

## Feyond-A300 Multi-mode Microplate Reader

Feyond-A300 multi-mode microplate reader is specially designed for medical, biological and pharmaceutical research and development institutions to meet the needs of various drug development and life science research. The high-quality detection performance ensures high-quality analysis based on molecular biology, biochemistry and cytology.

In addition to the full-wavelength absorbance, fluorescence and luminescence detection functions, it is also compatible with the client modular upgrade function. Users can upgrade to the ultra-micro plate and flash detection with automatic injector as needed.

The absorbance of Feyond-A300 is based on monochromator, which can realize continuous spectrum detection of 200 - 1000nm without a filter, which meets almost all absorbance detection applications. Fluorescence detection adopts the detection light path of the filter. The fluorescence path composed of Xenon lamp, filter and PMT can fit the characteristics of fluorescent dye to the greatest extent, ensuring excellent detection performance and high-quality detection effect. Luminescence detection also uses PMT as the detector, and the sensitivity can reach a dynamic range of more than 6 orders of magnitude. The detachable modular fluorescence detection filter can identify the filter information only by scanning the code. The modular design provides the convenience of filter replacement, which is more convenient for experiments and shortens the operation time.

The instrument is equipped with a 10 inch touch screen. According to the researcher's operation habit of the instrument, the screen angle can be converted through the LCD control button to facilitate the researcher's setting of the instrument. The instrument is no need to connect a computer. The layout, operating parameters, and algorithm and the other settings can be completed by a single machine. The built-in software of the instrument includes multiple algorithm analysis functions of standard curve, qualitative and quantitative, basic calculation, kinetics, spectroscopy and etc, which makes more convenient for the processing and research of experimental data.

Feyond-A300 adopts PID temperature control technology. When the experimental plate is covered or closed, the edge effect can be reduced through the differential temperature between the top and bottom of the plate, so as to ensure the data stability of the sample in the process of dynamic analysis.

In addition, the Feyond-A300 has a code scanning function, which can not only identify the filters informations, but also create a QR code for the experimental program or standard curve. Researcher can quickly import the experimental program into the instrument through the QR code.



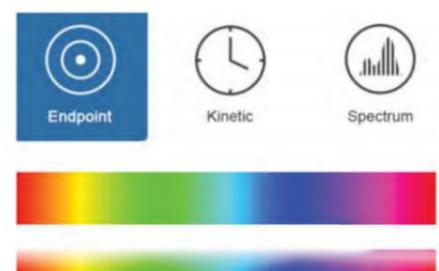
### Flexible and Changeable Upgradeability

- ◆ Injector Single/Dual
- ◆ UV/Vis Absorbance Spectrum Scanning
- ◆ Incubator Ambient +4°C~45°C
- ◆ Fluorescence Top Reading
- ◆ Luminescence Glow/Flash
- ◆ u-Nano Plate Testing

### UV/ Vis Absorbance

Wavelength selection in Feyond-A300 is done by using an advanced monochromator system. Any wavelength between 200 to 1000nm can be selected. Using the spectral scanning feature, the whole spectrum of a sample be scanned in 1nm increments to allow identification of the optimal measurement wavelength for a new assay.

- ◆ Long life xenon lamp which can be used for 10<sup>9</sup> (10 years)
- ◆ Fast reading mode only need time 15s for 96 well whole plate
- ◆ Can be used for spectral scanning, endpoint and kinetic detection



### **Fluorescence**

Feyond-A300 is equipped with filter-based fluorescence optics and dichroic mirrors for screening applications such as fluorescence polarization, and TR-FRET. Standard applications such as fluorescence-based DNA/RNA quantification assays are not only supported in microplates, but also in low volume u-Nano ultra-micro plate.

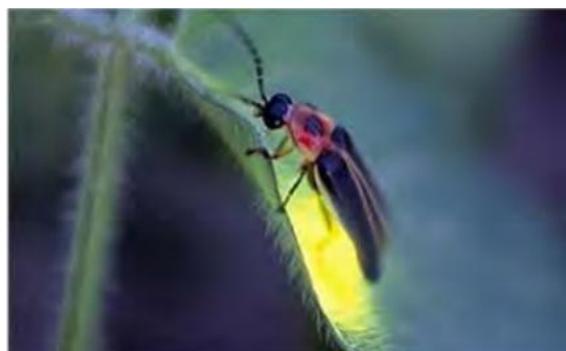
The independent removable filter modules make it more convenient for users to replace the filter. The filter-based fluorescence optics detection ensures high sensitivity, greater light transmission, precise control over transmitted peak shape, excellent blockage of undesired wavelengths. This is ideal for excitation and emission applications. The filters are also the technically preferred and most cost efficient technology for non-absorbance based assays.



### **Luminescence**

Feyond-A300 has been designed with a dedicated luminescence detection system for both flash and glow based assays. It can offer excellent sensitivity and wide dynamic range in luminescence measurement.

The optimized precision dual-channel injectors ensure the detection performance of the 96-well and 384-well plate. The PMT enhances the maximum sensitivity of weak luminescence signals, prevents oversaturation of high signals, effectively improves the detection range of luminescence and minimizes signal crosstalk between wells.



### **Time-resolved Fluorescence TRF**

Feyond-A400 is based on Feyond-A300 with time-resolved fluorescence function. Time-resolved fluorescence means that after the excitation light is turned off, the emitted light can be continuously expressed or released to avoid interference from the excitation light during detection. Time-resolved fluorescence has high sensitivity, strong specificity, good stability, and short operation flow. It is suitable for ultra-micro analysis in biology and medicine, such as hormone detection, viral hepatitis marker detection, target cell marker detection, and drug screening

## Easy-to-Use and Flexible Software

The Feyond-A300 provides powerful independent instrument control software. Through the 10-inch high-resolution touch screen, you can perform board layout, parameter setting and data analysis operations. The intuitive interface, simple operation, and abundant functions will significantly improve the efficiency of your experiment.

### User Authority Classification

- 1 User permissions are divided into four levels, with clear permissions to avoid the occurrence of misuse by researchers;
- 2 Administrator can manage the accounts of different sub-users;
- 3 The users have independent accounts and passwords to ensure the safety and confidentiality of experimental results.



### Intuitive Interface Display

- 1 Intuitive selection of function modes, easy parameter setting;
- 2 The layout colors are distinguished clearly, convenient to be checked for the position of the sample;
- 3 Programs and results are stored independently, making it easy to be found the required applications.



### Powerful Data Analysis and Process

- 1 Provide multiple data processing methods including blank subtraction, standard curve creation, qualitative analysis, quality control, kinetics and spectral analysis to help you obtain the analysis results you want;
- 2 Algorithm customization: according to your assays needs, you can customize the required algorithm, tailor-made for convenient assays.



### Liberalized User Communication

- 1 The software has with a shared library, which can store the program, results and standard curves for sharing them with others;
- 2 The program and standard curve can be created in real time to a QR code, and the required content can be imported only by scanning the code with the instrument.



### FTP (File Transfer Protocol)

- 1 Upload the data directly to a computer with a FTP server, and users can view the data results at any time in the authorized folder.



## Optional Accessories

### u-Nano Ultra-Micro Plate

- 1 Quickly complete high-throughput quantification of nucleic acid and proteins without samples dilution;
- 2 1~16 samples can be detected at the same time, only 2~4 $\mu$ L sample volume is needed;
- 3 No need to calibrate; reliable performance.



### Automatic Injector Module

- 1 Equipped with dual automatic injector modules of the Feyond-A300 are critically important for a myriad of assays, most notably flashluminescence and calcium flux assays etc. The Feyond-300A is equipped with a standard injector module, which can meet the precise sample addition operation of 384-well plates and realize the possibility of rapid detection of high-throughput plates.
- 2 The automatic injector module can be purchased at the same time with the device and can also be upgraded later.



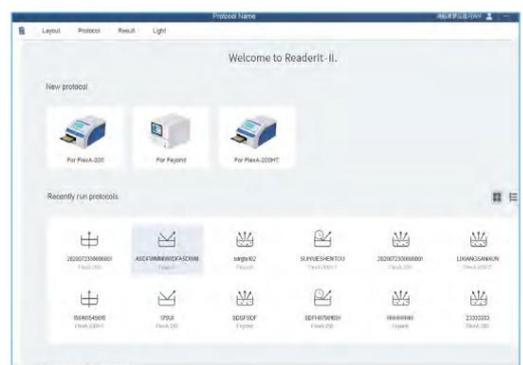
### Modular Filter

The easy-to-disassemble modular filter will bring an economical and highly sensitive solution to your fluorescence detections. Only by scanning the QR codes on the module, the instrument can read the filter information to ensure accurate experimental parameters for convenient and quick operation.



### ReaderIt-II PC Analysis Software

The ReaderIt-II PC analysis software is with graphical operation interface design. Data export is convenient and fast. Detailed result reports can be created through built-in tools. ReaderIt-II software can also provide a more comprehensive and complex data analysis algorithm than the instrument APP software. The ReaderIt-II PC software makes more convenient for customers to process assay results.





Basic Information		Detection limit	100 amol/well
Type	Feyond-A300/A400	Linear dynamic range	6 logs
Function	Absorbance,fluorescence,luminescence,TRF	Crosstalk	<0.005%
Plate Formats	96&384 wells (6/12/24/48 optional)	Shaking& Incubation	
Absorbance		Shaking mode	Linear, circular, double circular
Light source	Xenon lamp	Incubation temperature	RT +4°C to 45°C
Detector	PD	Temperature uniformity	±0.5°C @ 37°C
Wavelength accuracy	200-1000nm,1nm step	Operation method	Touch capacitive screen; use mouse
Measure range	0-4 OD	Data capacity	10 GB
Resolution	0.0001 OD	Compatibility	Support PC software, win7 to win10 64 bit
Accuracy	96-precision mode ±(1.0%+0.003Abs) @(0.0-2.0Abs)±2.0% @ (2.0-3.0Abs]	Data transmission	Test data report can be uploaded to PCserver via FTP
		Others	
Repeatability	CV<1.0% or SD<0.003 fast (0.0-3.0Abs]CV<0.5% or SD<0.003 accurate (0.0-3.0Abs]	instrument port	2 USB A type ports / 1 usB B type port1 Ethernet port Rs232 bus interface(sampling device connection)
Stray light	0.1% @ 220 nm		
Linear	R2>0.999 @ [0.0-3.0Abs]	Size (WxDxH)mm	420x550x386
Reading time	96-well plate: fast <15s	Power supply	AC 100 to 240V, 50 to 60Hz
Fluorescence		Weight	33kg
Reading mode	Top reading	u-Nano Ultra-Micro Plate (Optional)	
Excitation light source	Xenon lamp	Number of samples	1-16
Detector	PMT	Sample detection volume	2-4uL
Wavelength range	EX:200-1000nm;EM: 270-850nm	Automatic Injector Module (Optional)	
Filter EX/EM	3 groups: EX470/EM525,EX523/EM564,EX624/EM692 (Other wavelengths can be freely replaced	Quantity	1,2
Detection limit	≤1pM	Dispensing volume	5-1000μL,1 μL increment
Linear dynamic range	6 logs	Liquid injection speed	125-500μL/s
Time-resolved Fluorescence (TRF)(Feyond-A400)		Accuracy	±1μL @ 5-50μL ± 2% @ 51-1000μL
Detection limit	Europium <0.25pM	Waste liquid collection	50mL



Luminescence		PC Software (Optional)	
Detector	PMT	Analysis Software	ReaderIt-II software