The Unico S2100 Series Spectrophotometers are simple, flexible, easy-to-use and maximize value while providing performance you would expect for a 5nm bandpass instrument. The S2100 Series simplicity is reflected in its attractive price without sacrificing accuracy and precision. The value is evident from the performance provided every day, all year. The flat, low-profile design minimizes bench “dead space”, allowing room for cuvette racks, notebooks or a laptop computer. To simplify documentation, the S2100 Series spectrophotometers can be controlled from UNICO® Application Software for Windows® through the built-in RS-232C port. The standard software package expands the applications to include standard curve, Kinetics (Abs. vs Time) and the advanced software package further adds DNA/Protein analysis and Scanning capabilities. Test data can be exported into Microsoft Excel® for further analysis.

Easy-to-Use, Easy-to-Read Display

The two-line, LED display is large enough to read from any angle and distance, so there is no need to search or “squint”. On model S2100UV, a simple push of the button on the display panel allows you to turn on/off either lamp, extending the lifetime. Readily switch modes from Absorbance to % Transmittance, or enter a Concentration or Dilution Factor. No complicated menu to slow down technicians from completing other important tasks. The standard large, flexible sample compartment has a smooth 4-cell holder with 4 glass cuvettes and 2 quartz cuvettes (for UV models only) included. A wide variety of accessories are available.

Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>S2100 (Visible)</th>
<th>S2100UV (UV/Vis)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wavelength Range</td>
<td>325nm – 1000nm</td>
<td>200nm – 1000nm</td>
</tr>
<tr>
<td>Bandwidth</td>
<td>5nm</td>
<td>5nm</td>
</tr>
<tr>
<td>Optical System</td>
<td>Single beam, grating system 1200 lines/mm</td>
<td>Single beam, grating system 1200 lines/mm</td>
</tr>
<tr>
<td>Wavelength Accuracy</td>
<td>±2nm</td>
<td>±2nm</td>
</tr>
<tr>
<td>Wavelength Repeatability</td>
<td>±1nm</td>
<td>±1nm</td>
</tr>
<tr>
<td>Wavelength Readability</td>
<td>1nm</td>
<td>1nm</td>
</tr>
<tr>
<td>Photometric Range</td>
<td>0-125%T, -0.1-2.5A, 0-1999 C (0-1999F)</td>
<td>0-125%T, -0.1-2.5A, 1-999C (0-1999F)</td>
</tr>
<tr>
<td>Photometric Accuracy</td>
<td>±0.004A @0.5A</td>
<td>±0.004A @0.5A</td>
</tr>
<tr>
<td>Stray Light</td>
<td>&lt;0.3%T @ 340nm &amp; 400nm</td>
<td>&lt;0.3%T @220nm &amp; 340nm</td>
</tr>
<tr>
<td>Stability</td>
<td>±0.002A/hr @500nm</td>
<td>±0.002A/hr @500nm</td>
</tr>
<tr>
<td>Standard Cell Holder</td>
<td>4-position 10mm cell changer</td>
<td>4-position 10mm cell changer</td>
</tr>
<tr>
<td>Sample Compartment</td>
<td>Accommodates 100mm pathlength cuvette with optional holder</td>
<td></td>
</tr>
<tr>
<td>Display</td>
<td>Two-line, 9-digits</td>
<td>Two-line, 9-digits</td>
</tr>
<tr>
<td>Output</td>
<td>RS-232C</td>
<td>RS-232C</td>
</tr>
<tr>
<td>Software</td>
<td>Optional (S2100), Standard (S2100S)</td>
<td>Optional (S2100UV), Standard (S2100SUV)</td>
</tr>
<tr>
<td>Light Source</td>
<td>Tungsten Halogen Lamp</td>
<td>Tungsten Halogen/Deuterium Lamp</td>
</tr>
<tr>
<td>Power Requirements</td>
<td>115V/230V switchable</td>
<td>115V/230V switchable</td>
</tr>
<tr>
<td>Instrument Dimensions</td>
<td>470mm(W) x 400mm(D) x 140mm(H)</td>
<td>470mm(W) x 400mm(D) x 140mm(H)</td>
</tr>
<tr>
<td>Instrument Weight</td>
<td>12kg (26 lbs)</td>
<td>14.5kg (32 lbs)</td>
</tr>
</tbody>
</table>

Two models to choose from:

- S2100 Visible Spectrophotometer
- S2100UV UV/Vis Spectrophotometer
Install and start collecting your data
The UNICO Application Software expands your applications, assists in your data documentation and provides complete control of the spectrophotometer from a computer.

Applications include:
1. Abs./%T/Conc.
2. Standard Curve (Quantitative)
3. Kinetics (Abs. vs Time)
4. Scanning (with advanced software package #S2100-402)
5. DNA/Protein

Abs/%T/Conc
Measure absorbance, transmittance or concentration with standard or known factor.

Quantitative (Standard Curve)
Use up to 8 standards to establish standard curve. Four methods for fitting a curve:
1. Linear fit
2. Linear fit through zero
3. Square fit
4. Segmented

Kinetics (Abs vs. Time)
The Kinetics mode may be used for time course scanning or reaction rate calculations. Abs. vs. time graphs is displayed on the screen in real time.
Wait time, measurement time and time intervals may be entered.

DNA/Protein
Concentration and DNA purity are calculated: Absorbance ratios 260nm/280nm with optional subtracted absorbance at 320nm.
DNA Concentration = 62.9 x A260 – 36.0 x A280
Protein Concentration = 1552 x A260 – 757.3 x A280
Other wavelengths and factors may be entered.
S2100 Series Accessories and Options

Test Tube Holder (Item# S2100-101P)
Test tube holder kit for 8-20mm diameter test tubes. Includes universal base, V-type tube holder. The maximum tube height is 100mm.

Single Square Cell Holder (Item# S2100-103P)
Single square cell holder 10mm pathlength cuvette.

Water-Jacketed Cell Holder (Item# S2100-105P)
Water-Jacketed single cell holder kit including universal base and one water-jacketed cell holder for 10mm square cuvette. It maintains desired temperature by circulating constant-temperature water from water bath (water bath required and not included).

Peltier Unit (Item# S2100-107P)
Peltier unit for continuous temperature control from 15 to 40°C. The x-y adjustable mechanism is used to align cell with optical beam for micro cell setup. The temperature display resolution is 0.1°C. The unit consists of a controller and a thermoelectrically controlled cell holder.

Peltier/Sipper System (Item# S2100-109P)
Peltier/Sipper system for single 10mm cell flow thru and continuous temperature control from 15 to 40°C. The x-y adjustable mechanism is used to align cell with optical beam for micro flow cell setup. The temperature display resolution is 0.1°C. The unit consists of a Peltier/Sipper controller with peristaltic pump and a thermoelectrically temperature controlled cell holder with panel. The unit can be used as flow thru only or temperature control only. Note: Requires flow cell and proper tubing to complete flow thru setup.

Cuvettes
A large variety of optical glass and quartz cuvettes available including standard square glass cells, quartz cells, long path cells, semi-micro and micro cells, short path cells, cylindrical cells, flow thru cells. See price list for individual item number listings.

Long Path Cell Holder (Item# S2100-102P)
Rectangular long path cell holder kit for single cell up to 100mm pathlength. Includes universal base and one holder.

Cylindrical Cell Holder (Item# S2100-104P)
Cylindrical cell holder kit for single cell up to 100mm pathlength (20mm dia.). Includes universal base and one holder.

Micro Cell Holder (Item# S2100-106P)
Measure a sample with volume of 100uL using micro cell holder. The x-y adjustable mechanism is used to align cell with optical beam for optimized results.

Ambient Sipper Unit (Item# S2100-108P)
Sipper system for single cell flow thru. The x-y adjustable mechanism is used to align cell with optical beam for micro flow cell setup. The sipper unit consists of a flow-thru controller with peristaltic pump and a flow-thru front panel (flow cell and tubing not included). Note: Requires flow cell and proper tubing to complete flow thru setup.

Reflectance Measurement Attachment
(5º incident angle) (Item# S2100-110)
The technique of reflectance measurement is used for evaluation of materials relative to a reflectance surface. The minimum sample is (L) 30 x (W) 30 mm.