



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

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

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

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) | | Luminescence | |
|---|-------------------------|----------------------|---|
| Light source | Xenon flash lamp | Detector | PMT |
| Detector | PMT | Wavelength Selection | Filters / Monochromator |
| Wavelength Selection | Filters | Wavelength Range | 200 ~ 700 nm (Options 850nm) |
| Wavelength Range | 400 ~ 700 nm | Sensitivity | 10 amol ATP (filter) 20 amol ATP (monochromator) |
| Sensitivity | 2 mP at 1nM fluorescein | | |

| TRF (Time-Resolved Fluorescence) | | Temperature Control & Shaking | |
|----------------------------------|-------------------------|-------------------------------|---|
| Light source | Xenon flash lamp | Temperature Control | Up to 45 °C ± 0.2°C at 37°C |
| Detector | Filters / Monochromator | Shaking | Linear & Orbital & Double Orbital with 4 different speeds |
| Wavelength Selection | PMT | | |

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

| 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 μ 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 μ 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 μ 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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