

The Thermo Scientific SpectraSYSTEM PDA Detector uses Patented Thermo Scientific LightPipe technology to ensure photo diode array detection with the highest sensitivity.

Thermo Scientific SpectraSYSTEM PDA Detector

- Patented LightPipe™ technology for highest sensitivity
- 5 cm path length, 10 μ L LightPipe flow cell provides the highest sensitivity available for HPLC applications
- Fiber-optic beam shaper provides maximum peak resolution
- Easy maintenance with integrated wavelength validation
- Integrated vacuum degasser for convenient overall system compact design

PDA Detector

The SpectraSYSTEM™ PDA is an easy-to-use detector designed to offer the highest sensitivity. The detector comes equipped with a 5 cm LightPipe flowcell that offers extremely low level of dispersion to retain peak shape and chromatographic resolution.

The innovative fiber-optic beam shaper converts the circular beam of light exiting the flowcell into a vertical beam, emulating a slit while providing nearly 100% light throughput to the diodes.

The combination of the patented LightPipe technology with the fiber-optic beam shaper provides the high sensitivity and resolution needed for all chromatographic separations.

Integrated Vacuum Degassing

The SpectraSYSTEM PDA module has an integrated constant vacuum membrane degasser that effectively removes dissolved gases from the mobile phases resulting in increased flow rate stability, accurate gradient composition, low pulsation, and stable baselines.

Easy Maintenance

The SpectraSYSTEM PDA has an integrated holmium oxide solution-filled cuvette for validating wavelength accuracy. This holmium oxide in perchloric acid solution is immensely advantageous to the solid holmium oxide filters used by most manufacturers, because it provides wavelength verification across the entire spectral range.

Software Control

The SpectraSYSTEM PDA can be controlled as a component of the SpectraSYSTEM by the Thermo Scientific ChromQuest Chromatography Data System.



Thermo Scientific ChromQuest Chromatography Data System

ChromQuest™ offers maximum flexibility and efficiency in setting up chromatographic methods and optimizing the performance of the SpectraSYSTEM. ChromQuest protects your results by ensuring data traceability and integrity with enhanced security features, electronic documentation, and features for 21 CFR Part 11 compliance. Sophisticated analytical tools facilitate high sample throughput and powerful data processing for liquid chromatography.

ChromQuest maximizes laboratory efficiency with project management for information storage and transfer. ChromQuest uses robust integration, flexible calibration routines, and advanced spectral analysis tools to accelerate data analysis and results generation. When operating the SpectraSYSTEM system as a stand alone LC solution, use ChromQuest for complete instrument control and data handling.

Certification and Qualification Services

Every SpectraSYSTEM PDA is tested at the factory prior to shipment to ensure that it meets or exceeds performance specifications. A Declaration of Conformity (DC) accompanies each PDA and documents test results. On-site field testing (optional) qualifies system performance.

Ordering Information

Part Number	Description
60053-60141	UV1000 10 mm Flow Cell
60053-60143	UV2000 10 mm Flow Cell
9550-0234S	10 mm 15 µL Flow Cell
9551-0023	D2 Lamp
9551-0022	W Lamp
60053-60138	SN4000 System Controller
CHROM-64510	ChromQuest 5.0 Full Install
A5765-073	SpectraSYSTEM Accessory Rack

Specifications

Wavelength Range

190–800 nm at 1 nm increment

Wavelength Accuracy

± 1 nm at 254 nm and 640 nm

Wavelength Calibration

Using Holmium oxide solution

Wavelength Resolution

1.2 nm (512 pixel array)

Absorbance Non-Linearity

< 5% at 2.0 AU at 257 nm

Absorbance Range

-2.0 to +4.0 AU, 20-bit resolution

Drift

< 1 mAU/hr after warm-up at 254 nm at a stable temperature (± 1 °C)

Light Source

Pre-aligned Deuterium and Tungsten lamps

Rise Time

User selectable: 0, 0.02, 0.05, 0.1, 0.2, 0.5, 1, 2, 5, or 10 sec

Scan Rate

User selectable: 0.5, 1, 2, 4, 5, 10, 20, 40, or 80 Hz

Discrete Channels

Three wavelength selectable channels

Short-Term Noise (50 mm flow cell)

< 6 µAU/cm at 254 nm at 5 Hz (20 Hz scan rate)
< 1.5 uAU/cm at 254 nm at 5 Hz (40 Hz scan rate); typical
< 0.3 uAU/cm at 254 nm at 5 Hz (80 Hz scan rate); typical

Warm-up Time

90 min required to meet noise and drift specifications

Cell Dimensions

10 mm, 2 µL LightPipe flow cell
50 mm, 10 µL LightPipe flow cell

Cell Pressure Range

0–1000 psi

Analog Outputs

20-bit digital/analog conversion, unattenuated at 10 mV/AU, 100 mV/AU, or 1.0 V/AU

Diodes

512

Diode Spacing

1.2 nm

Degasser Type

Integral, self-adjusting, 4 channel vacuum membrane (Teflon® AF)

Degasser Hold Volume

< 500 µL per channel

Remote Controls

Ethernet interface for PC-based software control

Operating Temperature

10–30 °C

Ambient Environment

10–40 °C, 5–95% relative humidity (non-condensing)

Dimensions

18 × 36 × 47 cm (H × W × D)

Weight

19.5 kg

Power Requirements

100/115 or 230 VAC, 50/60 Hz, 225 VA max

Product Certification

EMC
CE
TUV CUS
FCC (EMI)

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