

Smartline

► PDA Detector 2800



Full range diode array detector

The Smartline PDA Detector 2800 is based on advanced fiber optics technology. It combines excellent technical specifications with outstanding operability.

Optical excellence – No other instrument of this kind provides such a wide wavelength range (when equipped with deuterium and tungsten-halogen lamp) matched with high light source intensity up to the NIR range. The detector has a very high resolution at 0.8 nm per pixel and operates with an impressive wavelength accuracy of ≤ 0.5 nm and a wavelength reproducibility (precision) of ≤ 0.1 nm. The Smartline PDA Detector 2800 delivers the best results in terms of sensitivity, noise and drift.

Simply reliable – Due to its unique design the Smartline PDA Detector 2800 has no delicate moving parts to break down, operates without a reference channel or special »see through« lamps, and does not require a time consuming cold-start calibration. The instrument is completely controlled by the HPLC software. Its Ethernet interface provides for easy and secure connection to a TCP/IP network or directly to a PC, enabling reliable communication.

Advanced functions – The Smartline PDA Detector 2800 can simultaneously acquire chromatogram data at up to four wavelengths and perform spectra scans at a maximum rate of 10 per second (the scan range can be selected from 190–1020 nm). In conjunction with the chromatography software this diode array detector offers features like 2-D and 3-D chromatograms, spectra libraries, peak purity tests, and more. This detector provides two adjustable software-controlled analog outputs for the support of preparative applications.

Application flexibility – The variety of available flow cells and the option to easily extend the fiber optics for positioning the cell outside the housing, make this detector well-suited for a wide range of applications.

Technical data

Detector type	diode array detectors	UV
	UV / VIS / NIR	512
Number of diodes	1 024	4 (data recording)
Channels	4 (data recording)	deuterium (D ₂) and tungsten-halogen
Light source	deuterium (D ₂) and tungsten-halogen	190–620 nm
Wavelength range	190–1 020 nm	≤ 0.5 nm
Wavelength accuracy	≤ 0.5 nm	≤ 0.1 nm
Wavelength precision	≤ 0.1 nm	0.8 nm/diode
Resolution	0.8 nm/diode	≤ 1 × 10 ⁻⁵ AU
Noise*	≤ 1 × 10 ⁻⁵ AU	≤ 5 × 10 ⁻⁴ AU/h
Drift*	≤ 5 × 10 ⁻⁴ AU/h	0–2.0 AU
Linearity	0–2.0 AU	0–2.0 AU
Connection of the flow cell	(both models) via fiber optics, optional extension available for external use of flow cell	
Digital control and output	Ethernet	
Analog output	2 x ± 10 V (scalable)	
Wavelength verification	optional with holmium oxide filter cell	
Power supply	115 / 230 V, 50–60 Hz, 100 W	
Dimensions	226 x 185 x 410 mm (W x H x D)	
Weight	8.5 kg	

*according to ASTM E1657-94

Ordering information

Order no.	Photometric detection system	Order no.	Preparative flow cells²
A5250	Smartline PDA Detector 2800 UV/VIS/NIR incl. lamps	A4133	0.5 / 1.25 / 2 mm, stainless steel, 1/8"
A5251	Smartline PDA Detector 2800 UV incl. D ₂ lamp	A4134	0.5 / 1.25 / 2 mm, PEEK, 1/8"
	Analytical flow cells¹	A4135	0.5 / 1.25 / 2 mm, stainless steel, 1/4"
A4130	10 mm, 10 µl, stainless steel	A4136	0.5 mm, stainless steel, 1/16"
A4131	3 mm, 2 µl, stainless steel	A4137	0.5 mm, PEEK, 1/16"
A4132	3 mm, 2 µl, PEEK		Test cell
		A4129	Holmium oxide test cell
		A4139	Standard test cell

¹⁾ path length, volume, material

²⁾ path length, material, capillary diameter

Technical data are subject to change without notice.

Visit www.knauer.net for details on complete HPLC systems, HPLC columns, and osmometers.

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