Waters
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Arc Premier 2998 PDA Detector

The Waters™ Arc™ Premier 2998 Photodiode Array (PDA) Detector offers advanced optical detection and MaxPeak™ High Performance Surfaces (HPS) Technology, providing unprecedented trace impurity detection and quantification in conjunction with spectral analysis capabilities. It is the ideal detector for any lab application from compound identification to method development. For routine analyses, the Arc Premier 2998 PDA Detector is reliable, easy-to-use, and has enhanced software control to provide flexibility for simultaneous 2D and 3D operation.

OPERATING SPECIFICATIONS[1]

Wavelength range	190 to 800 nm
Bandwidth	1.2 nm
Wavelength accuracy	±1 nm (via patented[2] Erbium filter)
Wavelength repeatability	±0.1 nm
Photodiodes	512
Digital resolution	1.2 nm/pixel
Linearity[3]	≤5% at 2.0 AU, propylparaben, 257 nm, dry analytical flow cell
Baseline noise[3]	≤10 x 10^{-6} AU peak to peak, 254 nm, 2 points/s, 1.0 s, 30 s segments, bandwidth 3.6 nm (3-pixel bunch), dry analytical flow cell
Drift[3]	≤1.0 x 10^{-3} AU/hour, 254 nm, 2 points/s, 1.0 s, 30 s segments, bandwidth 3.6 nm (3-pixel bunch), dry analytical flow cell
Sampling rate	Up to 80 points/s

OPTICAL COMPONENT SPECIFICATIONS

Light source	Deuterium arc lamp
Warranty:	2000 hours or one year (whichever comes first)
Flow cell design	Patented TaperSlit™[4]
Path length	10 mm (analytical flow cell)
Flow cell volume	8.4 µL (analytical flow cell)
Pressure limit	1000 psi (analytical flow cell)
Wetted materials	Fluoropolymer, fused silica, MP35N, PEEK, titanium

ELECTRICAL SPECIFICATIONS

Power requirements	100 to 240 VAC
Line frequency	50 to 60 Hz
Power consumption	195 VA (nominal)
Inputs	Four event inputs
Outputs	Four outputs (2 analog, 2 event)

PHYSICAL/ENVIRONMENTAL SPECIFICATIONS

Dimensions	Width: 34.3 cm (13.5 inches) Height: 20.8 cm (8.2 inches) Depth: 61.0 cm (24.0 inches) Weight: 14.5 kg (32 pounds)
Operating temperature range	4 to 40 °C (39.2 to 104 °F)
Operating humidity range	20% to 80%, non-condensing
Audible noise	<58 dBA

ORDERING INFORMATION	PART NUMBER
Arc Premier 2998 Photodiode Array Detector (MaxPeak HPS analytical flow cell included)	176019010
Optional flow cells: Analytical 8.4 µL volume, 10 mm path length	205002278

References

1. All performance specifications are measured following a warm-up period of one hour with ambient ΔT ≤±2.0 °C/hour.
2. U.S. Patent Numbers: 6,423,249 and 6,783,705.
3. ASTM E1657-98.
4. U.S. Patent Number: 5,883,721.

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