EzDx Technology
杭州逸检科技有限公司

EzDx WeD™-2 Handheld Dual-Fluorescence Real-Time Quantitative Nucleic Acid Detector

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

[Product Introduction]

The WeD-2 is a handheld dual-fluorescence real-time quantitative nucleic acid detector, similar to the WeD-1 Pro but designed with more advanced features, including dual-fluorescence detection and a heating lid. It is equipped with a proprietary, self-developed, highly sensitive dual-fluorescence optical sensing system, along with Wi-Fi/Bluetooth communication modules. These enhancements allow for real-time quantitative analysis and seamless integration with the "EzDx Cloud" and HIS/LIS systems.

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

Package Contents: WeD-2 Handheld Fluorescence Detector, Power Supply

Product Specifications:

- Voltage: 24V
- Power: 36W
- Dimensions: 140mm*78.3mm*80.3mm
- Weight: 290g
- Heating Temperature Range: 20-100°C
- Temperature Control Accuracy: 0.5°C
- Operating Temperature: Room Temperature

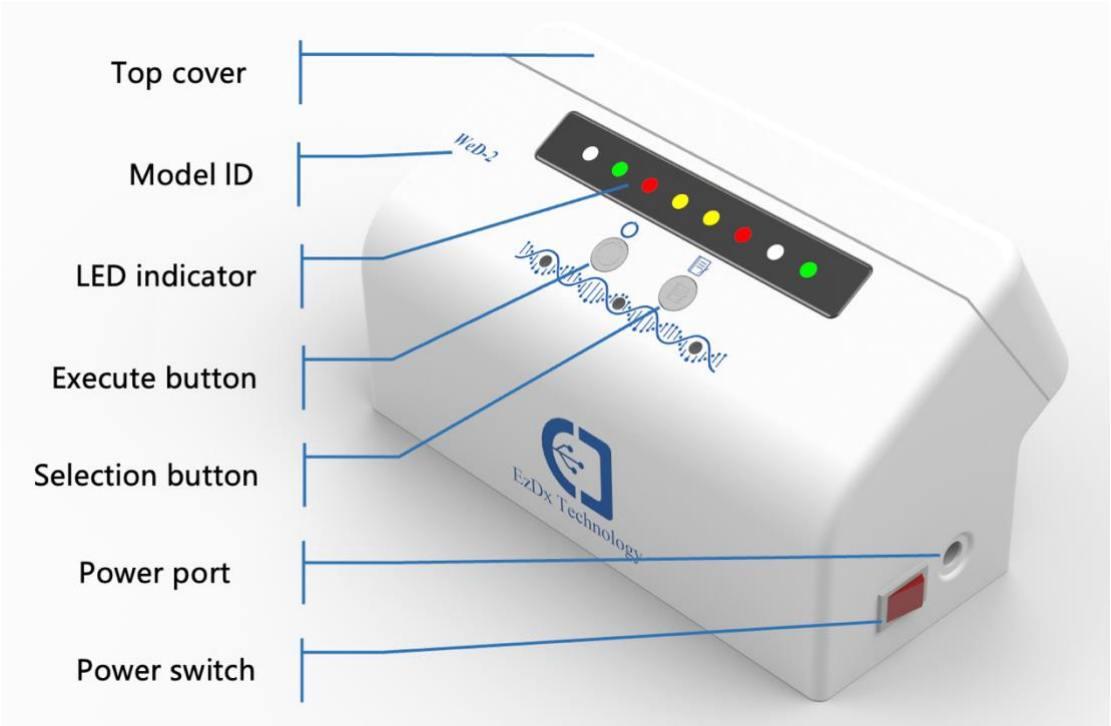
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[Product Function Modules]



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Operation Instructions:

1. Mobile Operation:

Scan QR Codes for Mobile App and Operation Video Tutorial:

EzDx WeD-2-duplex App (Also supports controlling the WeD-PCR instrument for isothermal detection)

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

EzDx WeD-2-singleplex App (Also supports controlling the WeD-PCR instrument for isothermal detection)

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

*__Web App Precautions:__ 1. Must use Google Chrome browser; 2. Ensure all necessary permissions are granted, including location information; 3. Check if the automatically generated report download is being blocked; 4. Desktop computers need to have a Bluetooth receiver.

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 your phone via Bluetooth. On the Home page, select the pre-set reaction program from the top right corner, then click “Start Run” to initiate the program (see Section 4 for instructions on modifying the reaction program). Once the program is uploaded, the device will automatically execute the specified reaction stages, times, and temperatures as outlined in the program.
3. During the reaction, the LED indicators will display colors corresponding to the current heating temperature (see Section 4) and will illuminate sequentially based on the reaction time, providing the operator with a clear indication of the progress.
4. The optical detection module will continuously collect reaction data in real-time, uploading it to the phone, and displaying the reaction curve on the phone.

5. After the reaction, the results will be automatically displayed on the phone and indicated by the lights (see details below and in Section 3).

	Green light: FAM positive Yellow light: Both FAM and Rox positive Gray light: Neither FAM nor Rox positive Red light: Rox positive

6. 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.

2. Button Operation:

1. 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). Users can also customize their commonly used reaction temperatures and times (Custom Development Required), associating them with different LED indicators (purple).

Singleplex detection		Duplex detection	
		●○○○○○○○	64°C 15min
○●○○○○○○	39°C 20min	○○○○●○○○	39°C 20min
○○●○○○○○	63°C 30min	○○○○○●○○	63°C 30min
○○○●○○○○	65°C 30min	○○○○○○●○	65°C 30min
		○○○○○○○●	95°C 5min

2. After selecting the desired reaction program, click the “execute button”.
3. After the reaction, the built-in program will interpret the detected data, and the results will be indicated by the lights (see Section 1 for details).

3. Indicator Light Instructions:

1. **Standby State:** All 8 white lights remain continuously on.
2. **Reaction Program Selected:** A single purple light remains continuously on.
3. **Reaction in Progress:** The orange-red light flashes to indicate progress. As the reaction temperature increases, the orange-red light intensifies toward red.
4. **Reaction Complete:** The test result will be displayed as described in Section 1.

* 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 it to a phone allows for the retrieval of amplification curves.** Note: Do not click "Start Run" during this retrieval process.

4. **Modifying WeD-2 Operational Parameters (Reaction Program) via App:**
   1. Open the mobile app.
   2. Go to the "Protocols" page, set the heating program, and save your settings.

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. 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."
3. 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.
4. When using the Web App, note the following:
   - Google Chrome browser must be used.
   - Complete permissions for the app, including location information, must be granted.
   - Check if automatic report downloads are being blocked.
   - A Bluetooth receiver must be installed on desktop computers.

5. For singleplex detection, it is recommended to use the EzDx WeD-2-singleplex App to enhance fluorescence signal strength. For duplex detection, R/G and other relevant parameters should be adjusted according to specific conditions to ensure optimal performance. If necessary, please reach out to EzDx for assistance with parameter adjustments.
6. This device is capable of detecting fluorescence within the 510~650nm range and is specifically optimized for duplex detection of FAM/fluorescein (emitting at approximately 520nm) and ROX/TexRed (emitting at approximately 600nm).
7. "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.
8. 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.

9. 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.
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 they are fully dissolved and mixed before use.
12. The power specifications of this product are 24V, 3A. When using or replacing the power adapter, ensure that it matches the same specifications; otherwise, it may affect the normal operation of the product or cause damage.
13. In the event of product damage, please contact the manufacturer or an authorized service agent for repair to avoid any potential hazards.