PN3510 ELS
Evaporative Light Scattering Detector

ELS DETECTION DT
19.929nV   60.9°C

PN3510 ELS Detector

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Features

The PN3510 ELS detector is a new type of Evaporative Light Scattering detector for universal concentration detection in FFF applications. The system has been designed and optimized for wide use with Field-Flow Fractionation by offering a significant higher detection sensitivity and basically no signal drift or pressure dependence, making it an ideal alternative to common Refractive Index Detection (RI). ELS detection offers about 10 times higher sensitivity for detection of analytes coupled to FFF when compared with conventional RI detection. Especially for Thermal FFF (TF2000 Series) and Flow FFF (AF2000 Series) and for applications including macromolecules in organic solvents or with volatile aqueous solvents the PN3510 ELSD is the ideal choice.

The detector is easy and fast to set-up and is ready for use just 30 minutes after powering-up. It is possible to select a primary method which is a set of conditions appropriate for 90% of all applications. However, of course the method can also be optimized for superior detection of semi-volatile analytes, low concentrations and less volatile mobile phases and high flow rates as well, by just selecting a sub-ambient Thermo-Split temperature.

Unlike halogen light sources, the laser does not need replacement and the intensity is maintained with internal feedback and displayed and recorded for reproducible results. The fully warranted Teflon nebulizer provides superior solvent and chemical resistance, eliminates sample build-up even at high temperatures, does not permit sample carry over or increased noise from surface leaching. Reproducible droplet distributions are assured by thermally isolating the nebulizer from the spray chamber and drift tube, improving reproducibility between methods. Low gas pressure and flow requirements allow use of cylinder, house systems, or gas generators. The pneumatic system is protected by a high pressure shut off, and provides a signal in the event of unstable or low pressure.

Communication, connection and triggering between the ELS detector and NovaFFF software is performed via an analog output, or alternatively using other chromatography standard software.

PN3510 ELS Main Features
- Very Low Detection Limits (ca. 5 ng)
- Enhanced Dynamic Range (up to 0.25 mg or 3 + orders of magnitude)
- Outstanding Reproducibility (~3% RSD)
- Very Narrow Peak Widths (1 sec)
- Low Evaporation Temperatures (3 mL/min water at 10°C SP/40°C DT)
- No Baseline Shift with extreme Gradients (0 – 100% in 10 min)

Ordering Information

S-DET-3510-001 PN3510 ELS Detector

Z-DET-3510-001 Glass Nebulizer
Z-DET-3510-002 O-Ring Teflon red
Z-DET-3510-003 O-Ring Viton black

Specifications

- Display:
  2 line x 20 character per line VFD (vacuum fluorescence display)

- User Interface:
  Six multi-function buttons

- Evaporative Zone Temperature:
  Ambient to 120°C

- Thermo-Split Chamber Temperature:
  10°C to 60°C

- Liquid Flow Rate:
  0.2 mL/min to 5 mL/min

- Gas Requirements:
  approx. 4 - 5 bar Nitrogen or other inert gas

- Gas Consumption:
  ~3 slpm (standard liters per minute)

- Operating Conditions:
  Intended for indoor use only, 15°C to 30°C and < 90% rel. humidity non condensing

- Wetted Materials:
  Stainless steel, glass, anodized aluminium, PTFE

- Light Source:
  670 nm laser diode, < 5 mW

- Detector:
  Hermetically sealed photo diode/operational amplifier

- Output Signal:
  0 - 1 V_{DC}

- Interface:
  D-Sub type 9-pin (RS232) serial interface, contact closure

- Power Requirements:
  120/220-240 V, 50/60Hz, 600W

- Dimensions (W x H x D)
  350 x 160 x 440 mm

- Weight:
  21 kg

Technical specifications are subject to change without further notice.