UserGuide_WeD-1 Pro



EzDx WeD™-1 Pro Handheld Real-time Quantitative Nucleic Acid Fluorescence Detector

"We are dedicated to offering convenient diagnostic tools and services to everyone"

【Product Introduction】

WeD-1 Pro is a handheld real-time quantitative nucleic acid detector developed based on WeD-1 with a more professional design that caters to the needs of professionals. It comes equipped with a miniaturized optical sensing module and Wifi/Bluetooth communication module, which allows for real-time quantitative analysis and connection to HIS/LIS systems.

It is compatible with isothermal detection methods like LAMP, RPA, LAMP-CRISPR, RPA-CRISPR, LAMP-PfAgo, and more.

Package Contents: WeD-1 Pro Handheld Fluorescence Detector, Power Supply

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【Product Specifications】

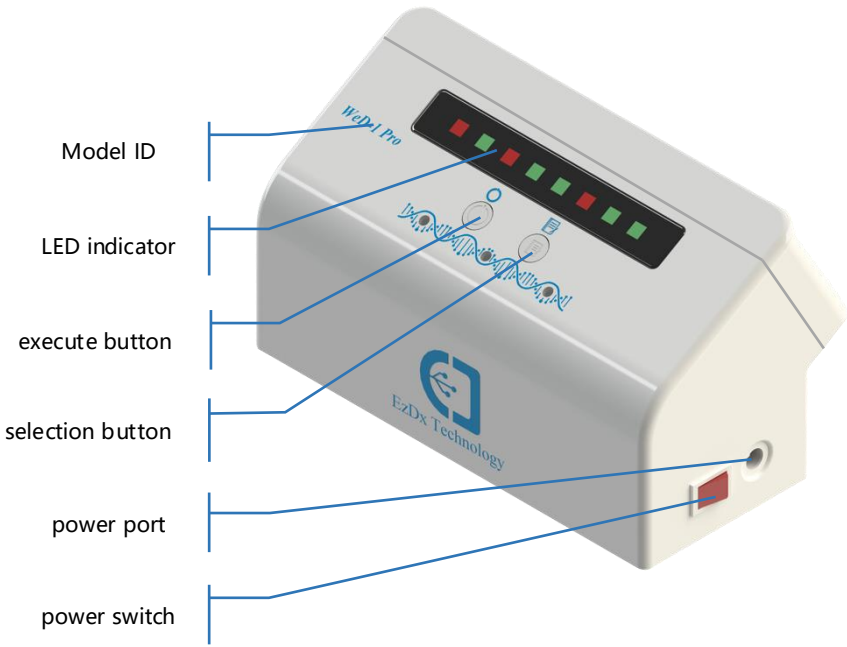
Voltage	24V
Power	36W (72W)MAX
Dimensions	140.0mm*78.3mm*80.3mm
Weight	290g
Heating Temperature Range	20-100℃
Temperature Control Accuracy	±0.5℃
Operating Temperature	Room temperature

YouTube Channel

LinkedIn

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【Product Function Module】



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【Operation Instructions】

Scan QR Codes for Mobile App, WeChat Mini Program, and Operation Video Tutorial:

EzDx WeD-1 Pro App --- Research version

Android App	iOS/macOS App	WeChat Mini-program	YouTube Tutorial Video

EzDx WeD-1 Pro App --- with PDF Report Generation Feature

Google Play App	iOS/macOS App	Web App	YouTube Tutorial Video

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Mobile Operation:

1. Insert the power supply, turn on the power switch; the LED indicators will sequentially illuminate, and the device enters standby mode, awaiting further instructions.
2. Connect the device to the phone via Bluetooth; upload the pre-set reaction program from the phone to the device.
3. Upon receiving the uploaded program, the device will automatically execute the reaction stages, reaction time, and reaction temperature as specified in the program.
4. During the reaction, the LED indicators will display colors corresponding to the current heating module temperature threshold and illuminate sequentially based on the current reaction time, indicating the progress to the operator.
5. The optical detection module will continuously collect reaction data in real-time, uploading it to the phone and server (for the Wi-Fi version), and displaying the reaction curve on the phone.

6. After the reaction, the built-in program will interpret the detected data, and the results will be communicated to the operator through the display module (indicator light). Positive results will be indicated by a red light, while negative results will display a green light. Simultaneously, the phone will receive feedback on the test results.

●●●●●●●●	Test tubes A, E, and H are positive, while the others are negative

7. Clicking on 'Generate Report' will redirect to a web page to generate a PDF test report document. The downloaded document can be saved or printed.

Button Operation

1. Insert the power supply, turn on the power switch; the LED indicator will sequentially illuminate, and the device enters standby mode, awaiting further instructions.
2. Utilize the button components on the device to operate the experiment. Clicking the "selection button" can switch between different built-in reaction programs, typically preset with common reaction temperatures and times (as listed below). It includes isothermal reactions such as Recombinase Polymerase Amplification (RPA) and Loop-Mediated Isothermal Amplification (LAMP).

●○○○○○○○	39°C 30min	○○○○●○○○	65°C 25min ; 95°C 20min
○●○○○○○○	45°C 30min	○○○○○●○○	70°C 25min ; 95°C 20min
○○●○○○○○	63°C 30min	○○○○○○●○	65°C 35min ; 95°C 30min
○○○●○○○○	65°C 30min	○○○○○○○●	70°C 35min ; 95°C 30min

3. After selecting the desired reaction program, click the execute button.
4. After the reaction, the built-in program will interpret the detected data, and the results will be communicated to the operator through the display module (LED indicator light). Positive results will be indicated by a red light, while negative results will display a green light.

*During instrument operation, pressing and holding the execution button will stop the reaction, while a short press allows real-time observation of positive results through the indicator light.

*While the device remains powered on, connecting to a phone allows for the retrieval of amplification curves.

Embedded Built-in Programs (from left to right):

1. Standby state: 8 white lights remain on continuously.
2. Reaction program selected: 1 purple light remains on continuously.
3. Reaction in progress: Orange light flashes, indicating progress. The higher the reaction temperature, the closer the orange light approaches red.
4. Reaction complete, test result positive: Red light remains on continuously.
5. Reaction complete, test result negative: Green light remains on continuously.

Modifying WeD-1 Pro Operational Parameters (Reaction Program) via App:

1. Open the mobile App (or WeChat Mini Program), search for the device, and connect.
2. Set the heating program and result interpretation threshold through the mobile App (or WeChat Mini Program) and save.
3. Click "Start Run" on the "Home" interface to initiate the reaction program.

【Precautions】

1. This product is compatible only with standard 200μL PCR tubes, and not with 100μL PCR tubes. The minimum reaction volume it supports is 25μL.
2. This device is capable of detecting fluorescence within the 510~650nm range and is specifically optimized for detection of FAM/fluorescein (emitting at approximately 520nm) and ROX/TexRed (emitting at approximately 600nm).
3. During instrument operation, pressing and holding the execution button will stop the reaction, while a short press allows real-time observation of positive results through the indicator light.
4. While the device remains powered on, connecting it to a phone allows you to retrieve the amplification curves by clicking “Traceback Data” once or twice.
5. During use, ensure that the mobile app (or WeChat mini-program) has Bluetooth and location-sharing enabled. Please connect Bluetooth via the app (or WeChat mini-program), not through the phone’s "Settings.”
6. If you are using an Android operating system, ensure that the EzDx app is granted background running permissions. Specific paths and settings may vary depending on the device brand and system version; please refer to the device manual. If not set, real-time data display may be affected by screen-off or app switching.

7. Recommendation: We recommend using a reaction volume of 25~50 μL to run the test. In case the reaction time exceeds 30 minutes, it's advisable to add mineral oil to the reaction mixture.
8. “Positive Threshold (%)” refers to the ratio of the detected value to the baseline; “Positive Threshold (abs+)” refers to the absolute increase from the baseline value. The default threshold is set to 130%, with an absolute growth value of 1000. The threshold should be set based on the fluorescence value of the detection item displayed on the phone screen. The corresponding fluorescence value of the amplification curve is the value after basline subtraction, and should not be directly used to set the threshold. In addition, the specific threshold setting requirements are as follows: the upper limit of the threshold should be 255% of the baseline value, and the upper limit for the absolute growth value is 2550. If necessary, please reach out to EzDx for assistance with threshold setting.
9. The product's cooling is achieved through natural dissipation, resulting in a slower cooling rate. If conducting multi-stage isothermal reactions, it is recommended to design experiments with lower temperature stages executed first, followed by higher temperature stages.
10. The QR code scanning option in the top-right corner allows for quick entry of project information. By scanning a customized QR code, the data is automatically added as a new project.
11. If using lyophilized reagents, ensure that the reagents are fully dissolved and thoroughly mixed.

12. The power parameters for this product are: 24V, 3A. When using or replacing the power adapter, make sure to use an adapter of the same specifications to avoid affecting the normal operation or damaging the product.
13. In the event of product damage, please contact the manufacturer or other qualified service agents for repair to prevent potential hazards.

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CERTIFICATE OF CONFORMITY

Product name: EzDx WeD™-1 Pro Handheld Real-time Quantitative Nucleic Acid Fluorescence Detector

Type: WeD™-1 Pro

Date of manufacture: 2025.12.14

Inspectors: _____

This product has been tested to meet the standard and is allowed to leave the factory

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