



T65

UV-VIS SPECTROPHOTOMETER

The T65 is a high performance single beam with a fixed 1.8nm or variable (1, 2, 4, 5nm) bandwidth, which is innovative in terms of instrument application, mechanical and optical design, electronic control and software whilst retaining features that are established and accepted through the industry.

The T65 UV-Visible Spectrophotometer is able to carry out photometric measurement, spectrum scans, quantitative determination, multi-wavelength analysis, Kinetic scans and DNA/Protein analysis using the sensitive built in touch screen.

When interfaced to a PC using the UV-Win software, many more features are available including method and data storage, exportation of data in multiple formats and GLP administration features.

The T65V instrument has a spectral range of 325 -1100nm. The T65UV instrument has a spectral range of 190 -1100nm. The unique optical design automatically eliminates the error caused by light source and sample changes, while the fully sealed optical structure has all mirrors equipped with SiO₂ protective coating to avoid stray light caused by dust or corrosive gas.

FEATURES & FUNCTIONS

- High performance fixed (1.8nm) or variable (1, 2, 4, 5nm) spectral bandwidth.
- SiO₂ coated optical mirrors
- Holographic blazed grating 1200 lines /mm.
- Wavelength accuracy +/- 0.5nm.
- Supplied with a motorised 8 cell changer and pre-aligned Tungsten and Deuterium lamps.
- Sensitive 7inch touch screen offers high degree of automation requiring minimal key depressions to start analysis.
- A number of optional accessories available which increase the flexibility of the analysis.
- Stand alone analysis for photometric measurement, spectrum scans, quantitative determination, Kinetic scans, multi-wavelength measurement and DNA/Protein analysis.
- SPA-Win software gives additional functionality including compliance with GLP protocol.
- Simple mechanical structure and modular electronics make routine maintenance very easy.

OPTICAL SYSTEM & COMPONENTS

High quality optical components ensure reliable analytical data with low stray light achieved using very low noise electronic circuits.

The single beam optics ensures good optical stability.

Pre-aligned Deuterium and tungsten light sources deliver superior stability across the full wavelength range. Both types of lamps are inexpensive and easy to replace when required.

The modular design allows easy access to all optical surfaces which can be easily cleaned to maintain optimum reflectivity over the lifetime of the instrument.

Suspension designed optical system with all parts independantly fixed on an aluminium deformation free base which is resistant to environmental interference and vibration



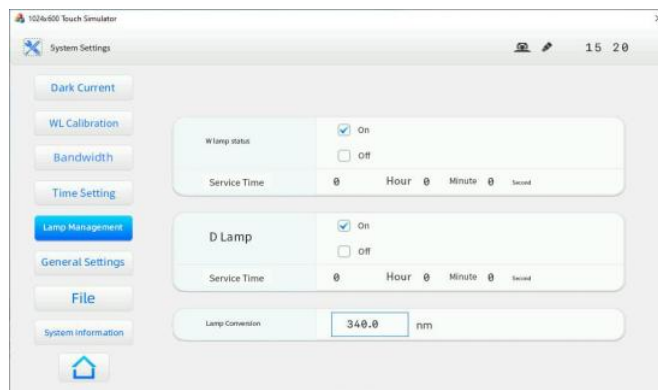
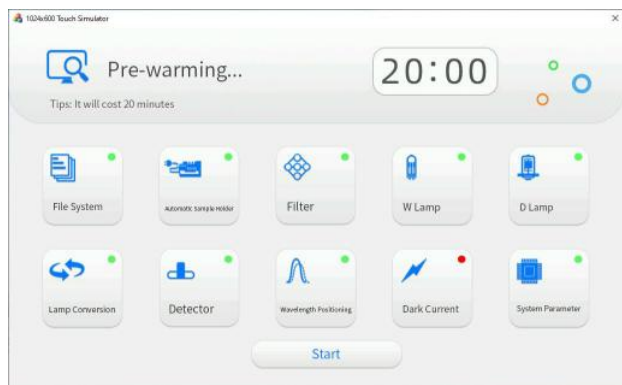
Standard 8 Cell Changer.

TOUCH SCREEN FEATURES

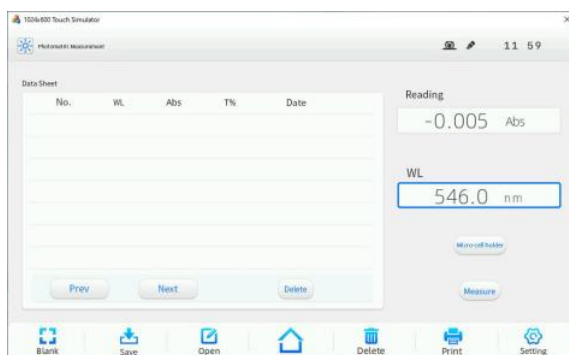
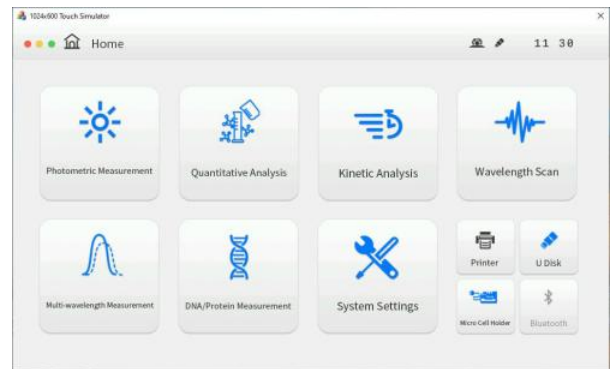
The instrument utilises a 7 inch smart touch screen with precise touch and a response time of less than 3ms. The high sensitivity screen has a strong stability and user brightness adjustability for easy reading in all light conditions.

Automatic initialisation: All system parameters are tested when instrument is switched on. The status indicator of each option shows pass or fail.

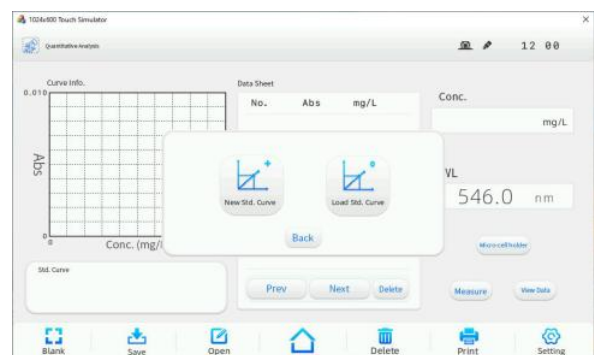
Lamp monitoring system: One touch switching on/off of tungsten lamp and Deuterium lamp with real time monitoring. lamp conversion selection can be easily changed between 300nm to 400nm.



- Data can be saved in the host or onto a USB memory device
- Data printing by connection of general inkjet or laser printer.
- Data sharing by Excel, Txt data transfer and Windows clipboard.
- Easy switch sample position by automatic motorised 8 cell holder.
- Commonly used concentration units available like: ug/L, mg/L, g/L, ppm and mol/L
- Three levels of scan speeds and six levels of intervals are available to optimise the scanning requirement.
- Multi-functions like Photometric measurements, Quantitative, Kinetic analysis, Spectral Scanning, Multi-wavelength and DNA/Protein.Data.



Photometric Analysis



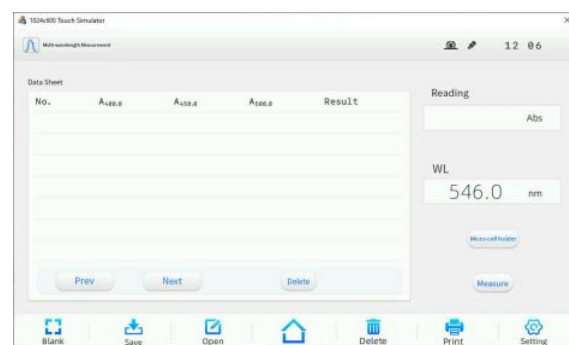
Quantitative Analysis



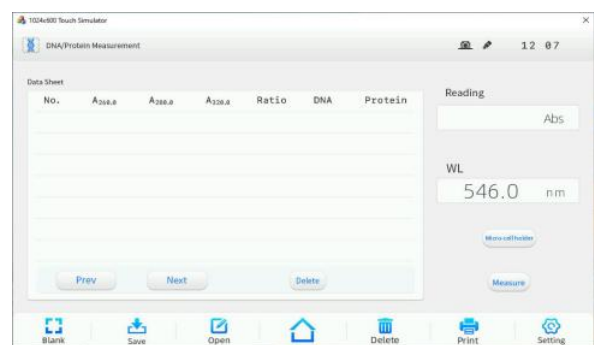
Kinetic Analysis



Wavelength Scan



Multi-wavelength measurement



DNA/Protein measurement

INSTRUMENT ACCESSORIES

A number of optional accessories are available to extend the application range of the instrument. The following are just some of the available accessories: Automatic 8 - Position Cell Holder, Automatic 5 - Position Variable Cell Holder, Thermostatic Cell Holder, Adjustable Micro Cell Holder, Reflection Accessory, Integrating Sphere, Film Sample Holder and Test Tube Sample Holder.



Automatic 8 Cell Holder.



Automatic 5 Cell Holder.



Film Sample Holder



Integrating Sphere



Test Tube Holder



Reflectance Accessory

SPA-WIN SOFTWARE

SPA-WIN software is a powerful, intuitive software product used for connectivity to the PG Instruments T65 benchtop Spectrophotometer. SPA-WIN offers complete instrument control along with data acquisition and a whole host of mathematical tools for interpretation of measurement results. GLP offers extensive administrative capabilities along with a detailed audit trail. The SPA-Win software is separated into six key workspaces:

- Photometric Analysis
- Quantitative Analysis
- Kinetic Analysis
- Spectral Analysis
- Multi-Wavelength Analysis
- DNA-Protein Analysis

ADMINISTRATION

SPA-WIN offers all of the features and functions required for use in compliance with the guidance specified in 21CFR part11-Electronic Records.

- Administrative settings can be made where Analysts may require conformity to GLP/GMP.
- Create user groups specifying exactly what actions they are able to perform.
- Add New Users to custom User Groups to determine their privilege settings.
- Automatically log software activity in an Audit Trail.
- Use Password control to ensure Users are logged in for instrument usage.

Specifications

Instrument Type	T65V	T65UV	T65UV+
Optical System	Single Beam Optics		
Scan Speed	Three levels selectable		
Wavelength Range	325 -1100nm	190 nm - 1100nm	
Wavelength Accuracy	± 0.5nm		
Wavelength Reproducibility	≤ 0.2nm		
Spectral Bandwidth	1.8nm		1, 2, 4, 5nm
Photometric Mode	Transmittance, Absorbance, Energy and Concentration		
Photometric Range	-0.3 - 3.0Abs		
Photometric Accuracy	0.002A (0 - 0.5A), 0.004A (0.5 - 1.0A), 0.2%T (0 - 100%T)		
Photometric Reproducibility	0.001A (0 - 0.5A), 0.002A (0.5 - 1.0A), 0.15%T(0 - 100%T)		
Photometric Noise	0.001A (500nm) 30min warm-up		
Baseline Flatness	0.002A		
Baseline Stability	0.001A/h (500nm, 0Abs), 2hr warm-up		
Stray light	≤ 0.05%T (220nm NaI, 340nm NaNO ₂)		
Standard Functionality	Photometric, Quantitative, Spectrum, Kinetic, Multi- Wavelength and DNA measurements		
Cell Holder	Automatic 8 Cell changer std. Other option available		
Detector	Silicon Photo Diode		
Light Source	W Lamp	W Lamp and D2 lamp	
Display	Digital 7inch 800 x 480 Touch Screen		
Printer	Optional Inkjet or Laser Printer		
PC Interface	USB		
Software Support	Local and SPA-Win		
Power Supply	230VAC 50Hz, 120VAC 60Hz available		
Weight	20Kg		
Dimensions (Width, Depth, Height)	490mm, 370mm, 210mm		

Each Unit is supplied with the following as standard:

1 x Qualification book	1 x Power cord
1 x 8 position 10mm path length motorised cell holder	1 x Instruction manual
1 Pair 10mm Quartz cells (T60UV/T60UV+ only)	1 x Dust cover
4 x 10mm glass cells	1 x Packing list



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