DSR-λ

Automatic Multiple Wavelength Refractometer

Sensor Module

Features

- Automatic Dispersion Measurement At 7 Wavelenghts
- Automatic Abbe Number Measurement
- Dispersion Measurement Of Carbohydrates, Viscous Materials, Glass, & Polymers
- Electronic Peltier Temperature Control (+18 to +30°C) (±0.01°C)
- ±0.0001 R.I. Accuracy
- Large LCD Display With Full Menu Prompts & User Profiles

SCHMIDT + HAENSCH

Opto-Electronic Measuring Instruments Since 1864

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SCHMIDT + HAENSCH

DSR-λ Multiple Wavelength Automatic Refractometer

The DSR-λ Multiple Wavelength Automatic Refractometer from Schmidt+Haensch is the world's first instrument to offer multiple wavelength measurement of refractive index at the digital, automatic level.

Refractometers measure the critical angle of total reflection and calculate the refractive index from this value. The R.I. of a substance depends on the wavelength of light and usually increases at smaller wavelengths. For a better characterization of this behavior, Emst Abbe introduced in the late 19th century what became known as the Abbe Number; it's an arithmetically dimensionless value calculated from measured refractive indices at 486.1, 589.3, and 656.3nm.

In modern times this formula isn't used as frequently, since the development of high-accurate refractometers made it possible to measure R.I. differences at a resolution of 0.00001. However, information regarding R.I. values at other wavelengths is lost. By accurately measuring samples at 7 separate wavelengths, the DSR-λ effectively takes R.I. measurements to the "fingerprinting" level. Many chemically different solutions may exhibit similar R.I. values at the traditional 589.3nm (sodium) wavelength. However, when a spectral-analysis takes place at the R.I. level, the key differences can be obtained from otherwise similar samples.

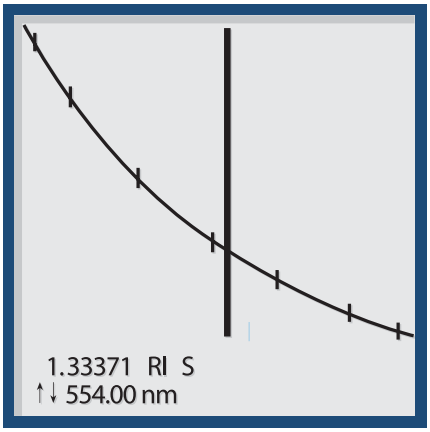
Electronic Peltier temperature control (+18 to +30°C) comes standard on the DSR-λ to deliver the highest level of precision for R.I. testing. With accuracy of ±0.01°C, a temperature is easily set and the refractometer quickly heats or cools to the target level before conducting measurements. The DSR-λ also features a long-lasting LED light source (100,000 hours), linear high-resolution CCD sensor, menu-driven backlit LCD displays, 4 user profiles, password protection, printer and data ports, & optional USB ports.

The included software package and RS-232C cable make it very easy to connect the DSR-λ to computers for collection of measurement data or for remote operation with full command of all functions. As new software versions are released, the instruments can also receive flash updates.

Schmidt +Haensch has been manufacturing precision opto-electronic instruments since 1864. All S+H instruments are manufactured in Germany.

Go with a name you can trust for the highest level in analytical instrumentation...choose Schmidt+Haensch.

Model ATR-W2



Graphical Plotting Of Data (w/ Interpolated Values)

Sensor Module

Technical Specifications

		DSR-λ
Cat. No.		45201
Measuring Range	RI:	1.33200 - 1.70000 (@589nm)
Resolution	RI:	0.00001
Accuracy	RI:	±0.0001
Optical Wavelengths:		400nm, 435.8nm, 486.1nm, 546.1nm, 589.3nm, 656.3nm, & 706.9nm
Custom Optical Wavelengths:		Available On Request
Measuring Light Source:		LED
Sensor:		Linear Hi-Res CCD
Prism:		Synthetic Sapphire (YAG Optional)
Prism Sealant:		Viton®
Prism Assembly Insert:		N/A
Stage:		Stainless Steel
Working Temperature:		+18 to +30°C (Custom Temperature Ranges Available)
Ambient Temperature:		+10 to +40°C
Temperature Correction Range:		+18 to +30°C
Temperature Sensor Accuracy:		±0.03°C
Temperature Control:		Electronic Peltier
Temperature Control Stability:		±0.01°C
Sample Quantity:		>2.0mL
Zero Calibration Liquid:		Distilled Water
Custom Calibration Liquid:		Liquid Standard
Calibration History:		Yes
Display:		LCD, 16x16 Characters
Keypad:		20-Key Alphanumeric
Password Protection:		Yes
Languages:		English & German
Printer Interface:		Centronics (Parallel)
Computer Port:		RS-232C
USB Port:		Optional
Power Requirements:		90-240V AC, 50/60Hz
Power Supply:		15V DC
Dimensions	Control:	290 x 220 x 120mm
	Sensor:	200 x 160 x 140mm
Weight	Control:	3.0kg
	Sensor:	4.5kg
Manufactured In:		Germany

Applications...

Refractive Index Determination ● Research & Development ● Quality Control ● Product Purity ● Product Fingerprinting ● Optical Material Characterization ● ASTM Methods 1218, 1747, etc. ● Qualitative Analysis (Identification Of Samples) ● Quantitative Analysis Of Dissolved Solids In Water Or Other Solvents ● Quantitative Analysis Of Sugars, Solvents, Glycol, Fat, Oechsle, etc.

Markets...

Food ● Beverage ● Sugar ● Clinical ● Medical ● Pharmaceutical ● Cosmetic ● Chemical ● Petrochemical

Please refer to our additional brochures for the following:

S+H ATR-ST Series Automatic Refractometers
S+H ATR-SW Series Automatic Refractometers
S+H ATR-W1 Series Automatic Refractometers
S+H ATR-W2 Series Automatic Refractometers
S+H iPR-Series Process Refractometers

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