Unmatched Accuracy & Performance

Advanced Microvolume Performance

- Nucleic Acid & Protein UV-Assay Measurements, plus much more
- Scan Range: N60: 200 – 900 nm, N50: 200 – 650 nm in just 2.5 seconds
- Starting at 0.3 µl sample volume
- No Maintenance and recalibration required ever
- Accurate, consistent results
- Pre-programmed and customizable applications
- Broad detection range
  N60: dsDNA: 1 – 16,500 ng/µl | BSA: 0.03 – 478 mg/ml
  N50: dsDNA: 5 – 7,500 ng/µl | BSA: 0.15 – 217 mg/ml

Key Instrument Features

- Easy sample application, illuminated sample window
- Intuitive graphical user interface
- Standalone or Remote Operated – Windows, Mac, Android, and iOS
- Built-in computer with a high performance dual core 2.4 GHz processor and 64 GB of onboard data storage
- Portable with battery option – Only 20 x 20 x 12 cm footprint
- Low vibration and low energy built-in vortex for N60
- GMP, GLP, GxP Ready 21 CFR Part 11 and IQOQ option for N60


WiFi


USB


LAN


HDMI


HotSpot

Technical Specifications

NanoVolume Performance	
Detection Range dsDNA	N60: 1 – 16,500 ng/µl N50: 5 – 7,500 ng/µl
Detection Range BSA	N60: 0.03 – 478 mg/ml N50: 0.15 – 217 mg/ml
Sample Volume	0.3 – 2 µl
Photometric Range (10 mm equivalent)	N60: 0.02 – 330 A N50: 0.1 – 150 A
Path Length	0.67 & 0.07 mm
Dilution Factor	15 and 140
Vortex	N60: 2,800 rpm Tube size up to 2.0 ml
General Specifications	
Main Body Size	200 x 200 x 120 mm
Weight	3.8 – 5.2 kg depending on configuration
Operating Voltage	90 – 250 V ± 10%, 50/60 Hz, 90 W, 18/19 VDC
Display	1024 x 600 pixels; glove-compatible touchscreen
Built-in Battery Pack Optional rechargeable lithium ion battery	N60: 95 Wh, 6.6 Ah, 8 h Min. charging cycles: 800
Certification	CE, IEC 61010-1:2012 and EN 61326-1:2013
Battery Certification	IEC 62133 and UN38.3 transport test
In & Output Ports	2x USB A, USB B, HDMI, Ethernet, WiFi
Security	Slot for Kensington lock

Optical Specifications	
Wavelength Scan Range	N60: 200 – 900 nm N50: 200 – 650 nm
Measure Time For Full Scan Range	2.5 – 4.0 sec
Wavelength Reproducibility	N60: ± 0.2 nm N50: ± 1 nm
Wavelength Accuracy	N60: ± 0.75 nm N50: ± 1.5 nm
Bandwidth	N60: < 1.5 nm N50: < 3 nm
Absorbance Reproducibility	N50 (Lid 15): < 0.004 A @ 0 – 0.3 A @ 280 nm CV < 1% @ 0.3 – 1.5 A @ 280 nm N60 (Lid 15): < 0.002 A @ 0 – 0.3 A @ 280 nm CV < 1% @ 0.3 – 1.7 A @ 280 nm
Absorbance Accuracy	< 1.75% @ 0.7 A @ 280 nm of the reading
Stray Light	N60: < 0.5% @ 240 nm using NaI N50: < 2% @ 240 nm using NaI
Optical Arrangement	1 x 4096 CMOS Array
Lamp, Lifetime	Xenon flash lamp; 10^9 flashes, up to 10 years
Processing Power & Compatibility	
Operating System	Linux based NPOS
Onboard Processor	Intel Celeron dual core 2.4 GHz
Internal Data Storage	64 GB
Software Compatibility	Windows 8, 10, 11 (32 & 64 bit) OS X (Intel x86 and Apple M1) iOS and Android OS

Features and specifications are subject to change without notice.

Implen GmbH
ISO 9001:2015

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IMPLEN

NanoPhotometer® N60/N50

High Performance Microvolume UV/Vis Spectrophotometer

Made in Germany

NanoPhotometer® N60/N50

NanoVolume

Trusted Technology

For over a decade prestigious biological, chemical and pharmaceutical companies as well as research organizations around the globe have relied on Implen spectrophotometers. The NanoPhotometer® is the most innovative line of microvolume UV/Vis spectrophotometers – cited by thousands of scientific publications worldwide.

Maintenance Free

Guaranteed lifetime accuracy for peace of mind with no preventive maintenance or recalibration required due to precisely defined path lengths in a sealed optics block. The measurement environment consists of scratch-resistant and inert quartz.

Fast & Sensitive

Power on and instantly measure without lamp warm-up time. Full scan capability from 200 – 900 nm (N50: 200 – 650 nm) provides rapid and complete sample analysis in only 2.5 – 4.0 sec. Precision readings over the entire range from 1 to 16,500 ng/µl for dsDNA (N60) with the patented True Path Technology™ will exceed expectations.

Mobile

Spectroscopy can now be taken anywhere. The optional integrated battery pack provides up to 8 hours of stand-alone battery powered operation. You can now work effortlessly under laminar flow hood/clean benches or share the device between different lab members or groups.

7" Color Touchscreen

Easy to Clean Surfaces

Minimum 0.3 µl Sample Volume

Illuminated Sample Window

Low Vibration Vortex

N60

Regulatory Compliance

CFR21 Software

The CFR21 software package provides compliance with FDA 21 CFR Part 11 requirements and is an optional software tool ideal for GxP laboratories, which require proper electronic record keeping. The software includes user account management with individual password protected Role Based Access Control (RBAC), electronic signatures, data integrity, security, and audit trail functionality.

Flexible

Control your NanoPhotometer® via touchscreen/ tablet/computer. Equipped with WiFi, USB A/B, HDMI, and LAN interface connections. Define and store your own data and methods and retrieve them through the NanoPhotometer® Network Drive. Connection and control via LIMS is available as an option.

Installation Qualification and Operation Qualification (IQ/OQ)

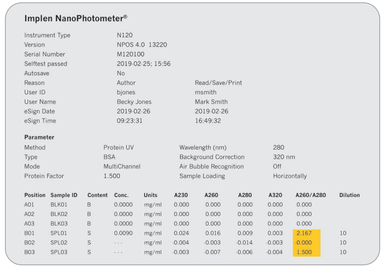
Our IQ/OQ package is offered for compliance with international standards in regulated environments and provides conforming data to document and verify that your instrument is installed and functioning according to its intended use and within specifications. The system suitability test is performed with a non-toxic liquid NIST traceable secondary standard that absorbs at a wavelength of 280 nm.

N50

Lifetime Accuracy Guaranteed

- True Path Technology™
- Sample Control™ Technology
- Blank Control™ Technology
- Sample Compression Technology™

Electronic Signature



Implen NanoPhotometer®

Instrument Type	N120		
Version	NPOS 4.0 .13220		
Serial Number	M1201.00		
Selftest passed	2019-02-25; 15:56		
Autosave	No		
Reason	Author	Read/Save/Print	
User ID	bjones	msmith	
User Name	Becky Jones	Mark Smith	
eSign Date	2019-02-26	2019-02-26	
eSign Time	09:23:31	16:49:32	

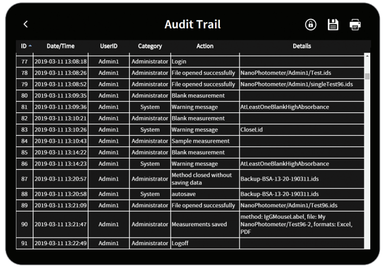
Parameter

Method	Protein UV	Wavelength (nm)	280
Type	BSA	Background Correction	320 nm
Mode	MultiChannel	Air Bubble Recognition	Off
Protein Factor	1.500	Sample Loading	Horizontally

Position	Sample ID	Content	Conc.	Units	A230	A260	A280	A320	A260/A280	Dilution
A01	BLK01	B	0.0000	mg/ml	0.000	0.000	0.000	0.000	0.000	
A02	BLK02	B	0.0000	mg/ml	0.000	0.000	0.000	0.000	0.000	
A03	BLK03	B	0.0000	mg/ml	0.000	0.000	0.000	0.000	0.000	
B01	SPL01	S	0.0090	mg/ml	0.024	0.016	0.009	0.003	2.167	10
B02	SPL02	S	- - -	mg/ml	-0.004	-0.003	0.014	-0.003	-0.000	10
B03	SPL03	S	- - -	mg/ml	-0.003	-0.007	-0.006	-0.004	1.500	10

Measurement data are saved by confirming User ID and password. Saved files provide the user name/author, User ID, date and time for proper electronic record keeping. IDS and PDF files cannot be altered and ensure data integrity.

Audit Trail

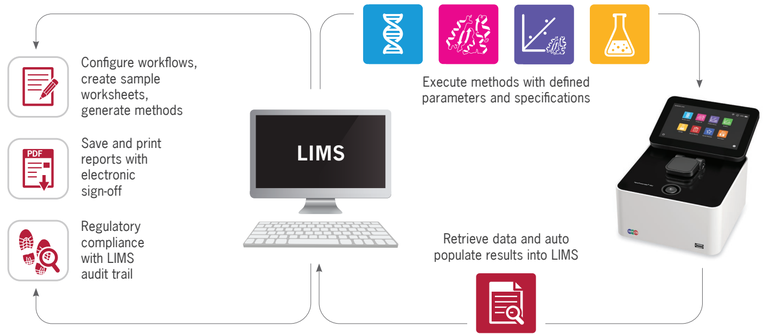


Audit Trail

ID	Date/Time	UserID	Category	Action	Details
77	2019-03-11 13:08:18	Admin1	Administrator	Login	
78	2019-03-11 13:08:26	Admin1	Administrator	File opened successfully	NanoPhotometer/Admin1/Test.ids
79	2019-03-11 13:08:52	Admin1	Administrator	File opened successfully	NanoPhotometer/Admin1/SingleTest96.ids
80	2019-03-11 13:09:35	Admin1	Administrator	Blank measurement	
81	2019-03-11 13:09:36	Admin1	System	Warning message	AtLeastOneBlankHighAbsorbance
82	2019-03-11 13:10:21	Admin1	Administrator	Blank measurement	
83	2019-03-11 13:10:26	Admin1	System	Warning message	CloseLid
84	2019-03-11 13:10:43	Admin1	Administrator	Sample measurement	
85	2019-03-11 13:14:22	Admin1	Administrator	Blank measurement	
86	2019-03-11 13:14:23	Admin1	System	Warning message	AtLeastOneBlankHighAbsorbance
87	2019-03-11 13:20:57	Admin1	Administrator	Method closed without saving data	Backup-BSA-13-20-190311.ids
88	2019-03-11 13:20:58	Admin1	System	autosave	Backup-BSA-13-20-190311.ids
89	2019-03-11 13:21:09	Admin1	Administrator	File opened successfully	NanoPhotometer/Admin1/Test96.ids
90	2019-03-11 13:21:47	Admin1	Administrator	Measurements saved	method: IgGMouseLabel, file: My NanoPhotometer/Test96-2, formats: Excel, PDF
91	2019-03-11 13:22:49	Admin1	Administrator	Logoff	

The audit trail automatically records all actions and preference changes in an audit log. The audit log contains a sequence ID, time stamp, user ID and category for each action. Audit trails can be saved as a PDF and printed by an Administrator for documentation purposes.

LIMS Integration



Add more efficiency to your workflow by integrating the NanoPhotometer® with your LIMS to control processes, eliminate errors and save time. The NanoPhotometer® can be integrated with any LIMS software provider.