPAT analyzer service, the xPAT configuration template for FTPA2000-260 and the xPAT object type for FTPA2000-260.

ABB's AIRS software is used to initially qualify the analyzer and to validate its correct operation. AIRS is not required for routine operation of the analyzer.

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.

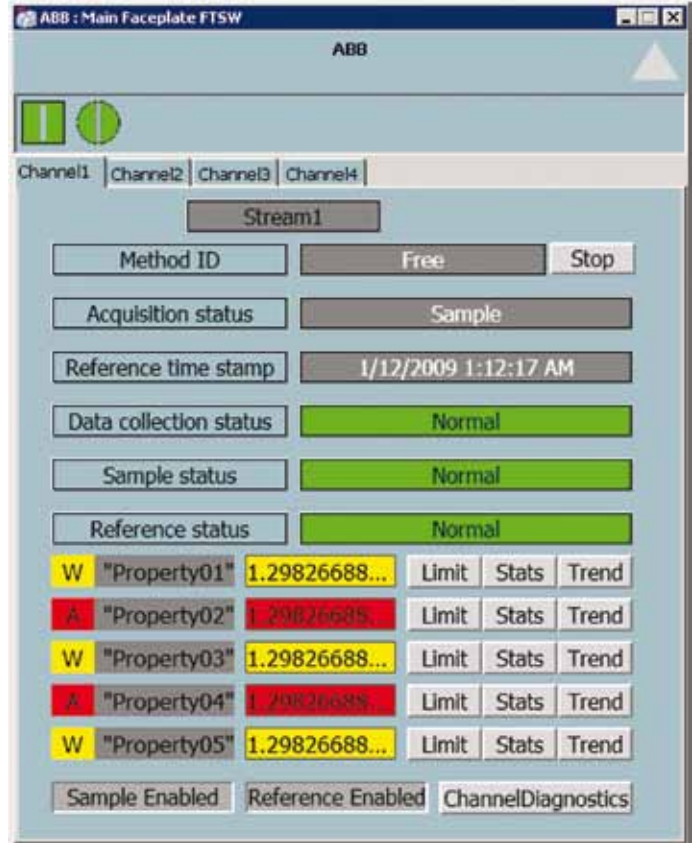
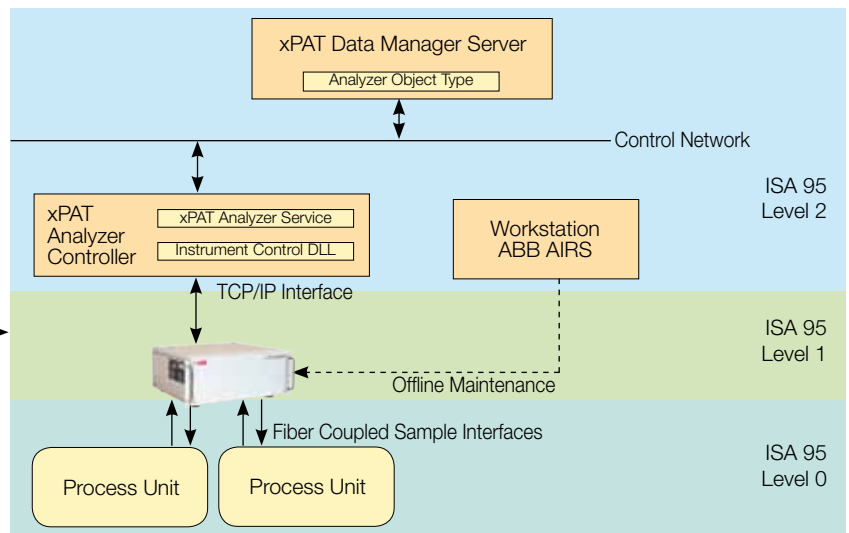


ABB FTNIR – FTPA2000-260 Analyzer



Specifications

Analyzer Class / Subclass	NIR spectrometer / Fourier Transform spectrometer (FTNIR)		
Interface	Ethernet TCP/IP		
Compatibility	All Ethernet based FTPA2000-260/Networkir analyzers		
Throughput	Resolution	Spectrum size	Max Samples
	1 cm ⁻¹	32768	Every 64 secs
	2 cm ⁻¹	16384	Every 32 secs
	4 cm ⁻¹	8192	Every 16 secs
	8 cm ⁻¹	4096	Every 8 secs
	16 cm ⁻¹	2048	Every 5 secs
	32 cm ⁻¹	1024	Every 5 secs
	64 cm ⁻¹	512	Every 5 secs
	128 cm ⁻¹	256	Every 5 secs
Control Parameters	Read/write access to all parameters		
Channels	1 to 4 channels supported (max 2 on FTPA2000-263)		
Gains	2 stage gain	– stage 1: min, med low, med high, max	
		– stage 2: 1, 2, 4, 8, 16	
Spectral Resolution	Selectable 1,2,4,8,16,32,64, 128 cm ⁻¹		
Number of Scans	Number of scans to average per sample measurement / per reference measurement; Default 1		
Signal Processing Parameters	Settings for signal processing of raw data		
Laser Frequency	Determines the x axis of the spectrum; Default 15799.70 cm ⁻¹		
Interferogram Apodization Function (sample or phase correction)	Selectable: Boxcar, Bartlet, Cosine, Hamming, Blackman-Harris, Gaussian, Norton Beer Weak, Norton Beer Medium, Norton Beer Strong		
Phase Correction Resolution	Selectable 64, 128, 256, 512 cm ⁻¹ ; Default 128 cm ⁻¹		
Spectral Range	Not selectable, always uses maximum range		
Faceplate Status Indicators – analyzer			
Connection Status	Status of Ethernet 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, Reference starting or Reference		
Reference Time Stamp	Data time for last reference		
Data Collection Status (for sample or reference)	Normal, Maintenance, Fault		
Faceplate Commands per channel	Collect Sample, Collect Reference		
Control Type	xPAT provides start/stop signal		
Data Acquisition	Collect reference spectrum for calibration and absorbance spectrum for samples		
Data Analysis	Up to 5 properties per channel with prediction statistics computed from Peak height or PLS model (PLSplusIQ or SimcaP+)		
Calibration	Collect Reference		
Validation	Operational Qualification (OQ) of analyzer partly supported in spectral diagnostics; full OQ requires AIRS software. Performance Qualification (PQ) implemented by method specific configuration		
Spectral Diagnostics	Available on reference and sample spectra: Spectral Noise (RMS noise over a spectral region), Frequency Validation (check correct location of a known band), Non-linearity (detect saturation with out of band signal), Spectral Band Intensity (Check a band for minimum intensity)		
Health Monitoring	Monitors analyzer hardware status; e.g. TCP/IP connection to analyzer, bad scan detection		
Asset Management	Not implemented		

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For more information on the FTPA2000-260 analyzer itself please visit www.abb.com/analytical. For more information on ABB Life Sciences solutions visit www.abb.com/lifesciences.

Note:

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