

Technical Information

Metrohm NIRS XDS Process Analyzers: Single Fiber Single Point and Multiplexer

Typical Performance

The XDS is the next generation of Near-Infrared (NIR) spectroscopic instrumentation and is designed to ensure efficient and cost-effective NIR method development and implementation. Indicated below is the **typical** performance of the NIRS XDS Process Analyzer as measured with standard materials placed in the analyzer and at sample interface.

Parameter		
Measurement Mode	Reference	Reflectance / Immersion / Transmission
Sample Interface	—	Optic probe or Flow cell
Wavelength Range (nm)	800–2200	800–2200
Detector	Extended-range Indium Gallium Arsenide	Extended-range Indium Gallium Arsenide
Data Acquisition Rate	0.5 sec./scan	0.5 sec./scan
Spectral Data Interval (nm)	0.5	0.5
Wavelength Accuracy (nm)	N/A	< 0.08
Wavelength Precision (nm): <i>single instrument</i>	N/A	< 0.004
Wavelength Precision (nm): <i>instrument to instrument</i>	N/A	< 0.08
Stray Light	< 0.1%	< 0.1%
Photometric Linearity	< 1% of reading	< 1% of reading
Bandpass	9.0 ± 1.0	9.5 ± 1.0 / 8.5 ± 1.0 / 9.0 ± 1.0
Absolute linear range (au)	0–6	0–6

Noise (µau)				
Measurement Mode	Reference	Reflectance	Immersion	Transmission
800–1100 nm	< 80		< 100	
1100–1700 nm	< 80		< 100	
1700–2200 nm	< 80		< 100	

NIRS XDS Process Analyzer Installation Information

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Near-Infrared Spectroscopy (NIRS) XDS analyzers are designed to provide precise and accurate results while operating in harsh environments. Please observe the following guidelines when selecting and installing your NIRS XDS instrument.

Site Requirements	
Operating Temperature Range	0–30 °C (32–86 °F)
with Vortex cooler (or Purge Control & Vortex cooler)	0–40 °C (32–104 °F)
with Air Conditioning (or Purge Control & Air Conditioning)	0–51 °C (0–124 °F)
Relative Humidity	10–90% RH, non-condensing
NEMA Rating	4X
Ingress Protection	IP 65
Weight	41.9 kg (92.3 lbs)
with Vortex cooler	48.0 kg (105.8 lbs)
with Purge Control and Vortex cooler	59.4 kg (130.9 lbs)
with Air Conditioning	50.5 kg (111.3 lbs)
with Purge Control and Air Conditioning	61.9 kg (136.4 lbs)
Dimensions (w × h × d)	485 × 646 × 358 mm (19.09" × 25.43" × 14.09")
with Purge System, fiber hookup area, & other options	879 × 702 × 358 mm (34.60" × 27.64" × 14.09")

Process Communication Options	
Digital Protocols	MODBUS (TCP/IP or Serial), PROFIBUS
VISION I/O Module	12 Analog Outputs, 12 Digital Inputs, 12 Digital Outputs
OPC	USB or parallel port dongle

Electrical Requirements	
Power Supply	Isolated or conditioned supply line
Operating Voltage	120 / 240 V AC switchable
Current	2 A / 1.5 A (selectable)
with Air Conditioning	5 A / 2.7 A
Power Consumption	100 W

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