

YK-SM3600 Multifunctional Microplate Reader

Modular and Multifunctional



The YUKE YK-SM series of multifunctional grating-based microplate readers is widely used across fields such as organic chemistry, clinical diagnostics, drug screening, molecular biology, immunobiology, cell biology, biochemistry, environmental analysis, food safety testing, and materials science. Fully capable of replacing imported alternatives, this series stands as a leading domestic brand for high-performance microplate readers and represents a smart choice for research institutions and biochemical/pharmaceutical companies.

The YUKE YK-SM3600 is a high-end, fully featured, modular multifunctional microplate reader utilizing a four-grating optical system. Engineered with premium components and detection modules to ensure stability and innovation, it meets the rigorous testing demands of drug R&D, life sciences, and other research sectors. It comes equipped with standard modules for absorbance, fluorescence, and chemiluminescence detection to satisfy routine experimental requirements.

To address diverse customer needs, the system offers high-end modular configuration options. This modularity allows customers to tailor the instrument to their specific budgets and requirements, ensuring the best possible cost-performance ratio and making it an ideal solution.

Key specifications of the YK-SM3600 model:

(1) General characteristics:

- * Temperature control: (Ambient + 2°C) to 65°C; temperature uniformity: $\pm 0.2^{\circ}\text{C}$ at 37°C;
 Shaking modes: Linear, cross, and orbital; shaking amplitudes: High, medium, and low;
 Plate formats: 6-well to 384-well (custom configurations available);
 Microplate analysis workstation with powerful data analysis capabilities;
- * Report output function: Supports export in various formats (PDF, HTML, RTF, DOCX, XLS, XLSX, CSV, Text, Image, etc.) to meet diverse customer needs; page colors and layouts are customizable;
- * Supports qualitative and quantitative analysis; includes a formula editor to meet various calculation requirements. The QC analysis function supports customizable color settings; QC display allows for the manual input of numerical values, symbols, and Chinese characters to meet diverse user needs;

(2) Absorbance performance:

- Light source: Xenon lamp
- Test modes: Photometric, kinetic, and spectral scanning
- Detector: Photocell



0086 16601757347
inquiry@yukelab.com
www.yukelab.com
0086 021 59570209

*Wavelength range: 190 nm–1000 nm; wavelength accuracy: ± 1.0 nm; wavelength repeatability: < 0.2 nm
Linearity range: 0–4 Abs (96-well, 450 nm), $\pm 2\%$

*OD repeatability: CV $< 0.5\%$ @ 450 nm

*Resolution: 0.0001 Abs

(3) Chemiluminescence performance:

Test modes: Luminescence, kinetic, and spectral scanning

*Detector: Photon-counting photomultiplier tube (PMT)

Wavelength range: 300 nm–650 nm; scanning mode: 270 nm–850 nm

Sensitivity: < 7 amol ATP/well

< 7 decades (flash ATP reaction)

*Inter-well crosstalk: $< 0.2\%$ (white plate, values in the 10,000 range)

$< 0.004\%$ (white plate, values in the 1,000,000 range)

*Test modes: Specific wavelength and photon counting (2 selectable modes)

Optional upgrade: BRET function (filter-based mode)

(4) Fluorescence performance:

Light source: Xenon lamp

Detector: Photomultiplier tube (PMT)

*Test modes: Fluorescence (top/bottom read), kinetic (top/bottom read), and excitation/emission spectral scanning (top/bottom read)

*Excitation wavelength range: 190 nm–1000 nm; emission wavelength range: 270 nm–850 nm

Wavelength resolution: 1 nm

Wavelength bandwidth: Selectable 10 nm or 20 nm

Fluorescence sensitivity:

Top read < 0.4 fmol (FITC/well $\rightarrow$ 384-well plate)

Bottom reading < 1 fmol (FITC/well $\rightarrow$ 384-well plate)

Detection dynamic range:

Top reading > 6 orders of magnitude (FITC/well $\rightarrow$ 384-well plate)

Bottom reading > 5.5 orders of magnitude (FITC/well $\rightarrow$ 384-well plate)

Optional FRET upgrade available (filter-based mode);

(5) Microscopy Imaging (optional):

Plates and consumables: Microplates, glass slides, cell culture dishes, cell culture flasks, cell counting chambers

Imaging modes: High-contrast brightfield, fluorescence, digital phase contrast

Imaging methods: Monochromatic, multicolor, image stitching

Light source: LED

Camera: 16-bit scientific-grade grayscale CCD, 1.25 megapixels

Color channels: Onboard 4-position interchangeable color module

Objectives: 2-position fully automated objective turret; 2.5x, 4x, 10x, 20x, 40x, 60x objectives available

Automation: Autofocus, auto-exposure, automatic LED intensity control

Focusing methods: Image-based autofocus and laser-based autofocus

(6) Gas Control (optional):

0–20% CO₂ control; 1–19% O₂; adjustable O₂ and CO₂ concentrations;

(7) Dispenser Function (optional):

Quantity: 2

Dispensing volume: 10–1000 μ L

(8) Fluorescence Polarization Performance (optional):

Light source: Xenon lamp

Sensitivity: 3 mP @ 1 nM fluorescein (typical application)

Wavelength selection: Filters

(9) Time-Resolved Fluorescence Performance (optional):

Light source: Xenon lamp



0086 16601757347
inquiry@yukelab.com
www.yukelab.com
0086 021 59570209

Sensitivity: < 10 amol (Eu)

Upgradable HTRF functionality; filter-based mode; equipped with a laser light source;

(10) AlphaScreen (optional):

Wavelength selection: filters; excitation wavelength 680 nm; emission wavelength 400–660 nm

< 100 amol/well P-Tyr-100 (using white 384-well plates)

(11) High-speed absorbance spectral module (optional):

Detector: CCD

Spectral scanning speed: 1 s/well

Measurement range: 0–4 OD

Wavelength range: 190–1000 nm

(12) Automated workstation (optional):

Software: Supports custom protocol creation for fully automated operation;

Robotic arm module: Capable of transferring microplates from the microplate reader to the plate stacker;

Liquid dispensing module 1 (optional): Equipped with an automatic dispenser (20–200 µL or 100–1000 µL);

Liquid dispensing module 2 (optional): Upgradable configuration; fully automatic dispenser (10–1000 µL); dispensing volumes set via software (no manual operation required);

Plate washer: 8-channel simultaneous washing;

Plate stacker: Separates and stacks plates; one stacking module holds up to 20 microplates; additional stacking modules can be added as needed;

Main components of the YUKE YK-SM3600:

1. Main unit (including light source, detector, incubation system, and shaking system);
2. YUKE YK-SM3600 multifunctional microplate reader workstation software;