



# LTEk

Microplate Reader



# Allowed to experience more than you expected.

## Greetings

LTEK is a corporation that focuses solely on Microplate Readers. LTEK was founded in South Korea in 2018 as an innovative corporation dedicated to advancing life science measurement equipment.

LTEK is powered by a team of highly specialized scientists, biomedical researchers, mechanical engineers, software engineers, and global marketing sales professionals, all dedicated to developing cutting-edge Microplate Readers for the biomedical field.

LTEK pioneers developing and manufacturing multimode Microplate Readers, harnessing our innovative technology in South Korea.

Our unwavering commitment to technological advancement truly sets us apart in the industry. This powerful and life science laboratory-targeted measurement equipment will consistently deliver successful results to your research.

LTEK is a global enterprise starting to hold a strong stand in the worldwide life science market.



## History



# INNO

## Microplate Reader (Absorbance)



### Description

- 200nm to 999nm wavelength range
- Wavelength selection monochromator
- Xenon flash lamp for a semi-permanent lifetime

### Certifications

- CE Marked
- RoHS
- ISO 9001 / ISO 13485 / ISO 14001

## Specification

Wavelength accuracy	±2nm	Resolution	0.0001 OD
Electrical requirements	INPUT 100 to 240V 50 / 60Hz (65W Adaptor)	OD accuracy	0~2 OD ± 1%
Microplate type	6- to 384-well plates	OD linearity	0~2 OD ± 1%
Detector	Photodiode	OD repeatability	0~2 OD ± 1%
Light source	Xenon flash lamp	Shaking	Two step speed
Wavelength range	200 to 999 nm	Weight	7.5kg
Wavelength selection	Monochromator	Dimension (mm)	333W x 303L x 245H
Application	End point, Kinetic, Spectral scanning, Well-area scanning	Software	INNO-X (Windows Software)
Dynamic range	0~4.0 OD	Supported software regression	Linear, Quadratic, Cubic, Log, Exponential, Point-to-point, 4PL

### Applicable optional products

Microvolume Plate (NANO-VC)	<ul style="list-style-type: none"><li>• Nucleic acid and protein quantification with DNA/RNA, Lysozyme, dsDNA, ssDNA, Etc.</li><li>• 2-2.5µL sample capacity with 24 wells</li><li>• 2.5ml cuvette holder</li></ul>
Quality Check Plate (INNO-Q)	<ul style="list-style-type: none"><li>• Absorbance linearity, accuracy, and alignment QC</li></ul>

# INNO-M

Multimode Microplate Reader (Absorbance + Luminescence)



## Description

- Multimode (Absorbance + Luminescence)
- 200nm to 999nm wavelength range
- Wavelength selection monochromator
- Xenon flash lamp for a semi-permanent lifetime

## Certifications

- CE Marked
- RoHS
- ISO 9001 / ISO 13485 / ISO 14001

## Specification

Absorbance	
Wavelength accuracy	±2nm
Electrical requirements	INPUT 100 to 240V 50 / 60Hz / (65W Adaptor)
Microplate type	6- to 384-well plates
Detector	Photodiode
Light source	Xenon flash lamp
Wavelength range	200~999 nm, 1 nm increments
Wavelength selection	Monochromator
Dynamic range	0~4.0 OD
Resolution	0.0001 OD
OD accuracy	0~2 OD ± 1%
OD linearity	0~2 OD ± 1%
OD repeatability	0~2 OD ± 1%
Shaking	Two step speed
Application	End point, Kinetic, Spectral scanning, Well-area scanning

  

Luminescence	
Wavelength range	300~700 nm
Detection system	PMT
Sensitivity	10 amol ATP
Peak wavelength	410 nm

  

Others	
Software	INNO-X (Windows Software)
Supported software regression	Linear, Quadratic, Cubic, Log, Exponential, Point-to-point, 4PL
Weight	8kg
Size	333W x 303L x 245H

  

Applicable optional products	
Microvolume Plate (NANO-VC)	<ul style="list-style-type: none"><li>• Nucleic acid and protein quantification with DNA/RNA, Lysozyme, dsDNA, ssDNA, Etc.</li><li>• 2-2.5µL sample capacity with 24 wells</li><li>• 2.5ml cuvette holder</li></ul>
Quality Check Plate (INNO-Q)	<ul style="list-style-type: none"><li>• Absorbance linearity, accuracy, and alignment QC</li></ul>

# INNO-W96

Microplate Washer(96pins)



## Description

- Microcomputer control, automatically complete the plate washing operation.
- The liquid level sensing function automatically detects the liquid level, and automatically alarms when the cleaning liquid is insufficient and the waste liquid is overflowing.
- The user-friendly operating system allows users to customize the plate type, set the number of washes, the amount of wash solution, the way to wash the plate, the suction point, the soaking and shaking time and other parameters.
- The wash head is self-balancing, has two-point aspiration, and performs bottom flushing.
- 2 kinds of Automatic washing, Soaking and Shaking, to reduce the interference adsorption during the reaction; time adjustable.

## Specification

	Model : INNO-W96
Cleaning Head	96 pins, single row controllable
Microplate Types	Four kinds, flat bottom, U bottom, V bottom, round bottom
Average Residue	<0.7 $\mu$ l (per hole)
Liquid Suction Time	0.1~999.9 seconds adjustable, with an interval of 0.1 seconds
Line Flush Time	0~240 seconds, adjustable
Washing Programs	Up to 200 programs
Display	7-inch touch display
Liquid Injection Channels	3 (2 types of lotion and 1 type of distilled water)
Cleaning Needle Position	6 types (horizontal, left, middle, right, bottom, hole spacing)
Consumption	350W
Power Supply	AC220V $\pm$ 10%, 50/60Hz; 110V $\pm$ 10%, 60Hz
Packing size(W*D*H):	740*675*562mm
Gross Weight	42kg

# INNO-S

Multimode Microplate Reader  
(Absorbance, Luminescence, Fluorescence)



## Description

- Filter-based Fluorescence with diverse wavelength selection
- TRF (Time-Reserved Fluorescence)
- Xenon flash lamp & High Power LED
- Incubation and Shaking

## Certifications

- IVD
- CE Marked
- RoHS
- ISO 9001 / ISO 13485 / ISO 14001
- 21 CFR Part 11 Compliance Software

## Specification

### General (Multimode Microplate Reader)

Detection modes	UV-Vis Absorbance / Fluorescence Intensity / Luminescence TRF (Time-Resolved Fluorescence)
Read methods	End point, Kinetic, Spectral scanning, Well-area scanning
Microplate types	6- to 384-well plates
Others	NANO-VC (Microvolume Plate ), INNO-QM (Quality Check Plate)
Temperature control	Up to 50 °C ± 0.2°C at 37°C
Shaking	Linear & Orbital & Double Orbital with 4 different speeds
Software	INNO-X™ (Basic software) & INNO-XS™ (21 CFR part 11 Compliance Software) (Optional)

### Absorbance

Light source	Xenon flash lamp	Pathlength correction	Yes
Detector	Photodiode	Monochromator wavelength accuracy	±2 nm
Wavelength selection	Monochromator	Monochromator wavelength repeatability	±0.2 nm
Wavelength range	200 ~ 999 nm, 1nm increments	OD linearity	<1% from 0 to 3.0 OD
Dynamic range	0 ~ 4.0 OD	OD repeatability	< 0.5% at 2.0 OD
Resolution	0.0001 OD		

## Fluorescence Intensity

### Filter-based Fluorescence Intensity

Light source	High Power LED	Wavelength range	350 ~ 750 nm (Options 850nm)
Detector	PMT	Dynamic range	>6 decades
Wavelength selection	Filters	Sensitivity	Top and Bottom : Fluorescein 5 pM (1 fmol/well, 96-well plate)

## Luminescence

Wavelength range	200 ~ 700 nm (Options 850nm)	Sensitivity	10 amol ATP (filter)
Wavelength selection	Filters	Dynamic range	>7 decades
Detection system	Low noise PMT	Peak wavelength	410 nm

## TRF (Time-Resolved Fluorescence)

Light source	High Power LED
Detector	Filters
Wavelength selection	PMT

## Temperature control & Shaking

Temperature control	Up to 50 °C ± 0.2°C at 37°C
Shaking	Linear & Orbital with 4 different speeds

## Physical Characteristics

Connectivity	1 USB, 1 RS232 for external PC control	Dimensions	408W x 390L x 290H
Power	100-240 Volts AC. 50/60 Hz	Weight	18.2 kg

## Applicable Optional Products

Reagent Injector (INNO-D)	<ul style="list-style-type: none"> <li>• 2 Syringe pumps</li> <li>• 5 ~ 1,000µ → 15 ~ 1,000µ</li> <li>• Minimum prime Vol. 1.1mL, 100µL with back flush</li> </ul>
Microvolume Plate (NANO-VC)	<ul style="list-style-type: none"> <li>• Nucleic acid and protein quantification with DNA/RNA, Lysozyme, dsDNA, ssDNA, Etc.</li> <li>• 2-2.5µL sample capacity with 24 wells</li> <li>• 2.5ml cuvette holder</li> </ul>
Quality Check Plate (INNO-QM)	<ul style="list-style-type: none"> <li>• Absorbance linearity and accuracy QC</li> <li>• Luminescence linearity QC</li> <li>• Fluorescence linearity QC</li> </ul>

## INNO-S Product line Configurations

	INNO-S	INNO-SA	INNO-SF
Absorbance	0	0	
Fluorescence	0		0
Luminescence	0		0
TRF	0		0
Shaking	0	0	0
Incubation	0	0	0
Dual Reagent Injector	0	0	0

※The user can select TWO filter sets by default when purchasing the INNO-S(F) model

# INNO-H

High-End Multimode Microplate Reader  
Monochromator-based Absorbance + Fluorescence + Luminescence  
with Filter-based Fluorescence + Luminescence



## Description

- Monochromator-based Fluorescence
- Specialized in measuring low-concentration samples
- Various Fluorescence measurements

## Certifications

- CE Marked
- RoHS
- ISO 9001 / ISO 13485 / ISO 4001

## Specification

### General (High-End Multimode Microplate Reader)

Detection modes	UV-Vis Absorbance, Fluorescence Intensity (Monochromator), Dichroic Intensity (Filter), Fluorescence Polarization (Filter), TRF (Time-Resolved Fluorescence), Luminescence (Monochromator/Filter)
Read methods	End point, Kinetic, Spectral scanning, Well-area scanning
Microplate types	6- to 384-well plates
Others	NANO-VC (Microvolume Plate ), INNO-QM (Quality Check Plate)
Temperature control	Up to 45 °C ± 0.2°C at 37°C
Shaking	Linear & Orbital & Double Orbital with 4 different speeds
Software	INNO-X™ (Basic software) / INNO-XS™ (21 CFR part 11 Compliance Software) (Optional)

### Absorbance

Light source	Xenon flash lamp	Pathlength correction	Yes
Detector	Photodiode	Monochromator wavelength accuracy	±2 nm
Wavelength selection	Monochromator	Monochromator wavelength repeatability	±0.2 nm
Wavelength range	230~999 nm, 1nm increments	OD linearity	<1% from 0 to 3.0 OD
Dynamic range	0~4.0 OD	OD repeatability	< 0.5% at 2.0 OD
Resolution	0.0001 OD		

### Fluorescence Intensity

#### Monochromator-based Fluorescence

Light source	Xenon flash lamp	Wavelength range	250~700 nm (Options 850nm)
Detector	PMT	Dynamic range	>7 decades
Wavelength selection	Monochromator (Bandwidth Variable Option)	Sensitivity	Fluorescein 2.5 pM top / 5pM bottom (96well plate)



### Dichroic Intensity (Filter-based Fluorescence)

Light source	Xenon flash lamp	Wavelength range	250 ~ 700 nm (Options 850nm)
Detector	PMT	Dynamic range	>7 decades
Wavelength selection	Filters	Sensitivity	Top Fluorescein 0.25 pM (96-well plate)

### Fluorescence Polarization (Filter-based Fluorescence)

Light source	Xenon flash lamp
Detector	PMT
Wavelength Selection	Filters
Wavelength Range	400 ~ 700 nm
Sensitivity	2 mP at 1nM fluorescein

### Luminescence

Detector	PMT
Wavelength Selection	Filters / Monochromator
Wavelength Range	200 ~ 700 nm (Options 850nm)
Sensitivity	10 amol ATP (filter) 20 amol ATP (monochromator)

### TRF (Time-Resolved Fluorescence)

Light source	Xenon flash lamp
Detector	Filters / Monochromator
Wavelength Selection	PMT

### Temperature Control & Shaking

Temperature Control	Up to 45 °C ± 0.2°C at 37°C
Shaking	Linear & Orbital with 4 different speeds

### Physical Characteristics

Connectivity	1 USB, 1 RS232 for external PC control	Dimensions	500W x 410L x 360H
Power	100 ~ 240 Volts AC. 50/60 Hz	Weight	25 kg

### Applicable Optional Products

Reagent Injector (INNO-D)	<ul style="list-style-type: none"> <li>• 2 Syringe pumps</li> <li>• 5 ~ 1,000µ → 15 ~ 1,000µ</li> <li>• Minimum prime Vol. 1.1mL, 100µL with back flush</li> </ul>
Microvolume Plate (NANO-VC)	<ul style="list-style-type: none"> <li>• Nucleic acid and protein quantification with DNA/RNA, Lysozyme, dsDNA, ssDNA, Etc.</li> <li>• 2-2.5µL sample capacity with 24 wells</li> <li>• 2.5ml cuvette holder</li> </ul>
Quality Check Plate (INNO-QM)	<ul style="list-style-type: none"> <li>• Absorbance linearity and accuracy QC</li> <li>• Luminescence linearity QC</li> <li>• Fluorescence linearity QC</li> </ul>

### INNO-H product line configuration chart

	INNO-H	INNO-HML	INNO-HM	INNO-HD
Monochromator Absorbance	0	0	0	
Monochromator Fluorescence	0	0	0	
Monochromator Luminescence (Fiber)	0	0		
Filter Fluorescence (Dichroic)	0			0
Filter Luminescence	0			0
Fluorescence Polarization (Option)	0			0
TRF	0	0	0	0
Shaking & Incubation	0	0	0	0

※The user can select TWO dichroic filter sets by default when purchasing the INNO-H(D) model

# INNO Microplate Reader Series Applications

## ELISAs

ELISA (Enzyme-Linked Immunosorbent Assay) is one of the most used immunoassays in modern bio research

- Direct ELISA
- Indirect ELISA
- Sandwich ELISA
- Competitive ELISA
- Spectrophotometric determination of dsDNA, ssDNA, RNA at A260
- Determination of purity based on A260/A280 ratios

## Absorbance

- ELISAs
- Nucleic acid quantitation
- Protein quantitation
- Cell Viability
- Bacterial growth

## Fluorescence

- DNA/RNA quantitation
- Calcium Assays (GPCR)
- Caspase-3 apoptosis assays
- Cell proliferation assays
- Bacterial growth
- Reactive oxygen species assays
- Fluorescent protein quantitation
- Nucleic acid quantitation

## Luminescence

- NanoBRET/BRET
- Receptor binding
- Metabolism
- Cell viability
- Chemiluminescent ELISA
- Luciferase reporter gene assays

## TRF / TR-FRET

- Cellular metabolism
- Protein-DNA/RNA interactions
- Protein-protein interaction
- Kinase assays
- Signaling pathways (Biomarkers, Cytokines, GPCRs)
- Drug discovery

## Fluorescence Polarization

- Receptor-ligand interactions
- Protein-DNA interactions
- Protein-protein interactions
- Proteolysis
- Membrane fluidity
- Enzyme assays



## Features



LTEK's absorbance measurement utilizes a monochromator and a xenon flash lamp. The semi-permanent xenon flash lamps never need to be replaced, providing users with a wide range of 200 nm to 999 nm measurements. LTEK's microplate readers are also available to perform various experiments, including diverse options in fluorescence and luminescence.



Dual injectors, multiple shaking modes, and a stable incubation system allow users to do diverse experiments.



Using INNO-XS™ (21 CFR Part 11 Compliance) offers high-performance software and safety reliable security for personal data with the CFR Part 11 Compliance function.

## INNO product line series configuration chart

	INNO	INNO-M	INNO-SA	INNO-SF	INNO-S	INNO-HD	INNO-HM	INNO-HML	INNO-H
Absorbance (Monochromator)	0	0	0		0		0	0	0
Luminescence (Filter)		0		0	0	0			0
Luminescence (Monochromator)								0	0
Fluorescence (Filter)				0	0	0			0
Fluorescence (Monochromator)							0	0	0
TRF				0	0	0	0	0	0
Dichroic Intensity						0			0
Fluorescence Polarization						0			0
Shaking	0	0	0	0	0	0	0	0	0
Incubation			0	0	0	0	0	0	0
Dual Injector			0	0	0	0	0	0	0

## Optional Accessories



### INNO-Q (Option)

- Absorbance Quality Check Plate for accuracy, linearity, and alignment

### INNO-QM (Option)

- Absorbance, Luminescence, and Fluorescence Q.C plate
- Abs - 9 Wells: 0.14 to 2.2 OD @ 450 nm
- Fluo - 8 wells: Read EX 485 nm / EM 530 nm or EX 540 nm / EM 590 nm
- Lumi - 9 wells: Approximate four-decade dynamic range standard



### NANO-VC (Option)

#### 24 Wells DNA/RNA/Protein Quantitative Measurement

Using 2 $\mu$ L of DNA/RNA samples, quantitative measurement is possible. This also helps the users to understand or interpret the unknown or unspecified samples by measuring from 240 to 320 nm with 2 nm steps. A total of 2 $\mu$ L 24 wells allow you to measure variety types of samples at the same time.

dsDNA, RNA, ssDNA, 1Abs at 1cm = 1 mg/ml  
BSA, IgG, Lysozyme, and other samples are measurable.

#### Specification

2 $\mu$ L Sample capacity	24 wells
Cuvette capacity	1 slot
Cuvette size	2.5 ml tube
Compatible model	All LTEK Microplate Reader series
Optical path length	0.5 mm
Detection limit	2 ng/pl dsDNA





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