

## Smartline

### ► RI Detector 2300 and 2400



## Reliable refractive index detector

KNAUER Smartline refractive index (RI) detectors meet the needs of modern liquid chromatography applications. They are best suited for the detection of substances that do not absorb in the UV range, both in high performance liquid chromatography (HPLC) and gel permeation chromatography (GPC/SEC) applications.

**Universal detection** – The RI measurement principle is based on deflection caused by changes in the refractive index and so can be used to analyze non-absorbing compounds such as carbohydrates, hydrocarbons, lipids, and polymers.

#### Wide application range

- The **Smartline RI Detector 2300** was developed for analytical applications and features high sensitivity at flow rates up to 5 ml/min.
- The **Smartline RI Detector 2400** is less sensitive to avoid saturation and can handle flow rates up to 100 ml/min.

**Stable detection** – The thermally isolated optical bench and flow cell minimize the effects of ambient temperature changes on measurements, resulting in a more stable baseline and reproducible results.

**Save Time** – Optimized design and a high-efficiency light source reduce thermal influence to keep equilibration times short.

**Maintenance friendly** – LED light source features long-term stability and an extremely long lifetime for practically maintenance-free operation.

**Reliable** – The self-diagnostic function at start up allows for optimum system performance under routine operation.

**Flexible control** – Full range auto-zero and reference cell flushing can be activated by software, via RS-232, via analog signal, or from the front-panel for maximum connectivity.

### Technical data

<b>Detector type</b>	refractometer	
<b>Light source</b>	LED	
<b>Wavelength</b>	950 nm	
<b>Refractive index range</b>	1.00–1.75 RIU	
<b>Model</b>	<b>RI Detector 2300</b>	<b>RI Detector 2400</b>
<b>Sensitivity</b>	$3 \times 10^{-8}$ RIU	$4 \times 10^{-7}$ RIU
<b>Noise</b>	$\leq \pm 1.5 \times 10^{-8}$ RIU	$\leq \pm 2 \times 10^{-7}$ RIU
<b>Measurement range</b>	$\pm 1 \times 10^{-3}$ RIU	$\pm 2 \times 10^{-3}$ RIU
<b>Maximum flow rate</b>	5 ml/min	100 ml/min
<b>Measurement angle</b>	45°	15°
<b>Cell volume</b>	15 $\mu$ l	9 $\mu$ l
<b>Time constants</b>	0.1/0.2/0.5/1.0/2.0/5.0/10.0 s	
<b>Wetted materials</b>	stainless steel, quartz glass, PTFE with 25 % glass fiber, FFKM perfluor elastomer, PEEK	
<b>Output</b>	signal polarity can be inverted	
<b>Digital</b>	RS-232	
<b>Analog</b>	$\pm 1$ V (scalable in 16 steps, for integrator)	
<b>Control</b>	RS-232, remote control strip, touchpad	
<b>GLP report</b>	total operation time, serial number	
<b>Display</b>	LCD 2 lines, 24 characters each	
<b>Power supply</b>	voltage range: 90–260 V, 47–63 Hz	
<b>Dimensions</b>	226 x 135 x 390 mm (W x H x D)	
<b>Weight</b>	8.0 kg	

### Ordering information

#### Order no. Refractive index detection system

A5160 Smartline RI Detector 2300

A5161 Smartline RI Detector 2400

#### Spare parts and accessories

A0287 15° measurement cell\*

A0294 45° measurement cell\*

A0277 set of seals\*

\* We recommend that exchange of cell or seals be done by authorized service personnel only.

Technical data are subject to change without notice.

Visit [www.knauer.net](http://www.knauer.net) for details on complete HPLC systems, HPLC columns, and osmometers.

Wissenschaftliche Gerätebau  
Dr. Ing. Herbert Knauer GmbH  
Hegauer Weg 38  
14163 Berlin, Germany



Your local distributor:

Phone: +49-(0)30-80 97 27-0  
Telefax: +49-(0)30-8 01 50 10  
E-Mail: [info@knauer.net](mailto:info@knauer.net)  
Internet: [www.knauer.net](http://www.knauer.net)