Sunrise™

ABSORBANCE MICROPLATE READER

The reliable solution for ELISAs and kinetic assays.

Highlights include:

- ELISA, kinetics and agglutination readings
- Temperature control option for enzyme kinetics
- Tunable wavelength option for high flexibility
- Advanced 12-channel optics for fast results
- 3-year warranty as commitment to quality
- Microplate shaking capability
- Ready for robotic integration
- Powered by Magellan™ data analysis software
- Advanced curve-fitting and QC functions
- Supports data export to LIS
- IQ/OQ procedure available
- Designed to meet IVDD 98/79/EC* and 2011/65/EU RoHS
- Prepared to meet FDA 21 CFR part 11*

GreenInnovation by Tecan

The Sunrise is Tecan's reliable absorbance microplate reader for 96-well plates.

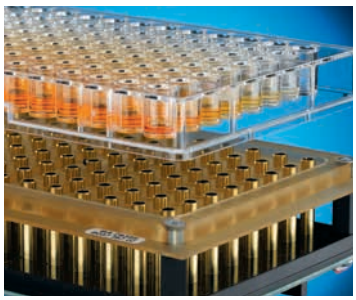
It provides high speed and versatility, with options such as temperature control and free wavelength selection for numerous photometric applications in diagnostics and research laboratories.

With a large number of instruments installed worldwide, it is well known for its reliability and performance.

The Sunrise reader is ready for integration into Tecan liquid handling platforms, such as the Freedom EVOlyzer®, Freedom EVO® and Fluent®.

Temperature control up to 42 °C for kinetic studies

The Sunrise has an advanced temperature control option, consisting of:
· a Peltier-based temperature control element for heating the plate from the bottom, distributing the airflow to each well via an array of metal tubes.
· an additional top heating element located above the plate, to minimize evaporation and provide a good temperature distribution across the plate.
This sophisticated top- and bottom-heating system makes the Sunrise ideal for kinetic studies.



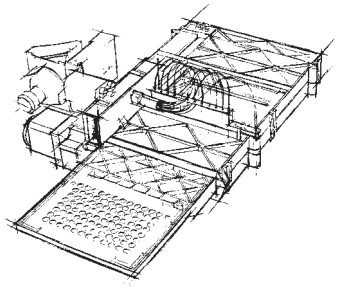
301 wavelengths on-board for full flexibility

The tunable wavelength option includes a special gradient filter, providing free wavelengths selection from 400 to 700 nm in increments of 1 nm.
· Enjoy the full application flexibility for typical ELISAs, with 301 wavelengths on a single gradient filter slide.
· This option also allows spectral scanning of a sample in the visible range of the spectrum to help identify a suitable measurement wavelength.

Advanced optics for fast measurements

The Sunrise reader uses advanced optics with individual measurement channels to read 12 wells in parallel. It can therefore process an entire 96-well plate in less than six seconds. Additionally, the Sunrise uses a reference channel for optimizing light intensity.

At instrument start-up, a self-check of major components is performed, making sure that the instrument is functional. In addition, the lamp is automatically switched off when not in use, to prolong the lifetime of the lamp.



Powered by Magellan data analysis software

Magellan software supports qualitative and quantitative data analysis for ELISAs and enzyme kinetics. It provides data exchange with Laboratory Information Systems (LIS) in ASCII & ASTM formats and is available in nine languages. Magellan tutorials and example files help you getting started easily.

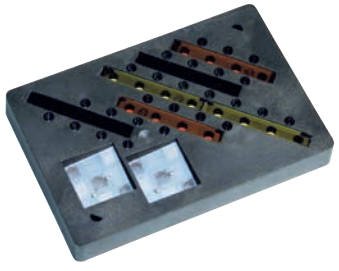
Prepared for your regulatory needs

Together with the optional Magellan Tracker software the Sunrise reader is designed to meet the IVD-directive 98/79/EC, as well as prepared to meet the FDA-regulation 21 CFR part 11. Additionally the Sunrise reader is designed to meet the European directive 2011/65/EU RoHS for the reduction of hazardous substances, as well as China RoHS.

☑ 21 CFR Part 11*
☑ IQ/OQ*

QC-Pac™ 2 quality control tool for IQ/OQ

The QC-Pac 2 is a quality control tool offering a fast and easy way of checking the proper functionality of the Sunrise reader. It provides a system check appropriate for both installation qualification (IQ) and operational qualification (OQ), which is essential to ensure reliable, valid measurement data and reader functionality over time.



Specifications

Sunrise general specifications

Optical system	12 measurement channels, 1 reference channel	
Filters	Up to 6	
Wavelength range	340 to 750 nm	
Bandwidth @ 50 % transmission	10 +/– 2 nm	
Measurement range	340 to 399 nm	0 to 3.0 OD
	400 to 750 nm	0 to 4.0 OD
Measurement time	Single wavelength	6 seconds
	Dual wavelength	8 seconds
	Kinetic repeat time	5 seconds
Accuracy	0.0 to 2.0 OD/492 nm	< (1.0 % + 0.010 OD)**
	2.0 to 3.0 OD/492 nm	< (1.5 % + 0.010 OD)**
Linearity	340 to 399 nm	0.0 to 2.0 OD: <2 %, R^2 >= 0.999
	400 to 750 nm	0.0 to 2.0 OD: <1 %, R^2 >= 0.999
		2.0 to 3.0 OD: <1.5 %, R^2 >= 0.999
Precision	0.0 to 2.0 OD/492 nm	< (0.5 % + 0.005 OD)**
	2.0 to 3.0 OD/492 nm	< (1.0 % + 0.005 OD)**
Resolution	0.001 OD	
Interface	RS-232C (remote control)/parallel	
Shaking	Linear shaking in 4 different modes	
Physical data	Width	28.5 cm
	Depth	34.0 cm
	Height	14.5 cm
	Weight	6.2 kg (8.6 kg incl. all options)

Specification tunable wavelength option

Wavelength range	400 to 700 nm using gradient filter/340 to 750 nm using standard filter	
Accuracy	0.0 to 2.0 OD/492 nm	< (1.5 % + 0.010 OD)**
Linearity	0.0 to 2.5 OD/492 nm	<2 %, R^2 >= 0.999
Precision	0.0 to 2.5 OD/492 nm	< (1 % + 0.005 OD)**

Specification temperature control option

Temp. range	RT to 42 °C (resolution 0.1 °C)
Temp. accuracy	Typical +/-0.2 °C (max. +/-0.5 °C)

* Together with Magellan Tracker software
** Better than x % of measurement value plus corresponding OD value.
Note: All deviations from the measurement value are meant in positive and negative directions.

Sunrise is a Class II Laser Product when equipped with the Integrated Barcode Reader Option.

Australia +61 3 9647 4100 **Austria** +43 62 46 89 33 **Belgium** +32 15 42 13 19 **China** +86 21 220 63 206 **Denmark** +45 70 23 44 50 **France** +33 4 72 76 04 80
Germany +49 79 51 94 170 **Italy** +39 02 92 44 790 **Japan** +81 44 556 73 11 **Netherlands** +31 18 34 48 17 4 **Singapore** +65 644 41 886 **Spain** +34 93 490 01 74
Sweden +46 8 750 39 40 **Switzerland** +41 44 922 89 22 **UK** +44 118 9300 300 **USA** +1 919 361 5200 **Other countries** +43 62 46 89 33

Tecan Group Ltd. makes every effort to include accurate and up-to-date information within this publication, however, it is possible that omissions or errors might have occurred. Tecan Group Ltd. cannot, therefore, make any representations or warranties, expressed or implied, as to the accuracy or completeness of the information provided in this publication. Changes in this publication can be made at any time without notice. All mentioned trademarks are protected by law. In general, the trademarks and designs referenced herein are trademarks, or registered trademarks, of Tecan Group Ltd., Männedorf, Switzerland. A complete list may be found at http://www.tecan.com/trademarks. Product names and company names that are not contained in the list but are noted herein may be the trademarks of their respective owners. For technical details and detailed procedures of the specifications provided in this document please contact your Tecan representative.

Tecan is in major countries a registered trademark of Tecan Group Ltd., Männedorf, Switzerland.
© 2016 Tecan Trading AG, Switzerland, all rights reserved.

392347 V5.0 07-2016, 30111999

www.tecan.com/sunrise

TECAN.